APPENDIX A: FRAMEWORK DOCUMENT

Kimley»Horn

Seminary Ramp at I-395 – High Occupancy Vehicle (HOV) to High Occupancy Toll (HOT) Conversion Traffic Operations Analysis Framework Document

1. Introduction

In 2010, the Virginia Department of Transportation (VDOT) initiated a study to construct a south-facing HOV / Transit Ramp between the I-395 HOV lanes and the third level of the Seminary Road interchange. The purpose of the ramp was to provide new access for HOV and transit vehicles along I-395 to the south of the interchange. The HOV ramp is reversible and permits northbound HOV / Transit traffic to exit to Seminary Road in the morning hours and permits traffic from Seminary Road to access the southbound I-395 HOV lanes in the afternoon and evening hours. An Environmental Assessment (EA) was approved in 2011 and a FONSI was issued by Federal Highway Administration (FHWA) in 2012. The ramp was opened to traffic in January 2016.

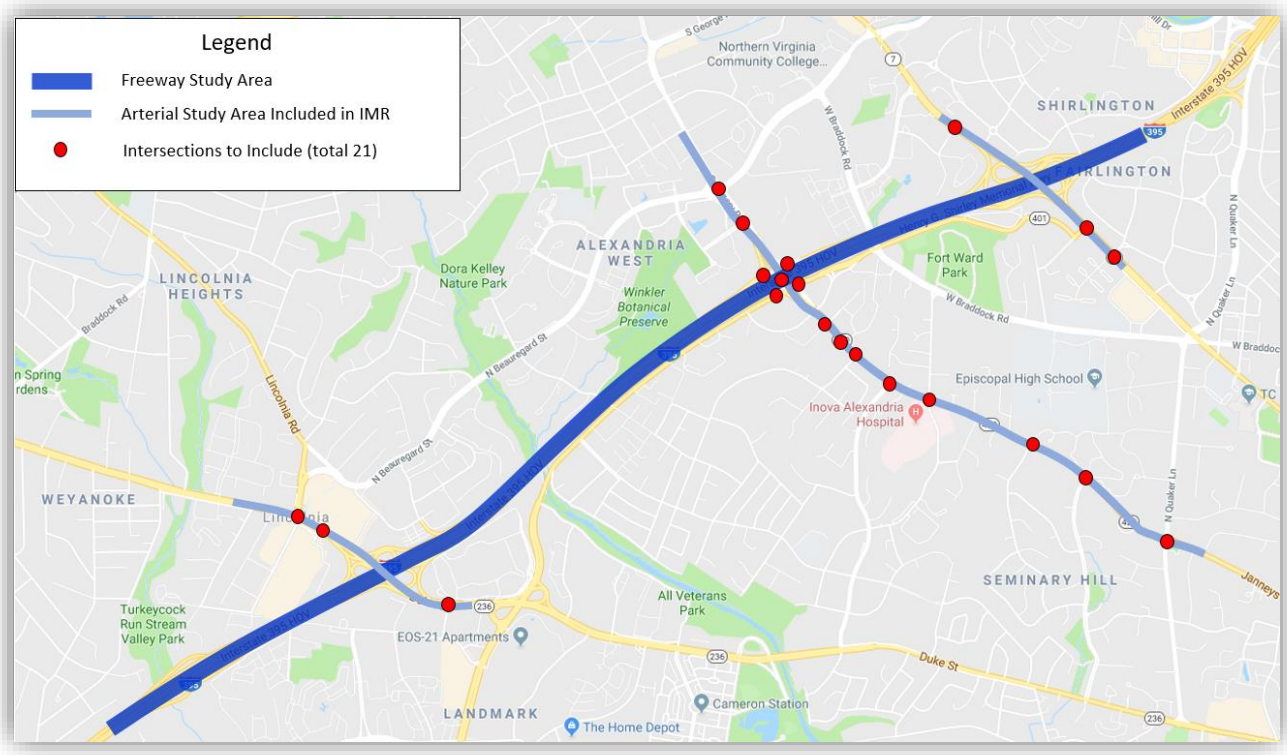
As part of the coordination with the City of Alexandria (City) during the study of the ramp, a commitment was made to maintain the ramp as HOV / Transit-only access in the event the remaining northern section of I-395 was converted to HOT lanes in the future. In 2015, VDOT initiated a study for the I-395 Express Lanes Project (Northern HOT Lanes) to extend the I-95 Express Lanes from Turkeycock Run in Fairfax County to the vicinity of Eads Street near the Pentagon in Arlington County. The reversible ramp at Seminary Road falls within the limits of the I-395 Express Lanes Project and the study maintained the assumption of the earlier commitment that the Seminary Road ramp would remain as HOV / Transit-only even with the conversion of the HOV lanes to HOT lanes. An EA was approved in 2016 and a FONSI was issued by FHWA in 2017. The I-395 Express Lanes are currently under construction and expected to open in Fall 2019, operated by 95 Express Lanes, LLC.

According to the "Amended and Restated Comprehensive Agreement relating to the I95/I395 HOV/HOT Lanes project, executed June 2017", 95 Express Lanes, LLC retains the right to pursue the conversion of the Seminary Road ramp from HOV to HOT after the I-395 Express Lanes are operational and open to traffic. In order to convert the ramp, a re-evaluation of the EA issued for the I-395 Express Lanes along with an Interchange Modification Report (IMR) will be required by VDOT and FHWA.

1.1. Study Area Limits

The project study area, as shown in **Figure *1*,** includes the freeway segments under the influence area of the Seminary ramp as well as the nearby arterial segments and intersections that will potentially be impacted with the conversion of the Seminary ramp from an HOV-only ramp to a HOT ramp. The study area limits and intersections were determined in coordination with VDOT and the City.

Figure 1. Study Area Freeway Segments and Intersections



The following interchanges and ramps are included in the study area:

1. I-395 and King Street Interchange
2. I-395 and Seminary Road Interchange
3. I-395 and Duke Street Interchange
4. I-395 and Turkeycock Ramps

The following 21 intersections are included in the study area:

No.	Intersection
1	Duke St and N. Beauregard St
2	Duke St and Oasis Dr and Right-in-Right-out at Shopping Plaza
3	Duke St and S. Walker St (include the ramp to the mall)
4	Seminary Rd and N. Pickett St
5	Seminary Rd and Seminary Rd (The Encore entrance)
6	Seminary Rd and Kenmore Ave/Library Lane
7	Seminary Rd and I-395 Northbound HOV Off-Ramp
8	Seminary Rd and I-395 Northbound Off-Ramp
9	Seminary Rd and I-395 Northbound On-Ramp
10	Seminary Rd and I-395 Southbound Off-Ramp
11	Seminary Rd and I-395 Southbound On-Ramp
12	Seminary Rd and Mark Center Ave
13	Seminary Rd and N. Beauregard St
14	King St (Rt 7) and Menokin Dr
15	King St (Rt 7) and Park Center Dr
16	King St (Rt 7) and N. Dearing St
17	Seminary Rd and N. Jordan St
18	Seminary Rd and N. Howard St
19	Seminary Rd and N. Quaker Lane
20	Seminary Rd and St. Stephens Rd
21	Seminary Rd and Fort Williams Pkwy

2. Data Collection

2.1. Traffic Volumes

Intersection turning movement traffic counts were collected for the twenty-one (21) intersections (7:00 AM – 7:00 PM) on a typical weekday (Tuesday, Wednesday or Thursday). For mainline freeway segments data were collected over a 7-day continuous period between October 30 and November 5th by different vehicle classes. For the Ramps, ATR counts were conducted for a 48-hour period by vehicle classification in 15-minute intervals. All traffic data was collected at the end of October through the first week of November 2018.

Traffic count locations are shown in **Figure *1***.

2.2. Origin-Destination Data

The traffic simulation modeling effort will route vehicles through the traffic network according to origin-destination routing. Origin-destination data will be reviewed from the following sources:

- StreetLight Data, which provides customized origin-destination data with a very high level of spatial accuracy based on aggregated cellular device GPS/location-based services data. StreetLight Data allows for a user to provide custom origins and destinations, such as on- and off-ramps for all freeways in a study area or entry/exit links to a study area. It is anticipated that StreetLight Data will be used as the basis for origin-destination routing for the existing conditions traffic analysis, at the very least for the freeway and ramp segments of the study area.
- MWCOG regional travel demand model, which outputs O-D matrices for various vehicle types between each traffic analysis zone (TAZ) in the Washington, DC, metropolitan area. This dataset is not as granular as needed to account for freeway weaving proportions. However, given that the travel demand model provides O-D matrices for future years, it is anticipated that these may be used as the basis for vehicle routing in future analysis year scenarios.

2.2.1. SPEEDS AND TRAVEL TIMES

Floating car travel was conducted during the same week when traffic counts were conducted for the AM and PM peak periods along I-395 within the study area (from north of the Edsall Road interchange to just south of the Shirlington Road interchange). Travel time runs were collected for each direction (Northbound and Southbound I-395) during the AM and PM peak periods for 10 times in each direction. The AM peak period travel time data were conducted between 6 AM and 9 AM and the PM peak period travel time data were collected between 4 PM and 7 PM.

In addition, INRIX vehicle probe speed data has been queried for the study area using the RITIS Congestion Scan tool, which provides a “heat map” of vehicle speeds temporally and spatially along a corridor. This data has been pulled for “average weekdays” (Tuesday, Wednesday, and Thursday) for the 12 most recently available months of data. This data was be queried for I-395 northbound and southbound.

2.2.2. QUEUEING DATA

Queuing within the study area is notably inconsistent and can oscillate numerous times within the peak periods or be absent altogether on some days. A qualitative subjective assessment will be conducted for queue lengths at targeted locations in addition to the review of freeway mainline congestion/queues against the speed heat maps.

2.2.3. CRASH DATA

Five years of crash data (January 1, 2013 to December 31, 2017) will be used in this study. Available VDOT crash data will be collected for crashes reported on I-395 within the study area.

2.2.4. SIGNAL TIMINGS

Existing signal timings for the study intersections will be collected from VDOT and the City to use in the existing condition analysis.

3. Analysis Scenarios

All analysis scenarios will be evaluated for a typical weekday AM peak hour and PM peak hour. The exact analysis hour will be determined after assessing the traffic data and diurnal patterns.

The following is a summary of the analysis scenarios:

1. Existing Conditions 2018
2. No-Build 2020 and 2040
3. Build Alternative 2020 and 2040

Assumptions related to the scenarios are provided below:

- **Existing Conditions** – Calibrated against 2018 traffic conditions and the 2017 MWCOG model.
- **No-Build (w/ CLRP) Conditions** (2020 and 2040) – The 2020 and 2040 No-Build scenario assumes the existing transportation system in addition to all projects funded for construction in the *National Capital Region's Draft 2017 CLRP* through 2020 and 2040. The TPB adopted the 2016 CLRP in November 2016.
- **Build Conditions** – Assumes the No-Build configuration as a base condition and the conversion of the Seminary Road HOV ramp to I-395 to HOT.

4. Travel Demand Modeling Methodology and Key Assumptions

4.1. Future Analysis Scenario Assumptions

The traffic analysis will assess operations for a project Design Year of 2040 and Interim Year of 2020. The traffic analysis will account for No-Build scenarios in 2020 and 2040, and one Build alternative for 2020 and 2040. Separate travel demand model networks will be developed for each of the future-year scenarios to be used for forecasting traffic volumes.

The travel demand model No-Build networks will include all roadway projects in the most up-to-date regional CLRP as listed in Section 3 of this framework. The Build network will include all the roadway projects included in No Build and the conversion of the Seminary Road HOV ramp to I-395 to HOT.

4.2. Methodology and Key Assumptions for Post-Processing of Modeling Results

Post-processing of travel demand model output is necessary to develop traffic volume forecasts for analysis of operations during peak periods/peak hours. Post-processing of travel demand forecasts for vehicular volumes will follow NCHRP 255/765 guidelines and the TFlowFuzzy methodology included in the VISUM planning tool for estimating balanced No-Build and Build peak period volumes. Existing balanced volumes will be developed outside of the MWCOG travel demand model using field count data; origin-destination (O-D) routing will be

obtained utilizing StreetLight Data and the O-D matrix will be adjusted using VISUM's TFlowFuzzy methodology to match target balanced volumes along the corridor.

5. Traffic Operational Analysis Methods and Parameters

5.1. Traffic Analysis Tools

VISSIM Version 9.0 will be used for a comprehensive network traffic analysis performed within the study area limits. (Reference analysis tool selection matrix, *VDOT Traffic Operations and Safety Analysis Manual [TOSAM]* V1.0[1]) Calibration, based on simulated volume processed, travel times, queues, and speed profiles, will be performed against 2018 measured field conditions and traffic data. Surface street intersection operations will be evaluated through a combination of Synchro 10 (in order to develop preliminary optimization for phasing and signal timing) and VISSIM (for microsimulation and analysis).

5.2. Measures of Effectiveness

The following measures of effectiveness (MOEs) will be used for the operational analysis of the roadway network under existing and future No- Build and Build conditions. Wherever possible, MOEs will be provided in graphical format. These MOEs will be developed according to guidance from the VDOT TOSAM.

Freeway Performance Measures

- Simulated Average Speed (mph)
- Simulated Average Density (veh/ln/mile, color-coded similar to the equivalent Density-Based LOS Thresholds)
- Simulated Volume (vehicles per hour)

The VISSIM freeway MOEs will be reported for each freeway segment. Methodology for the merge/diverge/weave segment analyses will be consistent with procedures outlined in the *Highway Capacity Manual* for the area of influence within the designated segments. This methodology will be consistent with the TOSAM. In addition, the following freeway MOEs also are proposed for reporting in the IJR:

- **Percent of Demand Served.** Simulated Volume (*processed volumes*) divided by Actual Volume (*input volumes*).
- **Simulated Ramp Queue Length.** Reported average and maximum queue lengths (feet).
- **Simulated Travel Time.** Reported for select network origin-destination travel paths (seconds).
- **Congestion *Heat Maps*.** Incremental speeds reported for aggregated lanes, by time interval (mph).

Arterial/Intersection Performance Measures

- **Simulated Intersection Level of Service (LOS) and Average Control Delay.** Reported by approach and by intersection (sec/veh, color-coded in similar fashion as the equivalent Highway Capacity Manual (HCM) Delay-Based LOS Thresholds). Delay will be reported as "microsimulation delay" per guidance from the VDOT TOSAM.
- **Simulated Intersection Approach Queue.** Reported by movement (feet).

[1] http://www.virginiadot.org/business/resources/TOSAM.pdf

- **Percent of Demand Served.** Simulated Volume (*processed volumes*) divided by Actual Volume (*input volumes*).

5.3. VISSIM Model Calibration Methodology and Criteria

5.3.1. CALIBRATION METHODOLOGY FOR BASE MODELS

The VISSIM models will be calibrated using guidance and direction provided in the *TOSAM*. Traffic volumes and travel time will be used as calibration measures for freeway segments. Calibration thresholds for each measure are summarized in Table 1.

Table 1. VISSIM Calibration Criteria and Acceptance Targets

Calibration Item	Basis	Criteria	Target
Simulated Traffic Volume (Intersections)	**By Intersection Approach**	Within ± 20% for <100 vph	At least 85% of all Intersection Approaches
		Within ± 15% for ≥ 100 vph to < 300 vph	
		Within ± 10% for ≥ 300 vph to < 1,000 vph	
		Within ± 5% for ≥ 1,000 vph	
Simulated Traffic Volume (Freeways)	**By Freeway Segment**	Within ± 20% for <100 vph	At least 85% of all Freeway Segments
		Within ± 15% for ≥ 100 vph to < 300 vph	
		Within ± 10% for ≥ 300 vph to < 1,000 vph	
		Within ± 5% for ≥ 1,000 vph	
Simulated Travel Time	**By Route**	Within ± 30% for average travel times on arterials	At least 85% of all Travel Time Routes (Including Segments)
		Within ± 20% for average travel times on freeways	
Maximum Simulated Queue Length	**By Approach for Targeted Critical Locations**	Modeled queues qualitatively reflect the impacts of observed queues	Qualitative Visual Match compared to Google Maps and INRIX
Visual Review of Bottleneck Locations	**Targeted Critical Locations**	Speed heat maps qualitatively reflect patterns and duration of congestions	Qualitative Subjective Assessment

1. **Traffic Volume:** Simulated throughput calibrated using data collected during the AM and PM peak hours. Freeway traffic volumes will be calibrated for mainline, diverge, merge, weave, and ramp segments. Intersection traffic volumes will be calibrated by intersection approach (link) volumes at the study intersections.

2. **Travel Time:** Simulated travel time calibrated using field data collected during the AM and PM peak hours.

3. **Speeds:** The criteria listed above deviates from TOSAM requirements for simulated average speeds. Speeds are highly variable on the freeway mainline as well as on the local arterial network and residential roadways and can vary substantially by hour and by day. Instead, the simulated average speed will be captured as part of the travel time calibration process and the visual review of bottleneck locations against speed heat maps will be conducted. Average speeds will still be extracted from the VISSIM models along I-395 at one-half mile intervals and compared visually against speed heat maps generated from INRIX vehicle probe data.

4. **Queue Length:** Similarly, queuing within the study area is notably inconsistent and can oscillate numerous times within the peak periods or be absent altogether on some days. A qualitative subjective assessment will be conducted for queue lengths at targeted locations in addition to the review of freeway mainline congestion/queues against the speed heat maps. The targeted locations identified below, where extensive queuing issues consistently exist, will be focused on as critical locations.

    - Ramp from Duke Street WB to I-395 Southbound
    - Ramp from Seminary Road WB to I-395 Southbound
    - Seminary Road reversible HOV ramp

5.4. Simulation Time, Seeding Time and Number of Runs

After assessing the traffic counts, representative peak hour will be determined for AM and PM peak. VISSIM simulation seeding time will be determined using the average travel time for a vehicle to traverse the corridor in the peak travel direction during the peak hours. Given the stochastic nature of the VISSIM models, they need to be run with several different random seeds (to be determined based on statistical analysis) and the results need to be post-processed and averaged to determine the current state of traffic operations in the corridor. The total number of runs necessary for the analysis will be determined based on guidance from the TOSAM. The VDOT Sample Size Determination Tool, which was developed based on FHWA's statistical process to ensure that an appropriate number of microsimulation runs are performed at a 95th percentile confidence level, will be used per guidance from the TOSAM.

5.5. Quality Control and Assurance

The development of VISSIM models includes an extensive quality assurance/quality control process. All network inputs entered by a modeler will be checked by another modeler not associated with the development of the section. All routes and signal settings will be checked by a second modeler different from the one who entered the inputs into the VISSIM models. Close coordination will be maintained throughout the modeling effort to incorporate adequate geometric improvements into the VISSIM models.

6. Safety Analysis

Using the last five years of the latest crash data available (January 1, 2012 to December 31, 2017), crash analysis will be performed for existing conditions. Crash data will be analyzed based on location, type, severity, time, and day to identify any existing crash patterns and safety concerns in the study area. Computed crash rates will be compared with statewide rates for similar roadway types established and documented by VDOT. Summary tables of the crash data analysis will be developed.

Based on a review of historical crash experience, and the methodologies presented in Highway Safety Manual (HSM) will be used to predict crash rates under projected build conditions. Such predictions will be limited to the types of improvements for which crash modification factors have been developed and included in the HSM. The analysis will also identify potential improvements that are needed to reduce the potential for crashes under future conditions.

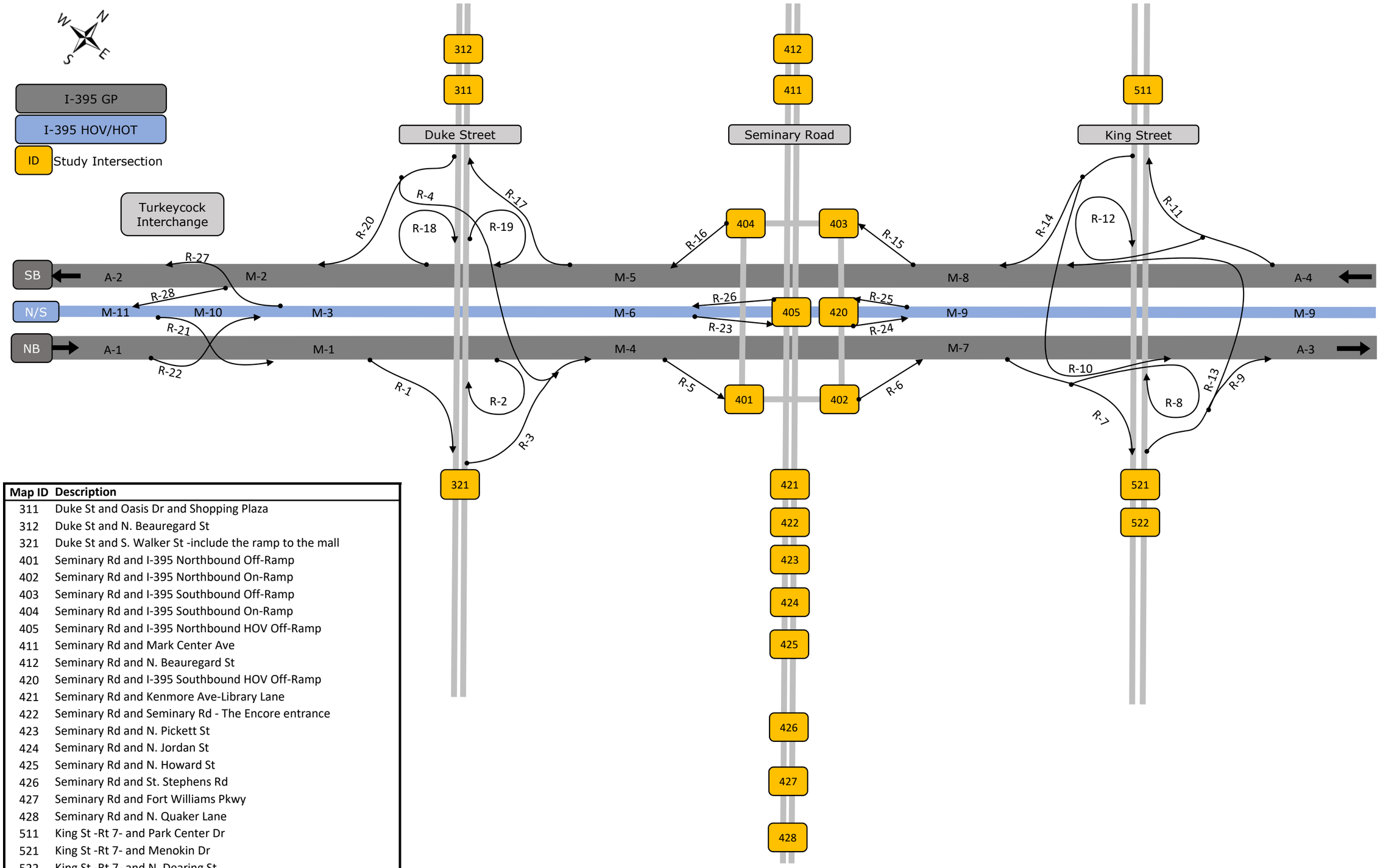
7. Report Deliverables

The following documents will be produced as deliverables during the course of the project.

- Draft Traffic Operations and Safety Analysis Report
- Final Traffic Operations and Safety Analysis Report

APPENDIX B: BALANCED VOLUMES

Count Location Key



Map ID	Description
311	Duke St and Oasis Dr and Shopping Plaza
312	Duke St and N. Beauregard St
321	Duke St and S. Walker St -include the ramp to the mall
401	Seminary Rd and I-395 Northbound Off-Ramp
402	Seminary Rd and I-395 Northbound On-Ramp
403	Seminary Rd and I-395 Southbound Off-Ramp
404	Seminary Rd and I-395 Southbound On-Ramp
405	Seminary Rd and I-395 Northbound HOV Off-Ramp
411	Seminary Rd and Mark Center Ave
412	Seminary Rd and N. Beauregard St
420	Seminary Rd and I-395 Southbound HOV Off-Ramp
421	Seminary Rd and Kenmore Ave-Library Lane
422	Seminary Rd and Seminary Rd - The Encore entrance
423	Seminary Rd and N. Pickett St
424	Seminary Rd and N. Jordan St
425	Seminary Rd and N. Howard St
426	Seminary Rd and St. Stephens Rd
427	Seminary Rd and Fort Williams Pkwy
428	Seminary Rd and N. Quaker Lane
511	King St -Rt 7- and Park Center Dr
521	King St -Rt 7- and Menokin Dr
522	King St -Rt 7- and N. Dearing St

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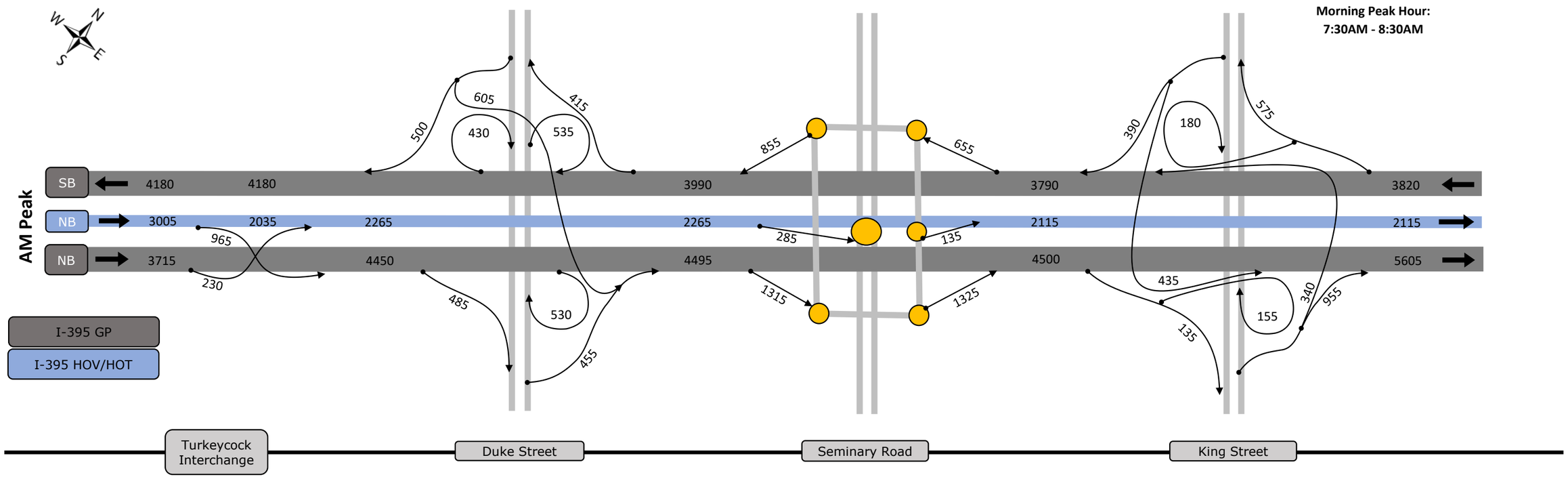
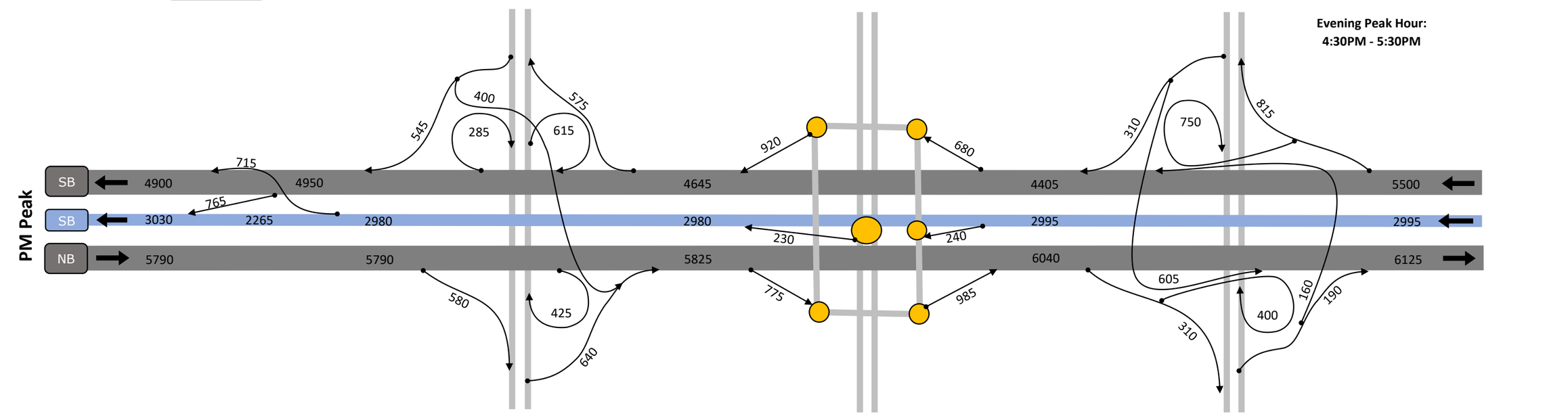
Not to Scale

Balanced Volumes





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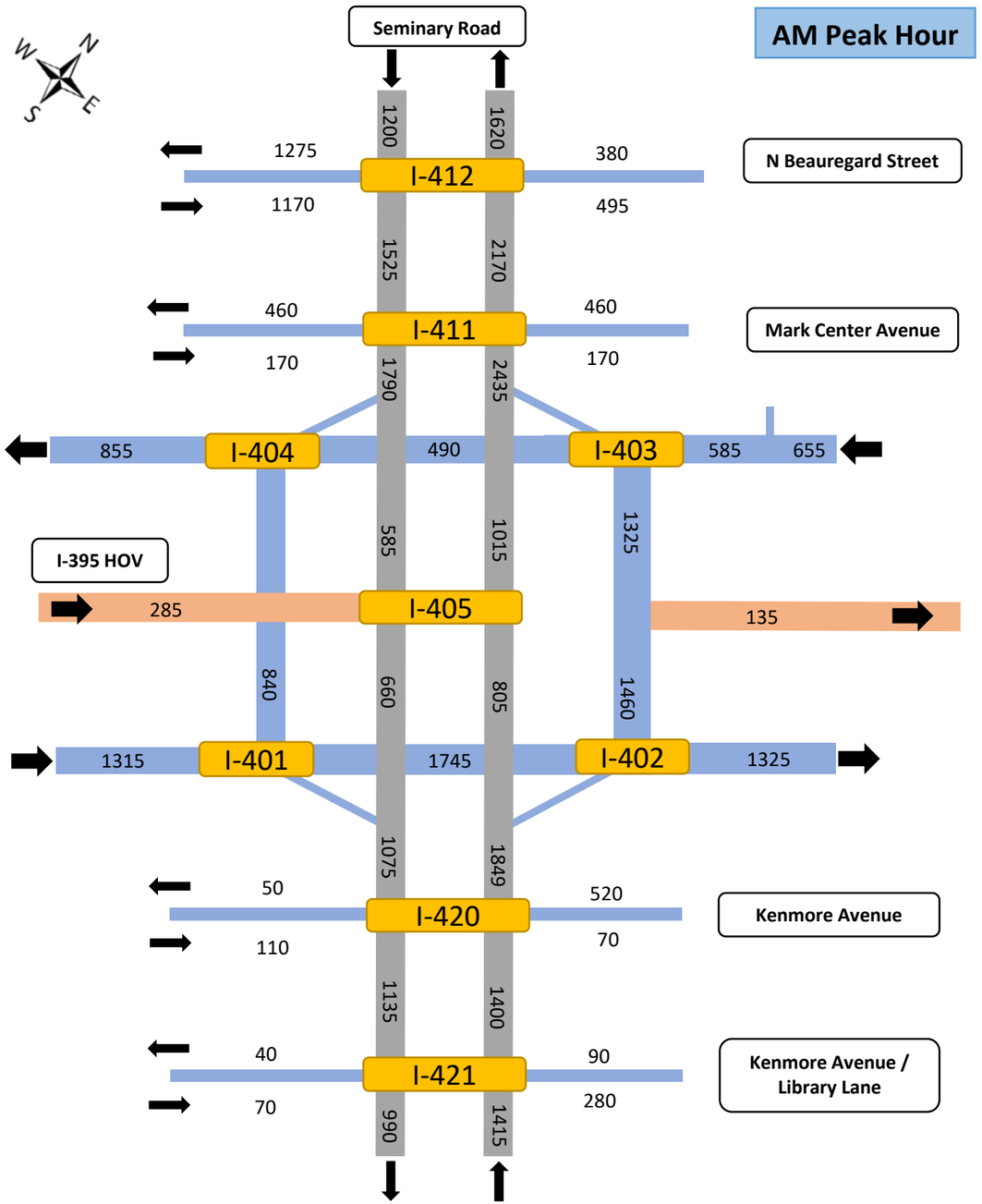
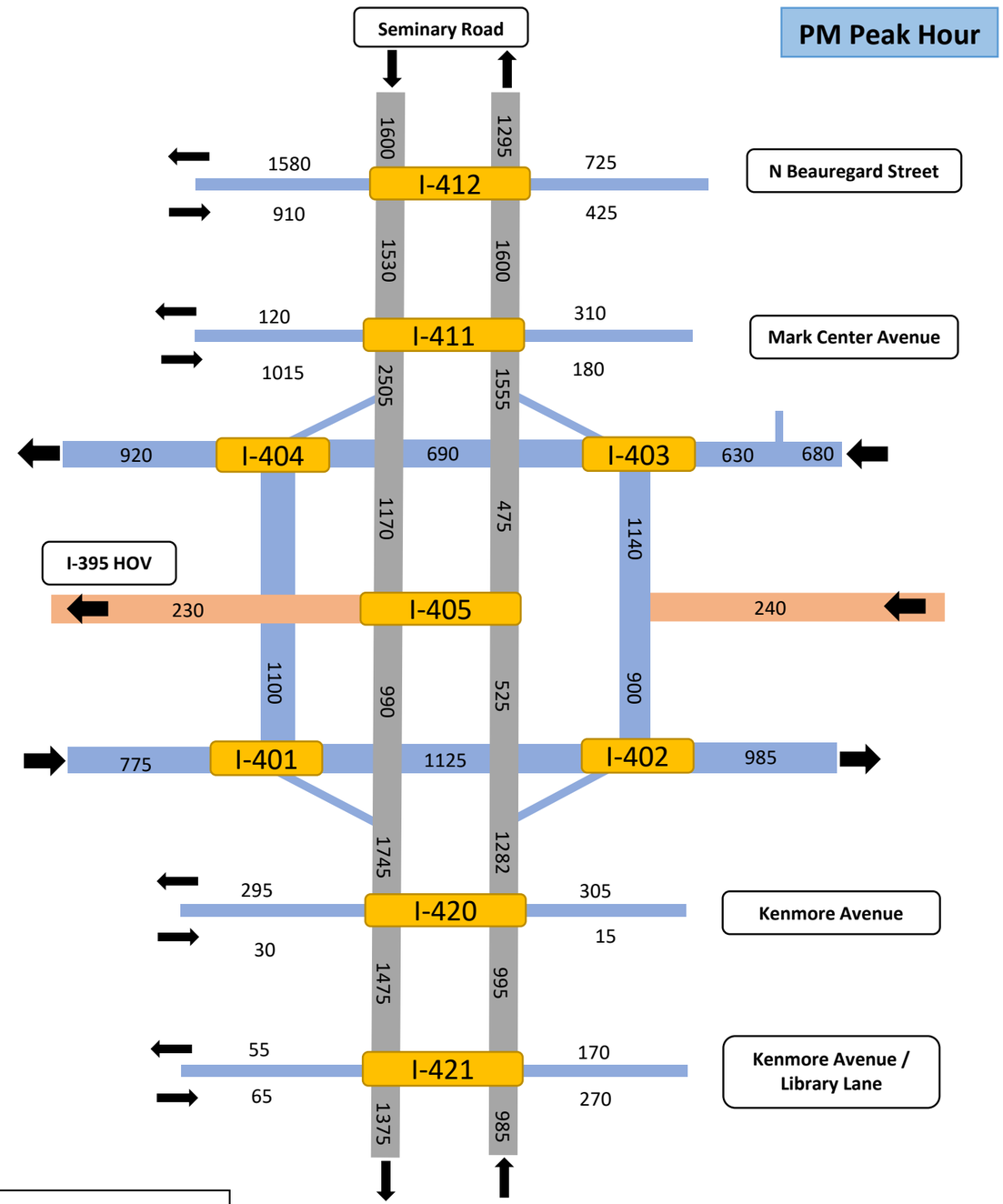
Existing Balanced Volumes





Key:

Intersections with TMC Counts

XXX Balanced Arterial Counts

*Not to scale

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Existing Balanced Volumes

Duke Street

I-311: Duke St and Oasis Dr and Right-in-Right-out at Shopping Plaza

15 (110)	110 (310) 1865 (1600) 105 (230)
1710 (1800) 15 (15)	115 (170)

I-312: Duke St and N. Beauregard St

170 (165) 30 (70) 670 (810)	635 (495) 1195 (1120) 45 (100)
310 (245) 1005 (905) 25 (35)	85 (135) 65 (125) 50 (100)

I-321: Duke St and S. Walker St -include the ramp to the mall

20 (55) (10) 5 (15)	1515 (1760) 50 (180)
1365 (1335) 275 (555)	670 (680) 120 (130)

King Street

I-511: King St -Rt 7- and Park Center Dr

	1065 (1595) 135 (295)
1360 (1300) 40 (100)	70 (70) 355 (210)

I-521: King St -Rt 7- and Menokin Dr

	1060 (900) 40 (110)
1055 (1020) 145 (635)	705 (125) 55 (30)

I-522: King St -Rt 7- and N. Dearing St

230 (95) 20 (25) 55 (30)	25 (35) 725 (810) 15 (25)
80 (105) 915 (785) 120 (145)	150 (95) 20 (15) 10 (10)

Seminary Road

I-401: Seminary Rd and I-395 Northbound Off-Ramp

650 (560) 190 (540)	1095 (565) 220 (210)

I-402: Seminary Rd and I-395 Northbound On-Ramp

	710 (425) 335 (335)
	1125 (565) 615 (560)

I-403: Seminary Rd and I-395 Southbound Off-Ramp

395 (320) 190 (310)	1030 (760) 295 (375)

I-404: Seminary Rd and I-395 Southbound On-Ramp

295 (295) 190 (390)	
650 (710) 560 (625)	

I-405: Seminary Rd and I-395 Northbound HOV Off-Ramp

	805 (475) (50)
585 (990) (180)	205 () 80 ()

I-411: Seminary Rd and Mark Center Ave

115 (110) 80 (40) 265 (155)	85 (125) 2040 (1385) 310 (45)
65 (40) 1395 (1460) 65 (35)	20 (105) 20 (15) 130 (890)

I-412: Seminary Rd and N. Beauregard St

65 (50) 180 (495) 135 (175)	145 (155) 1180 (935) 845 (515)
45 (50) 905 (980) 250 (570)	375 (310) 305 (225) 485 (375)

I-420: Seminary Road and Kenmore Avenue (Rt-in, Rt-out)

520 (305)	70 (15) 1330 (980)
1025 (1450) 50 (295)	110 (30)

I-421: Seminary Rd and Kenmore Ave-Library Lane

40 (70) 10 (10) 45 (90)	75 (80) 1315 (880) 20 (25)
190 (180) 930 (1275) 10 (20)	45 (45) 10 (10) 15 (10)

I-422: Seminary Rd and Seminary Rd - The Encore entrance

35 (30) 10 (20)	20 (15) 1300 (950)
10 (20) 850 (1350)	85 (5) 45 (5)

I-423: Seminary Rd and N. Pickett St

	1215 (905) 80 (105)
770 (1215) 135 (155)	100 (60) 100 (35)

I-424: Seminary Rd and N. Jordan St

	935 (820) 20 (80)
750 (885) 120 (365)	355 (190) 65 (20)

I-425: Seminary Rd and N. Howard St

85 (240) 100 (220) 130 (100)	275 (95) 735 (510) 70 (60)
245 (120) 410 (675) 160 (115)	135 (145) 235 (115) 50 (75)

I-426: Seminary Rd and St. Stephens Rd

5 (5)	895 (565) 100 (40)
5 () 460 (770) 125 (75)	175 (100) 45 (55)

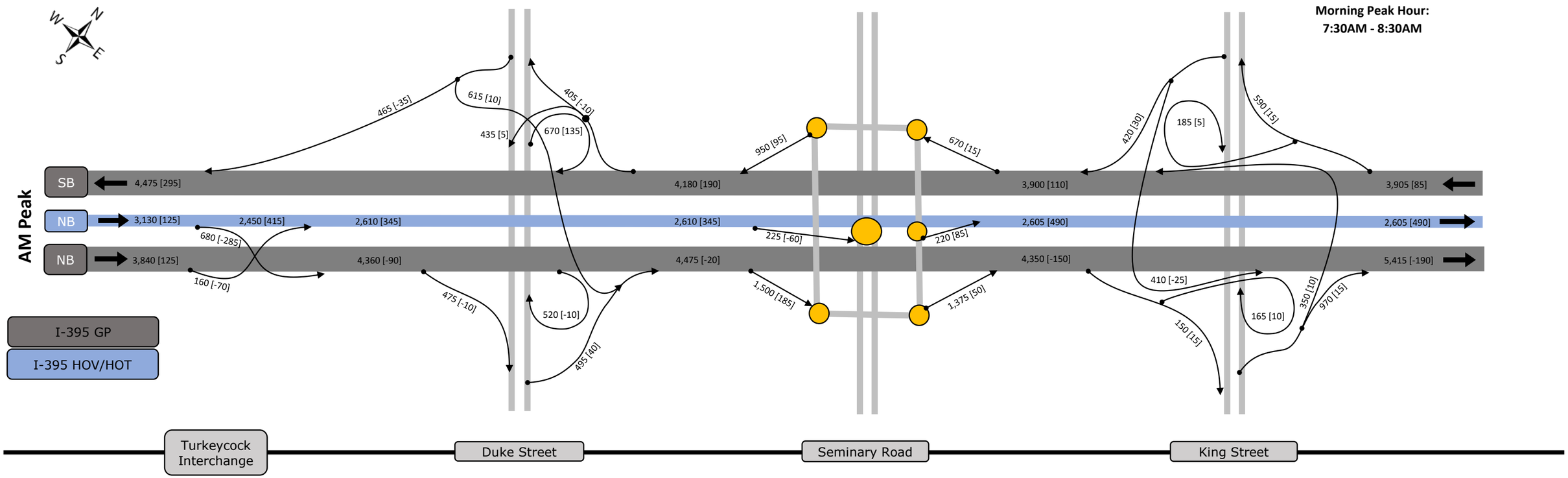
I-427: Seminary Rd and Fort Williams Pkwy

	885 (585) 25 (65)
470 (720) 35 (105)	110 (20) 40 (20)

I-428: Seminary Rd and N. Quaker Lane

75 (120) 420 (600) 140 (280)	155 (185) 285 (250) 35 (30)
65 (85) 245 (425) 200 (230)	555 (280) 680 (620) 35 (30)

2020 No-Build Balanced Volumes and Delta from Existing Conditions



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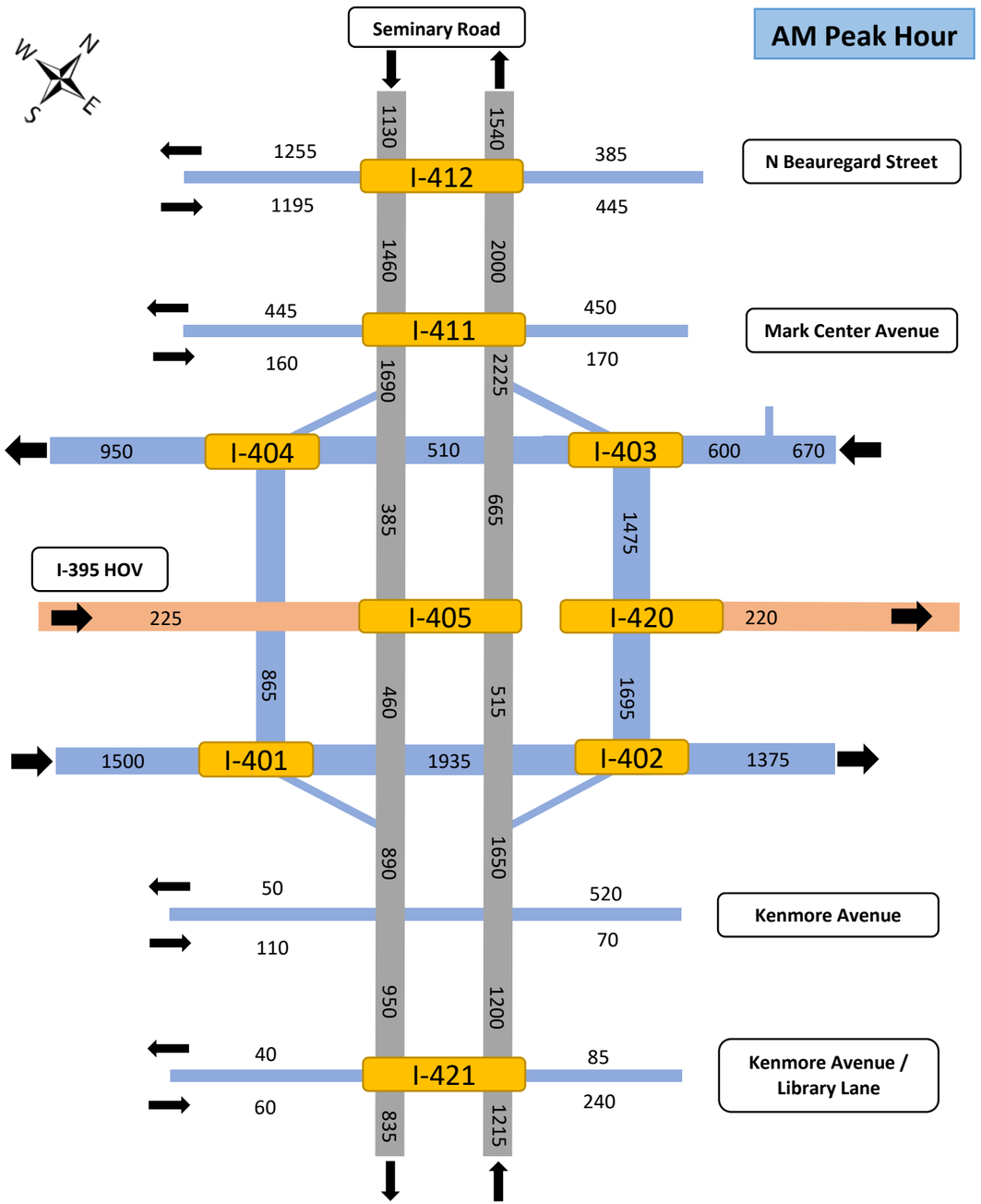
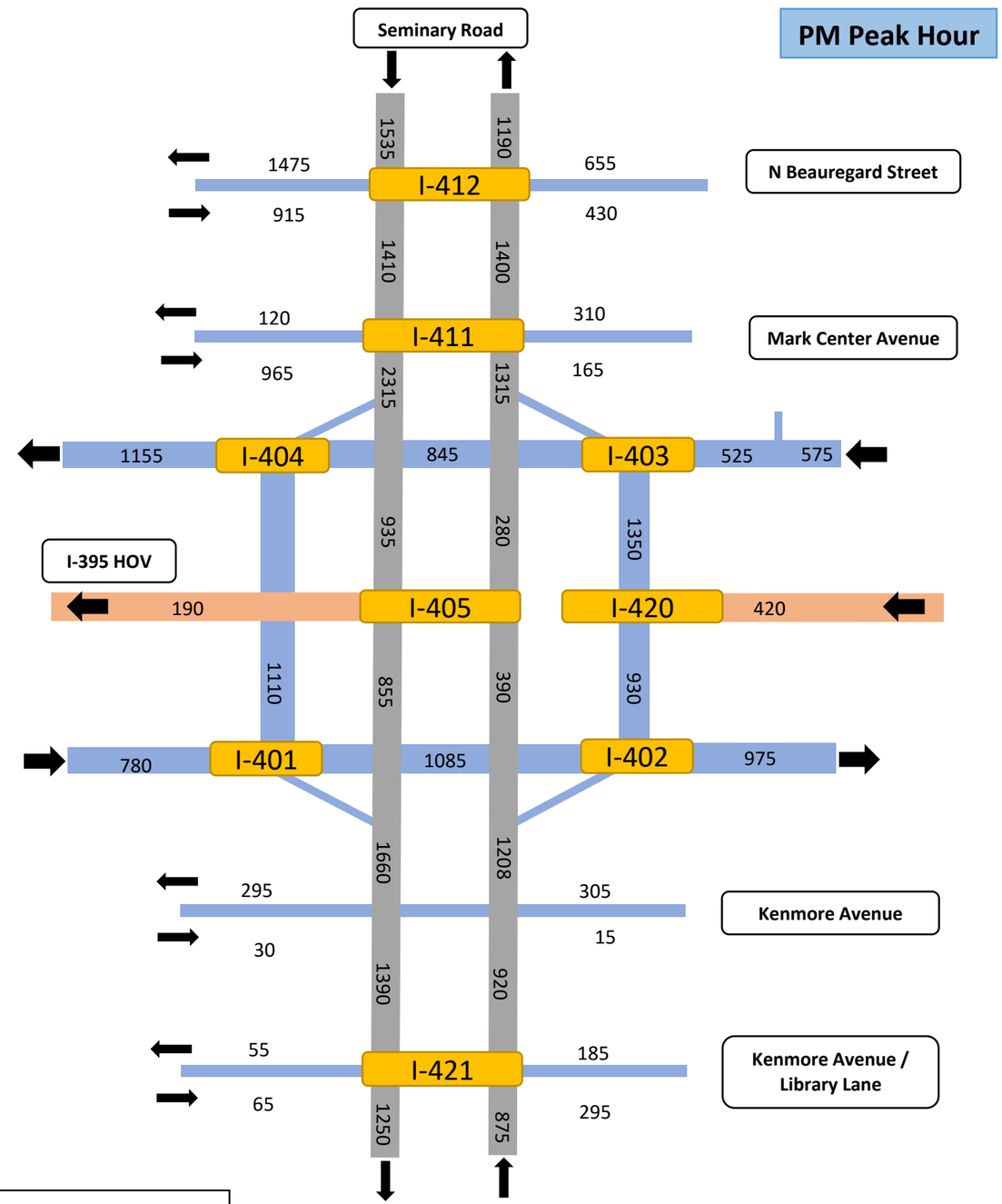
* Values in brackets represent the difference from 2020 NB and Existing Balanced Volumes
* Positive values = additional vehicles, Negative values = fewer vehicles

Not to Scale

2020 No-Build Balanced Volumes





Key:

Intersections with TMC Counts

XXX Balanced Arterial Counts

*Not to scale

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2020 No-Build Balanced Volumes

Duke Street

I-311: Duke St and Oasis Dr and Right-in-Right-out at Shopping Plaza

15 (120)	115 (330) 1855 (1610) 105 (230)
1680 (1795) 15 (15)	115 (170)

I-312: Duke St and N. Beauregard St

190 (165) 30 (70) 640 (805)	620 (525) 1205 (1105) 45 (100)
350 (265) 1010 (905) 25 (35)	90 (130) 65 (130) 45 (100)

I-321: Duke St and S. Walker St -include the ramp to the mall

45 (80) (15) 10 (20)	1645 (1895) 55 (180)
1350 (1385) 275 (600)	700 (725) 120 (120)

King Street

I-511: King St -Rt 7- and Park Center Dr

	1055 (1710) 135 (315)
1400 (1390) 40 (105)	70 (75) 365 (225)

I-521: King St -Rt 7- and Menokin Dr

	1130 (960) 40 (90)
1120 (1100) 150 (605)	625 (105) 40 (25)

I-522: King St -Rt 7- and N. Dearing St

235 (95) 20 (25) 55 (30)	25 (35) 780 (845) 15 (25)
80 (110) 955 (845) 125 (155)	150 (95) 20 (15) 10 (10)

Seminary Road

I-401: Seminary Rd and I-395 Northbound Off-Ramp

665 (525) 200 (585)	1270 (560) 230 (220)

I-402: Seminary Rd and I-395 Northbound On-Ramp

	765 (450) 370 (370)
	1325 (560) 610 (525)

I-403: Seminary Rd and I-395 Southbound Off-Ramp

400 (230) 200 (295)	1160 (805) 310 (545)

I-404: Seminary Rd and I-395 Southbound On-Ramp

310 (410) 200 (435)	
665 (675) 640 (745)	

I-405: Seminary Rd and I-395 Northbound HOV Off-Ramp

	515 (280) (110)
385 (855) (80)	150 () 75 ()

I-411: Seminary Rd and Mark Center Ave

120 (120) 85 (45) 245 (145)	80 (110) 1860 (1160) 290 (40)
70 (40) 1320 (1335) 70 (35)	20 (120) 20 (15) 120 (830)

I-412: Seminary Rd and N. Beauregard St

65 (45) 190 (460) 130 (150)	115 (140) 1070 (820) 810 (440)
40 (50) 835 (910) 255 (575)	405 (325) 290 (240) 500 (350)

I-420: Seminary Road and Kenmore Avenue (Rt-in, Rt-out)

520 (305)	70 (15) 1130 (905)
840 (1365) 50 (295)	110 (30)

I-421: Seminary Rd and Kenmore Ave-Library Lane

35 (90) 10 (10) 40 (85)	65 (70) 1130 (785) 20 (20)
165 (215) 780 (1155) 10 (25)	35 (45) 10 (10) 15 (10)

I-422: Seminary Rd and Seminary Rd - The Encore entrance

30 (25) 10 (20)	20 (15) 1110 (850)
10 (15) 695 (1225)	75 (5) 45 (5)

I-423: Seminary Rd and N. Pickett St

	1040 (810) 85 (110)
640 (1110) 110 (140)	85 (55) 105 (40)

I-424: Seminary Rd and N. Jordan St

	825 (735) 20 (80)
635 (805) 110 (345)	305 (180) 65 (20)

I-425: Seminary Rd and N. Howard St

75 (210) 105 (265) 130 (105)	255 (100) 645 (470) 70 (80)
200 (100) 355 (605) 145 (120)	125 (135) 230 (125) 50 (85)

I-426: Seminary Rd and St. Stephens Rd

5 (5)	805 (550) 105 (45)
5 () 415 (725) 115 (70)	155 (95) 45 (60)

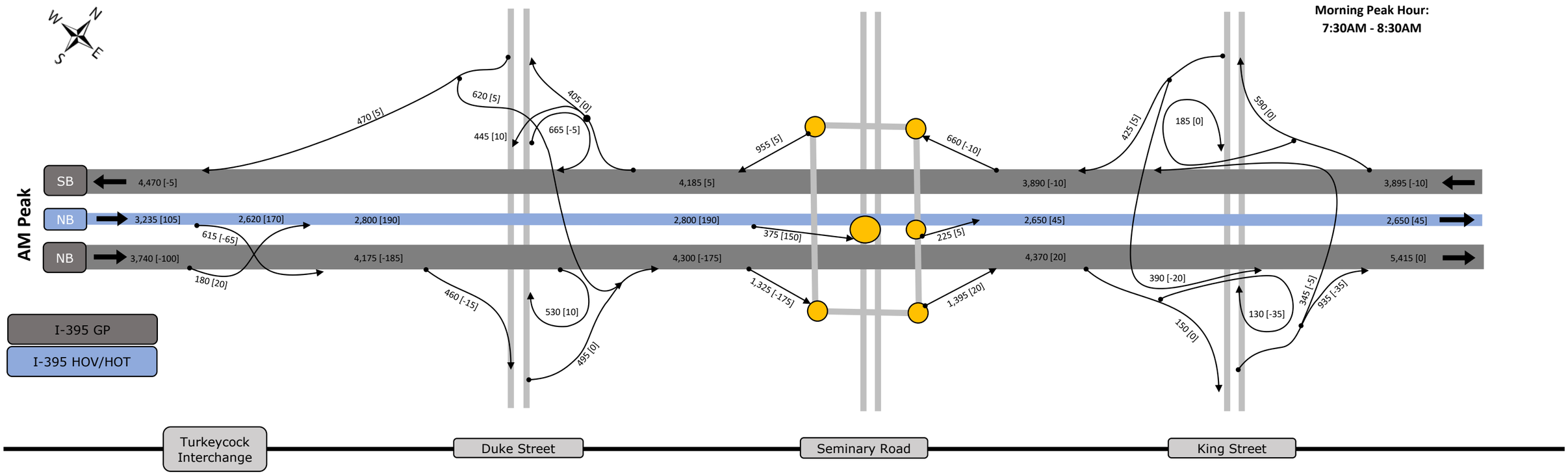
I-427: Seminary Rd and Fort Williams Pkwy

	805 (575) 25 (65)
430 (680) 35 (100)	105 (20) 40 (20)

I-428: Seminary Rd and N. Quaker Lane

70 (120) 445 (635) 145 (290)	165 (185) 255 (240) 35 (30)
60 (80) 220 (400) 185 (225)	505 (280) 725 (635) 35 (30)

2020 Build Balanced Volumes and Delta from 2020 No-Build Balanced Volumes



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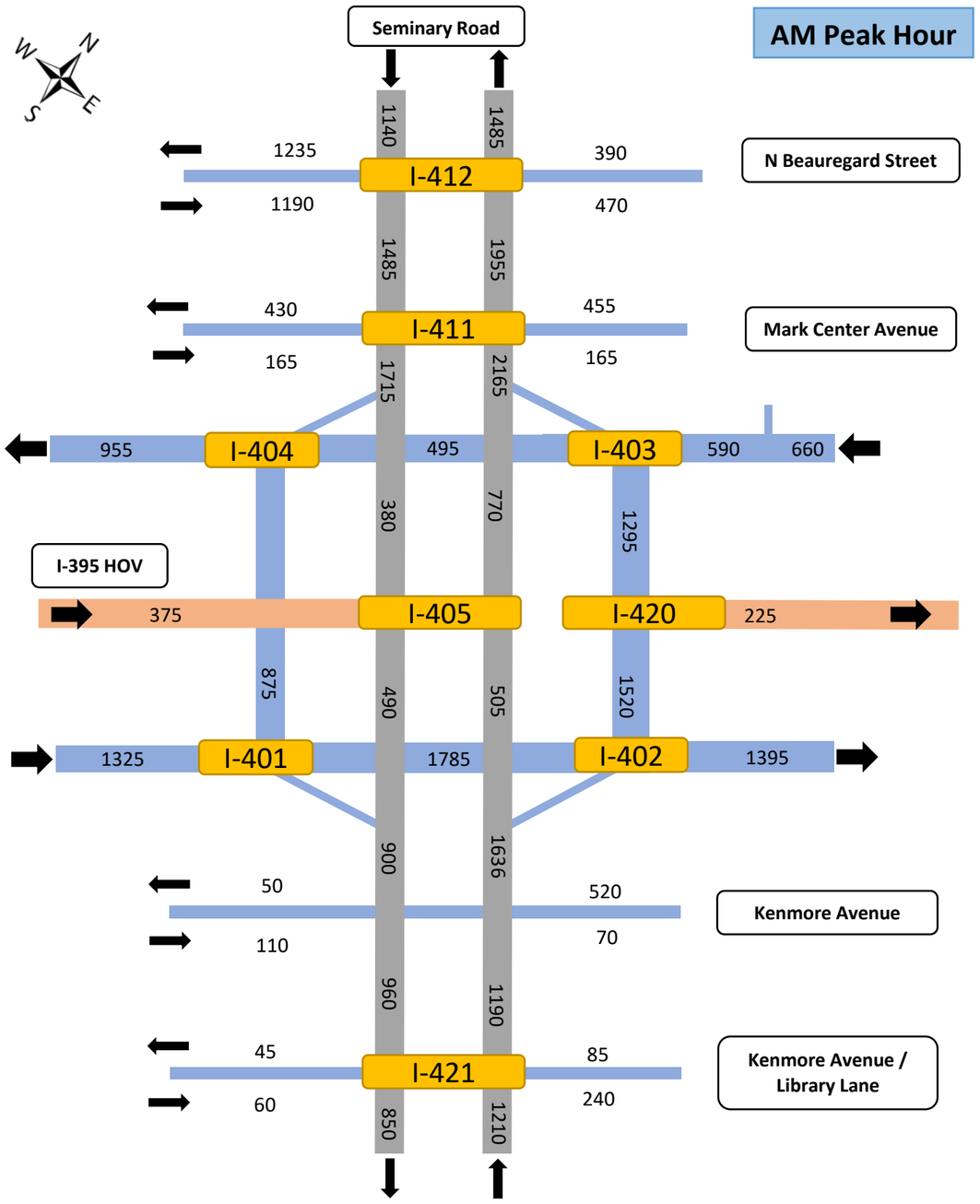
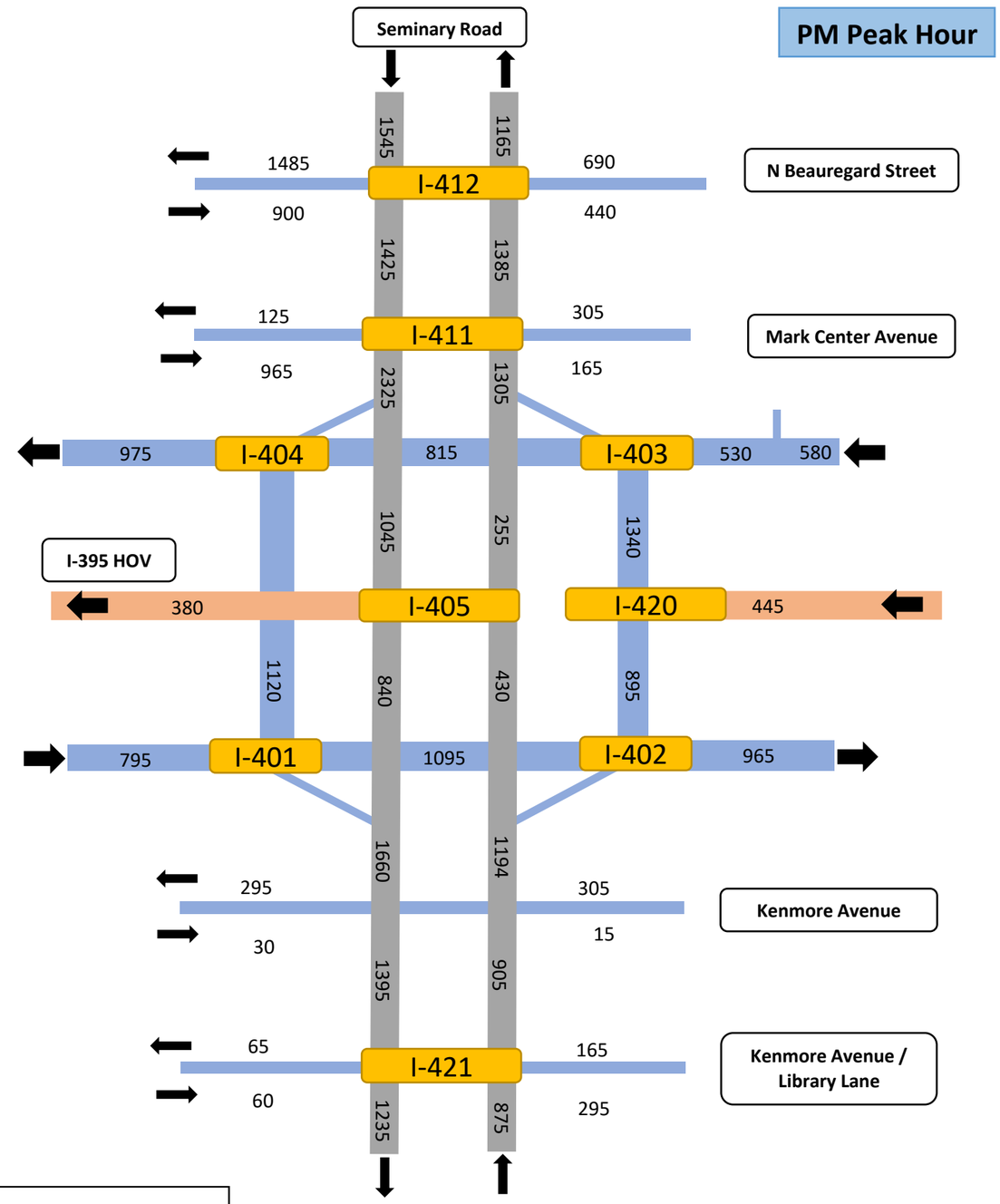
* Values in brackets represent the difference from 2020 Build and 2020 No-Build Volumes
* Positive values = additional vehicles, Negative values = fewer vehicles

Not to Scale

2020 Build Balanced Volumes





Key:

Intersections with TMC Counts

XXX Balanced Arterial Counts

*Not to scale

Kimley»Horn

2020 Build Balanced Volumes

Duke Street

I-311: Duke St and Oasis Dr and Right-in-Right-out at Shopping Plaza		I-312: Duke St and N. Beauregard St		I-321: Duke St and S. Walker St -include the ramp to the mall	
15 (115)	115 (320) 1850 (1605) 105 (230)	190 (165) 30 (70) 645 (805)	620 (510) 1200 (1110) 45 (100)	55 (85) (15) 15 (20)	1630 (1855) 55 (185)
1685 (1800) 15 (15)	115 (170)	350 (260) 1010 (910) 25 (35)	90 (135) 65 (130) 45 (100)	1345 (1370) 270 (625)	685 (730) 125 (125)

King Street

I-511: King St -Rt 7- and Park Center Dr		I-521: King St -Rt 7- and Menokin Dr		I-522: King St -Rt 7- and N. Dearing St	
	1045 (1705) 135 (315)		1105 (920) 40 (115)	235 (95) 20 (25) 55 (30)	25 (35) 760 (830) 15 (25)
1400 (1345) 40 (105)	70 (75) 365 (215)	1135 (1015) 150 (600)	635 (120) 40 (30)	85 (105) 970 (785) 120 (145)	150 (95) 20 (15) 10 (10)

Seminary Road

I-401: Seminary Rd and I-395 Northbound Off-Ramp		I-402: Seminary Rd and I-395 Northbound On-Ramp		I-403: Seminary Rd and I-395 Southbound Off-Ramp	
			785 (435) 345 (330)	380 (240) 210 (290)	1015 (815) 285 (525)
665 (530) 210 (590)	1120 (565)	205 (230)	1175 (565)	610 (530)	

I-404: Seminary Rd and I-395 Southbound On-Ramp		I-405: Seminary Rd and I-395 Northbound HOV Off-Ramp		I-411: Seminary Rd and Mark Center Ave	
285 (380) 210 (440)			505 (255) (175)	120 (115) 85 (45) 250 (145)	75 (110) 1815 (1160) 275 (35)
665 (680) 670 (595)		380 (840) (205)	265 () 110 ()	70 (40) 1345 (1340) 70 (45)	20 (110) 20 (15) 125 (840)

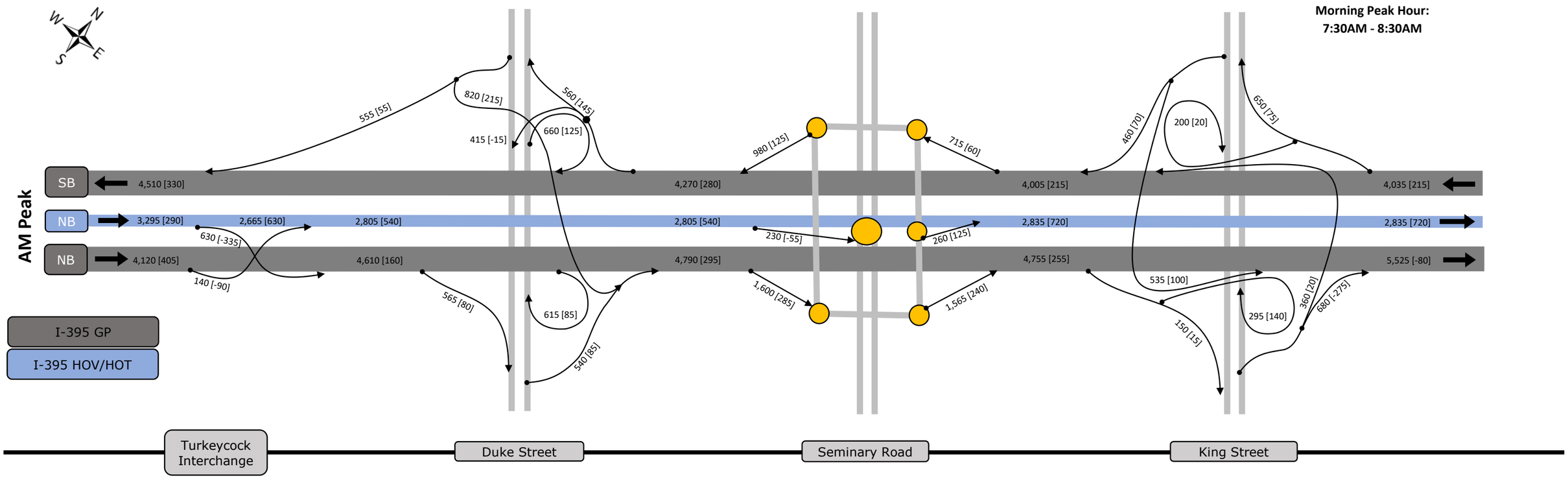
I-412: Seminary Rd and N. Beauregard St		I-420: Seminary Road and Kenmore Avenue (Rt-in, Rt-out)	
65 (45) 190 (480) 135 (165)	125 (145) 1035 (810) 795 (430)	520 (305)	70 (15) 1120 (890)
40 (55) 850 (915) 250 (575)	385 (310) 305 (240) 500 (350)	850 (1365) 50 (295)	110 (30)

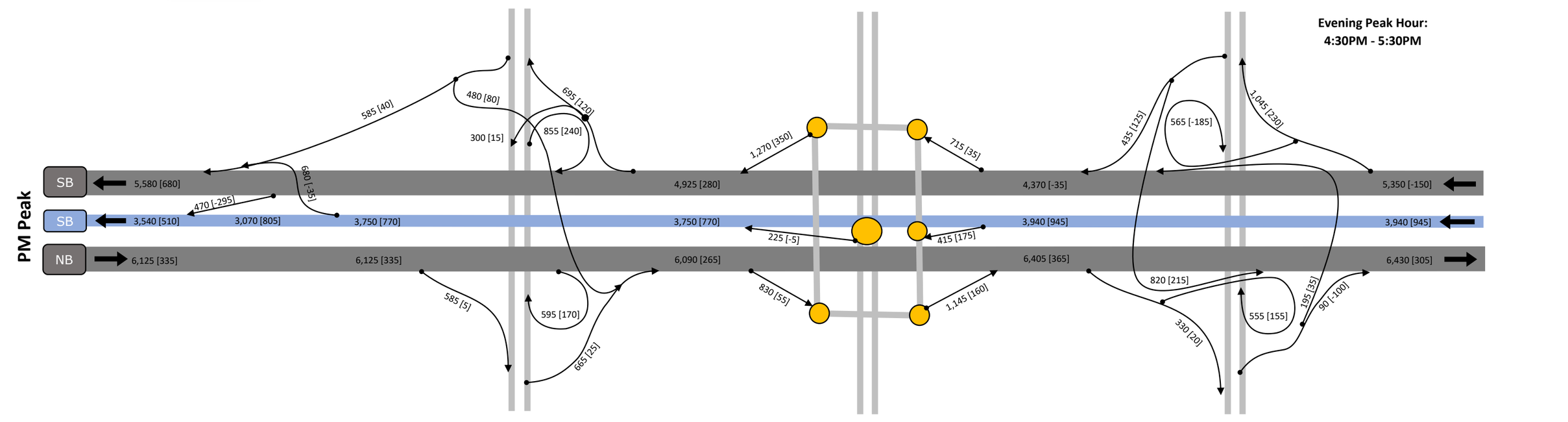
I-421: Seminary Rd and Kenmore Ave-Library Lane		I-422: Seminary Rd and Seminary Rd - The Encore entrance		I-423: Seminary Rd and N. Pickett St	
35 (85) 10 (10) 40 (70)	70 (75) 1115 (780) 25 (20)	30 (25) 10 (20)	20 (15) 1105 (845)		1040 (810) 85 (110)
160 (210) 795 (1155) 10 (35)	35 (40) 10 (10) 15 (10)	10 (15) 710 (1210)	75 (5) 45 (5)	650 (1095) 115 (140)	85 (50) 105 (35)

I-424: Seminary Rd and N. Jordan St		I-425: Seminary Rd and N. Howard St		I-426: Seminary Rd and St. Stephens Rd	
	825 (745) 20 (80)	75 (225) 105 (245) 130 (105)	260 (105) 645 (470) 70 (65)	5 (5)	810 (535) 105 (40)
650 (795) 105 (335)	300 (175) 65 (20)	210 (110) 360 (600) 145 (110)	125 (130) 230 (120) 50 (80)	5 () 420 (710) 115 (70)	160 (95) 45 (55)

I-427: Seminary Rd and Fort Williams Pkwy		I-428: Seminary Rd and N. Quaker Lane	
	810 (560) 25 (65)	70 (115) 445 (620) 145 (285)	165 (190) 260 (240) 35 (30)
430 (670) 35 (100)	105 (20) 40 (20)	60 (80) 225 (395) 190 (215)	505 (270) 725 (640) 35 (30)

2040 No-Build Balanced Volumes and Delta from Existing Conditions





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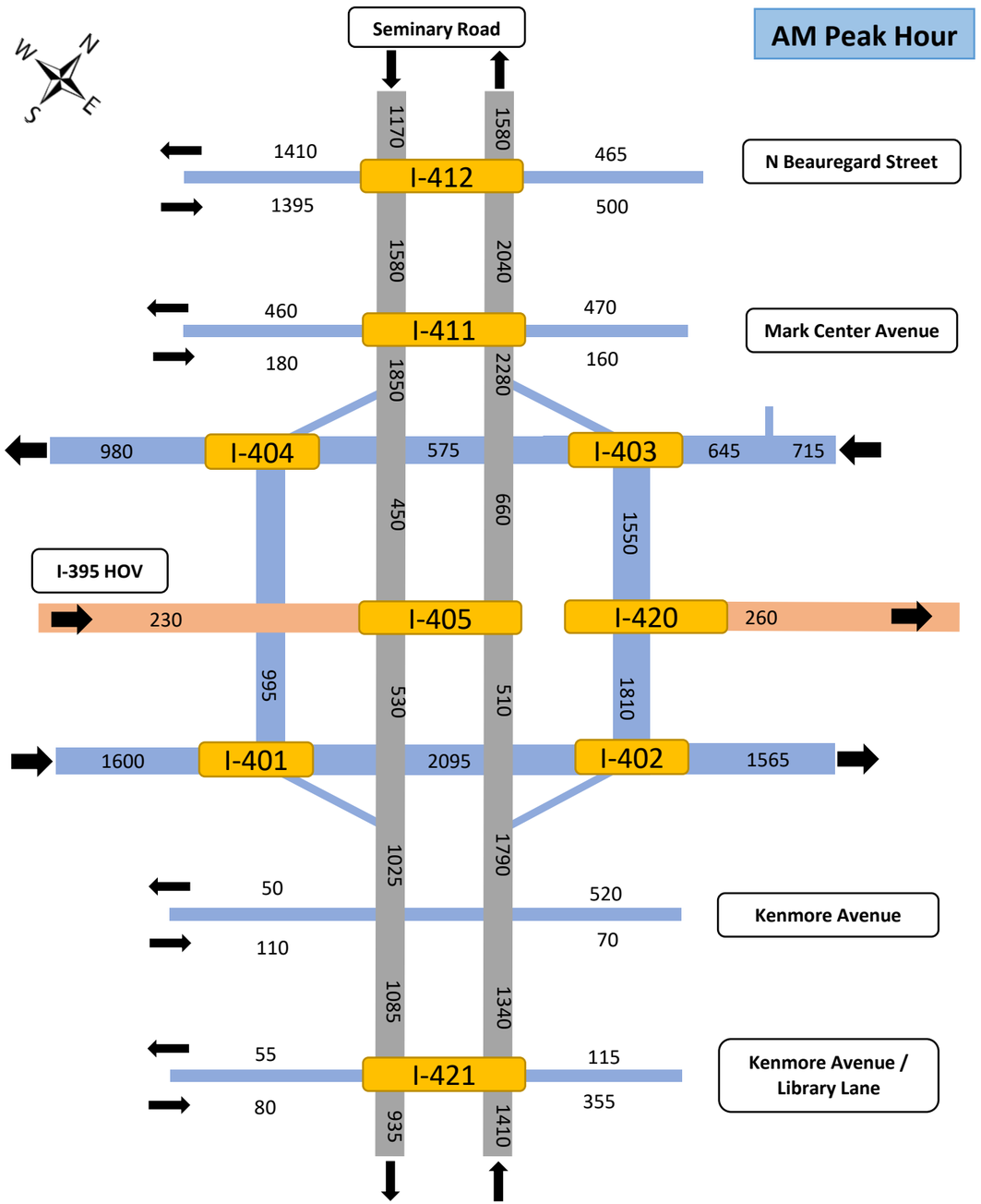
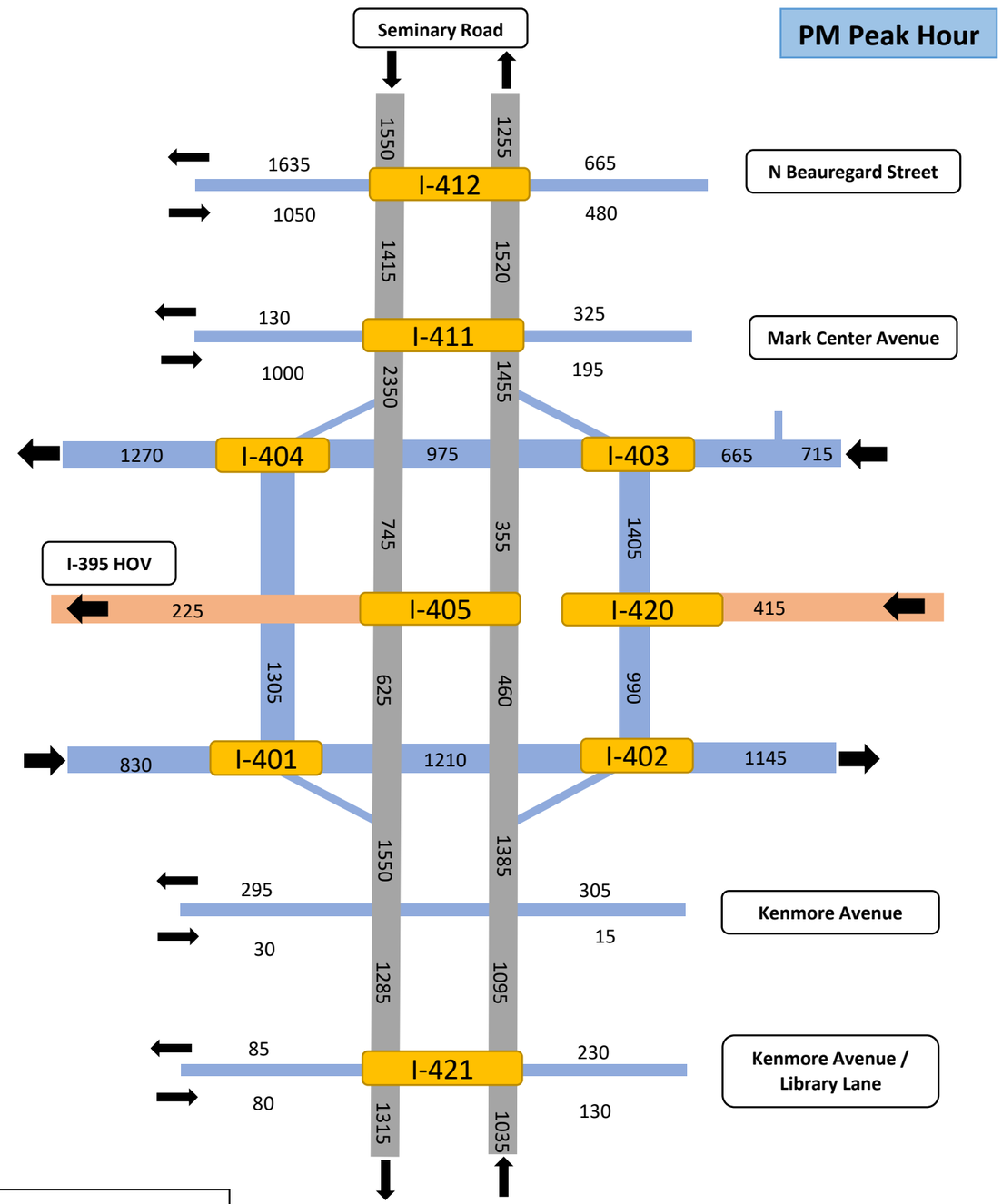
* Values in brackets represent the difference from 2040 NB and Existing Balanced Volumes
* Positive values = additional vehicles, Negative values = fewer vehicles

Not to Scale

2040 No-Build Balanced Volumes





Key:

Intersections with TMC Counts

XXX Balanced Arterial Counts

*Not to scale

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2040 No-Build Balanced Volumes

Duke Street

I-311: Duke St and Oasis Dr and Right-in-Right-out at Shopping Plaza

15 (125)	120 (350) 2285 (2095) 115 (240)
1990 (2315) 15 (15)	120 (180)

I-312: Duke St and N. Beauregard St

255 (205) 30 (70) 770 (965)	730 (685) 1530 (1435) 40 (100)
430 (385) 1190 (1270) 25 (40)	100 (135) 65 (135) 45 (95)

I-321: Duke St and S. Walker St -include the ramp to the mall

90 (170) (30) 20 (35)	1835 (2085) 55 (180)
1450 (1590) 265 (725)	725 (770) 125 (115)

King Street

I-511: King St -Rt 7- and Park Center Dr

	1300 (1875) 165 (345)
1510 (1455) 45 (110)	80 (80) 395 (235)

I-521: King St -Rt 7- and Menokin Dr

	1200 (900) 15 (85)
1120 (880) 140 (450)	360 (5) 10 ()

I-522: King St -Rt 7- and N. Dearing St

240 (120) 20 (35) 35 (35)	30 (45) 795 (760) 15 (25)
120 (120) 865 (610) 140 (135)	180 (95) 25 (20) 10 (10)

Seminary Road

I-401: Seminary Rd and I-395 Northbound Off-Ramp

760 (625) 235 (680)	1335 (585) 265 (245)

I-402: Seminary Rd and I-395 Northbound On-Ramp

	870 (520) 410 (405)
	1400 (585) 695 (625)

I-403: Seminary Rd and I-395 Southbound Off-Ramp

410 (270) 235 (395)	1210 (830) 340 (580)

I-404: Seminary Rd and I-395 Southbound On-Ramp

340 (440) 235 (530)	
760 (775) 640 (830)	

I-405: Seminary Rd and I-395 Northbound HOV Off-Ramp

	510 (355) (105)
450 (625) (120)	150 () 80 ()

I-411: Seminary Rd and Mark Center Ave

120 (125) 85 (45) 265 (155)	75 (130) 1900 (1280) 305 (45)
65 (45) 1445 (1330) 70 (40)	20 (115) 20 (20) 140 (865)

I-412: Seminary Rd and N. Beauregard St

75 (45) 240 (485) 150 (135)	115 (150) 1040 (845) 885 (525)
40 (50) 845 (875) 285 (625)	465 (365) 345 (280) 585 (405)

I-420: Seminary Road and Kenmore Avenue (Rt-in, Rt-out)

520 (305)	70 (15) 1270 (1080)
975 (1255) 50 (295)	110 (30)

I-421: Seminary Rd and Kenmore Ave-Library Lane

40 (90) 15 (20) 60 (120)	125 (45) 1260 (950) 25 (40)
215 (80) 855 (1180) 15 (25)	45 (60) 15 (5) 20 (15)

I-422: Seminary Rd and Seminary Rd - The Encore entrance

35 (35) 10 (20)	20 (15) 1290 (995)
10 (15) 800 (1290)	85 (5) 50 (5)

I-423: Seminary Rd and N. Pickett St

	1210 (950) 90 (120)
730 (1165) 130 (150)	100 (60) 110 (40)

I-424: Seminary Rd and N. Jordan St

	935 (875) 20 (95)
730 (825) 110 (380)	365 (195) 75 (20)

I-425: Seminary Rd and N. Howard St

70 (250) 90 (310) 130 (135)	290 (105) 740 (580) 80 (90)
220 (85) 430 (650) 155 (110)	140 (140) 260 (110) 65 (95)

I-426: Seminary Rd and St. Stephens Rd

5 (5)	925 (655) 110 (45)
5 () 485 (800) 135 (80)	180 (115) 50 (60)

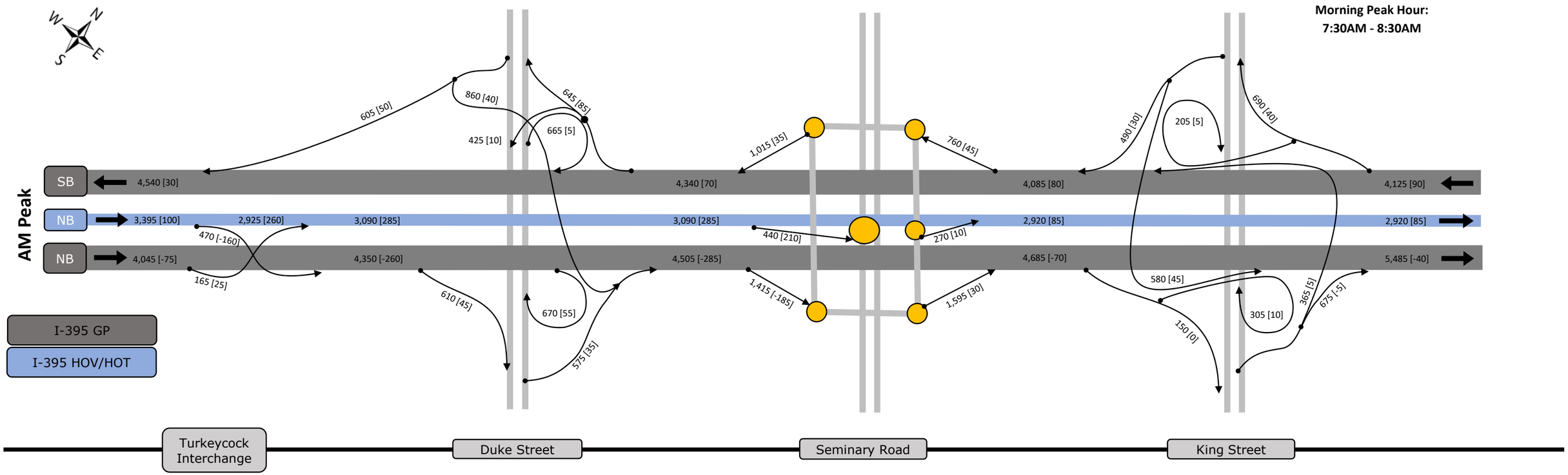
I-427: Seminary Rd and Fort Williams Pkwy

	920 (670) 30 (75)
500 (750) 35 (110)	115 (30) 55 (30)

I-428: Seminary Rd and N. Quaker Lane

105 (150) 365 (520) 155 (280)	160 (200) 345 (310) 25 (25)
85 (100) 285 (465) 185 (215)	505 (285) 520 (550) 25 (25)

2040 Build Balanced Volumes and Delta from 2040 No-Build Balanced Volumes



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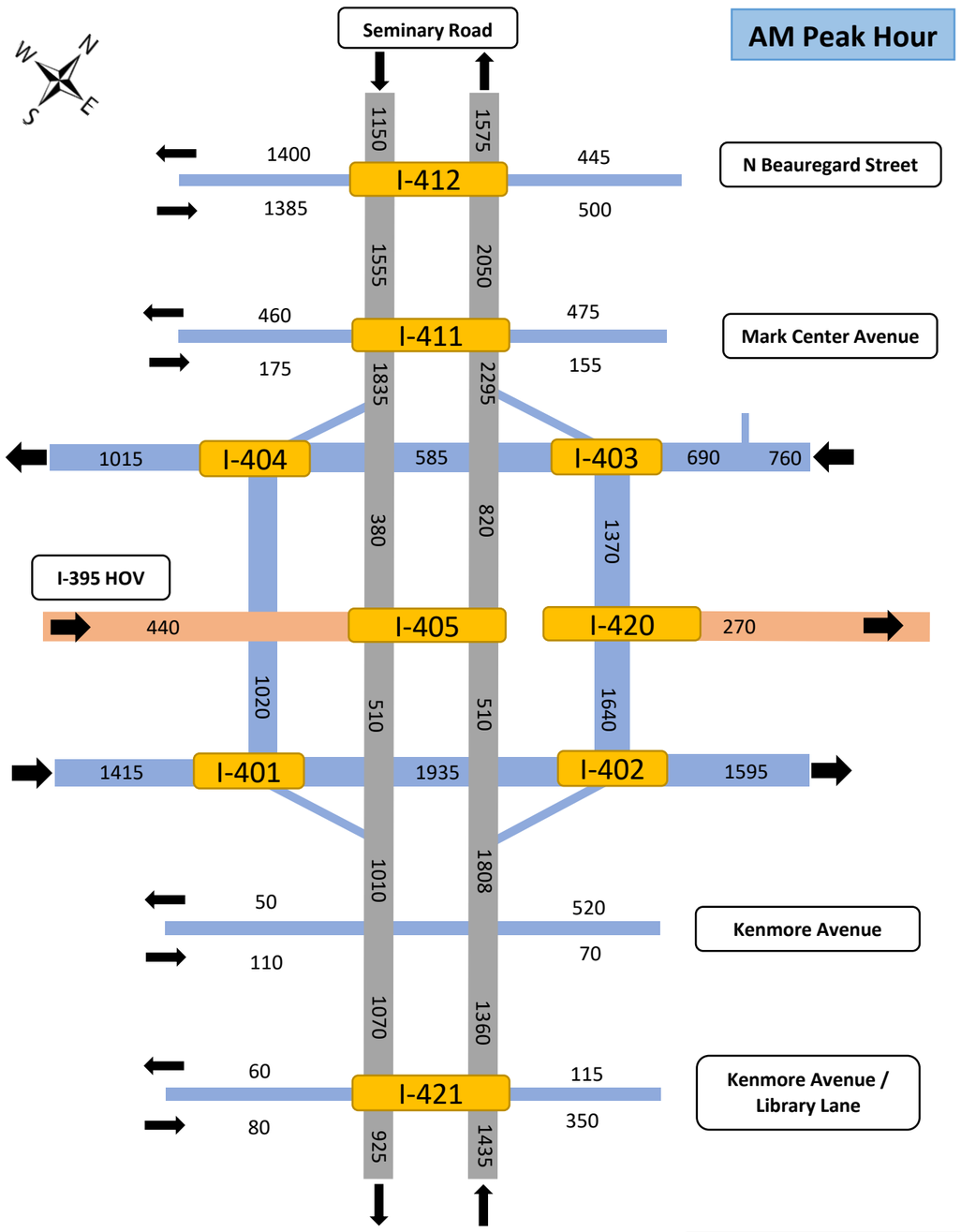
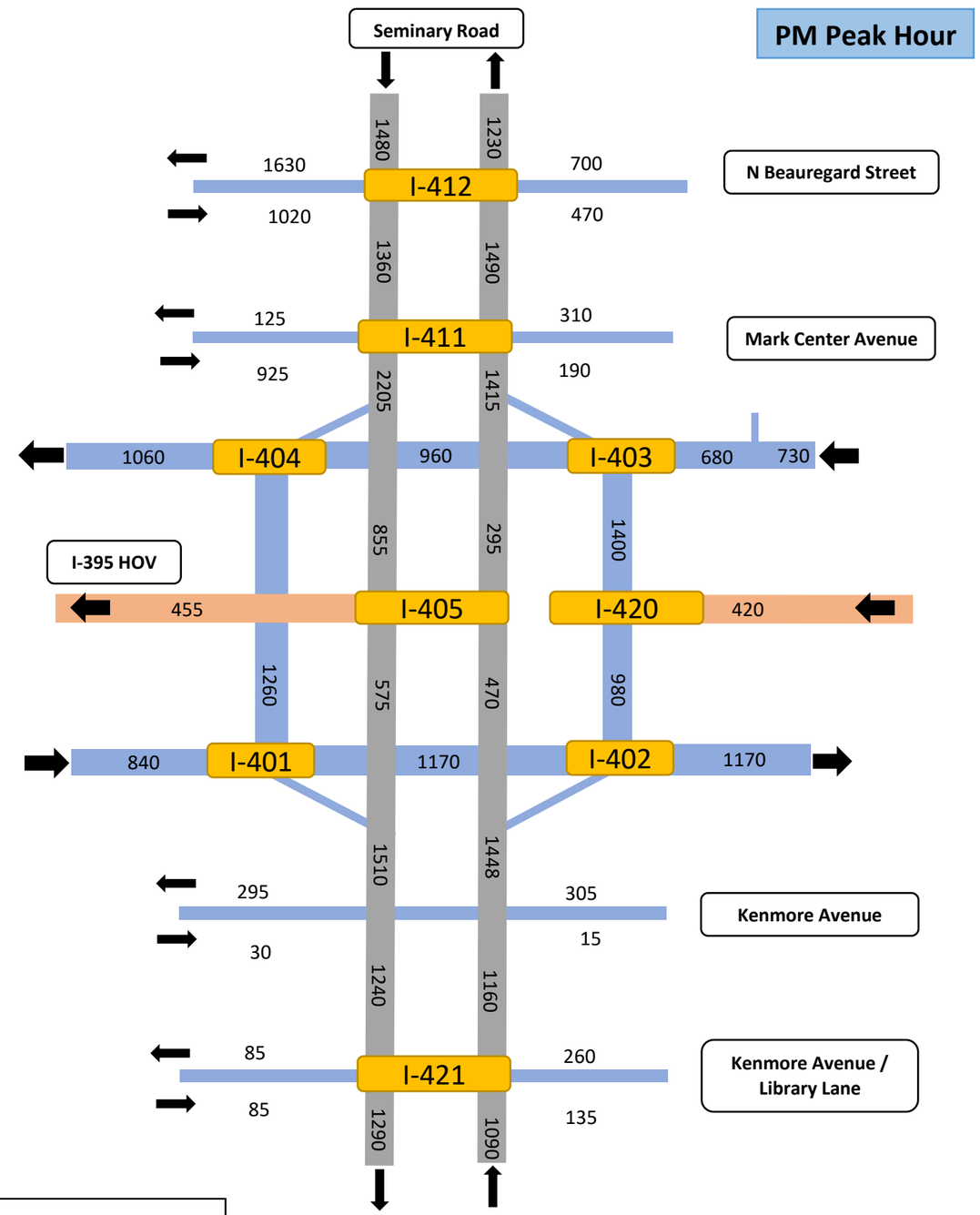
* Values in brackets represent the difference from 2040 Build and 2040 No-Build Volumes
* Positive values = additional vehicles, Negative values = fewer vehicles

Not to Scale

2040 Build Balanced Volumes





Key:

- Intersections with TMC Counts
- XXX Balanced Arterial Counts

*Not to scale

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2040 Build Balanced Volumes

Duke Street

I-311: Duke St and Oasis Dr and Right-in-Right-out at Shopping Plaza

15 (125)	120 (350) 2265 (2100) 115 (240)
1980 (2300) 15 (15)	120 (180)

I-312: Duke St and N. Beauregard St

255 (200) 30 (70) 765 (945)	725 (685) 1515 (1440) 40 (100)
435 (385) 1185 (1275) 25 (40)	100 (135) 65 (135) 45 (95)

I-321: Duke St and S. Walker St -include the ramp to the mall

85 (165) (30) 20 (35)	1745 (2020) 70 (180)
1340 (1515) 330 (695)	715 (770) 120 (115)

King Street

I-511: King St -Rt 7- and Park Center Dr

	1345 (1960) 170 (365)
1510 (1455) 45 (110)	80 (80) 395 (235)

I-521: King St -Rt 7- and Menokin Dr

	1210 (880) 15 (85)
1055 (815) 135 (420)	350 (20) 10 ()

I-522: King St -Rt 7- and N. Dearing St

240 (115) 20 (35) 35 (35)	30 (45) 805 (745) 15 (25)
115 (110) 820 (570) 130 (125)	180 (95) 25 (20) 10 (10)

Seminary Road

I-401: Seminary Rd and I-395 Northbound Off-Ramp

750 (580) 270 (680)	1185 (590) 230 (250)

I-402: Seminary Rd and I-395 Northbound On-Ramp

	875 (590) 385 (390)
	1255 (590) 685 (580)

I-403: Seminary Rd and I-395 Southbound Off-Ramp

420 (290) 270 (390)	1055 (830) 310 (565)

I-404: Seminary Rd and I-395 Southbound On-Ramp

310 (430) 270 (530)	
750 (730) 705 (620)	

I-405: Seminary Rd and I-395 Northbound HOV Off-Ramp

	510 (295) (175)
380 (575) (280)	310 () 130 ()

I-411: Seminary Rd and Mark Center Ave

120 (125) 85 (45) 270 (140)	75 (125) 1910 (1250) 305 (40)
60 (45) 1425 (1275) 70 (40)	20 (115) 20 (20) 135 (790)

I-412: Seminary Rd and N. Beauregard St

70 (45) 230 (515) 145 (140)	115 (145) 1045 (830) 890 (515)
40 (50) 830 (830) 280 (600)	460 (355) 345 (275) 580 (390)

I-420: Seminary Road and Kenmore Avenue (Rt-in, Rt-out)

520 (305)	70 (15) 1250 (1145)
960 (1215) 50 (295)	110 (30)

I-421: Seminary Rd and Kenmore Ave-Library Lane

40 (100) 15 (20) 60 (140)	130 (50) 1240 (1000) 30 (40)
205 (80) 845 (1135) 15 (25)	45 (65) 15 (5) 20 (15)

I-422: Seminary Rd and Seminary Rd - The Encore entrance

35 (35) 10 (20)	20 (15) 1280 (1050)
10 (15) 790 (1270)	85 (5) 50 (5)

I-423: Seminary Rd and N. Pickett St

	1200 (1000) 90 (120)
720 (1145) 125 (145)	100 (65) 110 (40)

I-424: Seminary Rd and N. Jordan St

	935 (915) 20 (95)
730 (815) 100 (370)	355 (205) 75 (20)

I-425: Seminary Rd and N. Howard St

70 (255) 90 (310) 130 (130)	290 (105) 745 (610) 80 (90)
225 (85) 430 (640) 155 (115)	140 (145) 260 (110) 65 (90)

I-426: Seminary Rd and St. Stephens Rd

5 (5)	925 (680) 110 (45)
5 () 485 (780) 135 (75)	180 (120) 50 (60)

I-427: Seminary Rd and Fort Williams Pkwy

	920 (695) 30 (75)
495 (730) 40 (110)	115 (30) 55 (30)

I-428: Seminary Rd and N. Quaker Lane

100 (155) 365 (525) 160 (285)	180 (210) 330 (325) 25 (25)
90 (100) 280 (455) 175 (205)	525 (290) 635 (560) 30 (25)

APPENDIX C: EXISTING CONDITIONS CALIBRATION MEMO

- **Freeway and Ramp Individual Link Volume Calibration**
- **Arterial Intersection Volume Calibration**
- **Travel Time Calibration**
- **Speed congestion Map Calibration**
- **Queue Length Calibration**

Kimley»Horn

MEMORANDUM

To: Ivan Horodyskyj, P.E., VDOT NoVA District Traffic Engineer
Abi Lerner, P.E., VDOT Project Manager

From: Kimely-Horn

Date: June 14, 2019

Subject: Seminary Road Ramp HOV to HOT Conversion Task 1
Traffic Analysis Microsimulation Calibration Results Memorandum

Introduction

This memorandum documents the Existing Conditions (2018) balanced traffic volumes and VISSIM calibration results for the Seminary Road Ramp HOV to HOT Conversion Study. This process followed the agreed-upon methodology for VISSIM model calibration as documented in the project framework document (dated January 9, 2019). The traffic microsimulation calibration methodology was based on guidance set forth in the VDOT *Traffic Operations and Safety Analysis Manual* (TOSAM)[1], Version 1.0 (released November 2015), with deviations from TOSAM requirements noted if applicable in this memorandum.

Data Collection

Mainline and ramp traffic classification counts were collected continuously from Tuesday October 30, 2018 through Monday November 5, 2018. Traffic counts representing average weekday traffic consisted of the included Tuesday, Wednesday, and Thursday. Investigation of the data showed an anomaly on I-395 on Tuesday October 30, 2018; therefore, the Tuesday counts were removed from analysis and volumes were balanced using the traffic counts from Wednesday and Thursday. Intersection turning movement counts were collected on Thursday November 1, 2018 from 7:00 AM to 7:00 PM. Traffic counts were not collected for the Turkeycock interchange; therefore, these counts were supplemented by counts and movement proportions provided by Transurban.

Weekday AM and PM Peak Hours

The weekday AM and PM study peak hours were determined from a review of INRIX speed data and collected traffic volumes to identify the hours of most severe freeway congestion. The INRIX speed congestion maps are shown in **Figure 1** and **Figure 2**. These peak hours are 7:30 AM to 8:30 AM and 4:30 PM to 5:30 PM. Reviewing the traffic data collected, the time periods where the network experienced the highest traffic volumes were 7:45-8:45 AM and from 4:45-5:45 PM. Both of these periods are 15 minutes prior to the most congested periods.

[1] http://www.virginiadot.org/business/resources/TOSAM.pdf

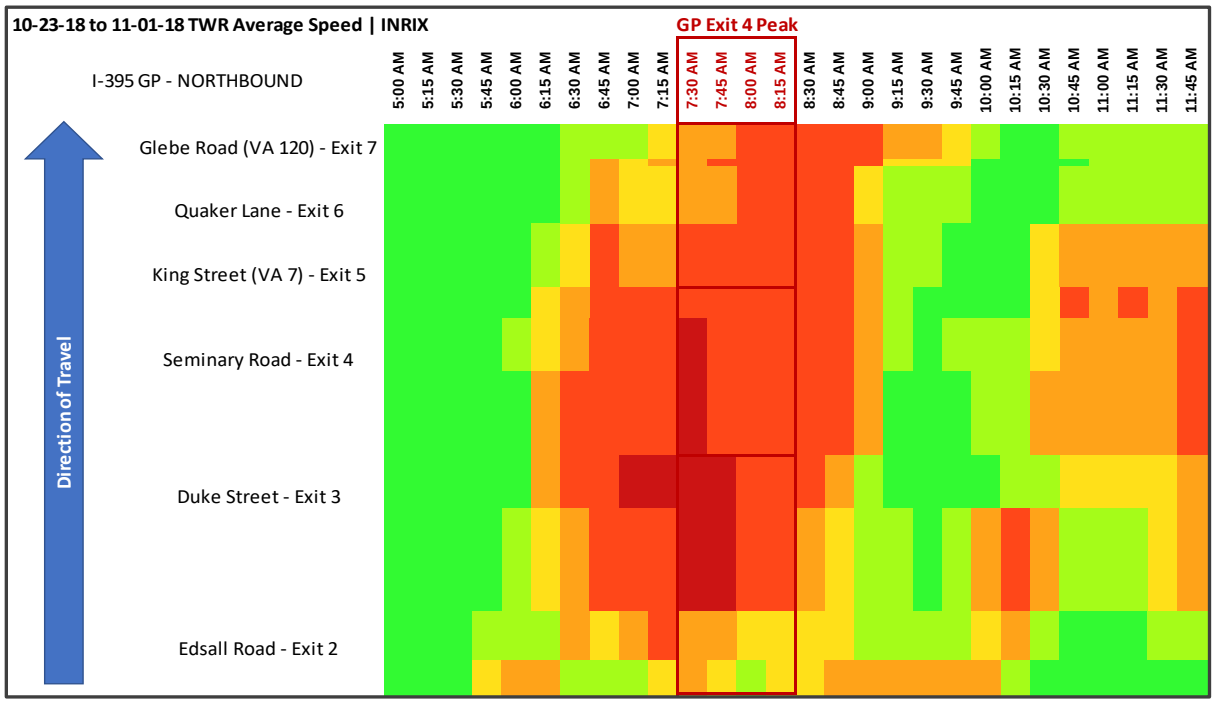


Figure 1 INRIX Speed Congestion Map for I-395 Northbound GP Lanes in the AM Analysis Period

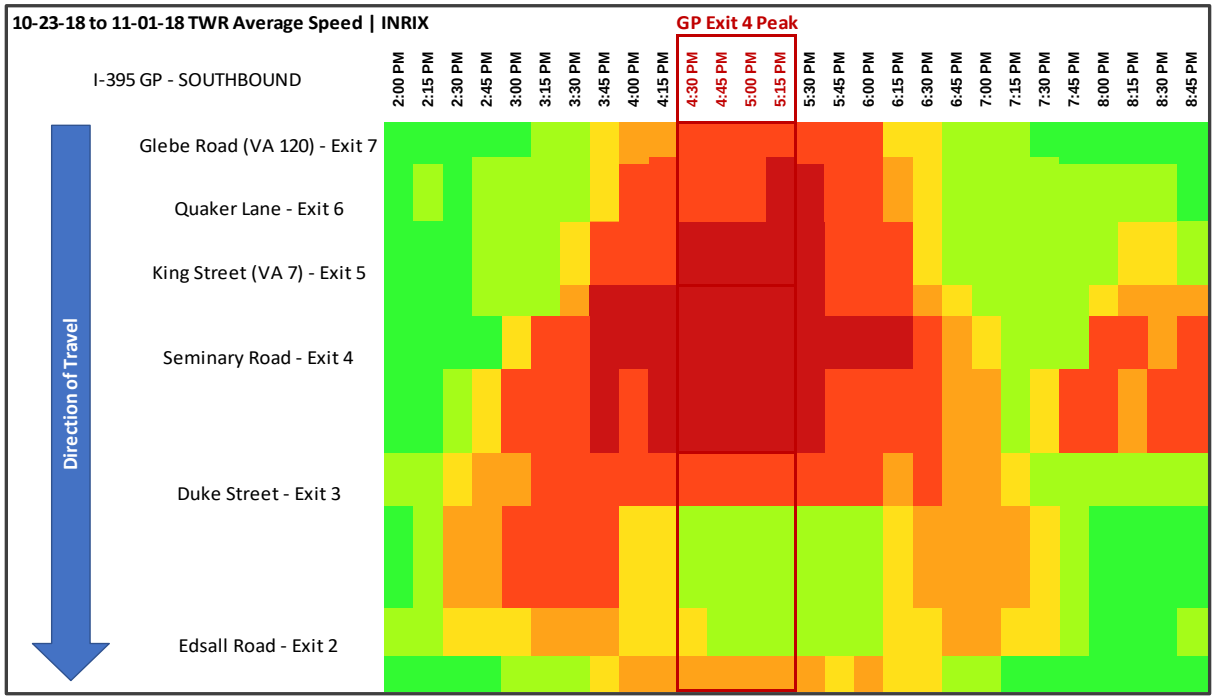


Figure 2 INRIX Speed Congestion Map for I-395 Southbound GP Lanes in the PM Analysis Period

Balancing Methodology

The objective of volume balancing is to remove discrepancies between separate count locations to define consistent volumes throughout the network for traffic simulation purposes. The criterion for this procedure is to minimize the adjustments to the original volumes, specifically minimizing the number of vehicles removed from the network. The AM peak hour and PM peak hour traffic volumes for this project were balanced in the sequence shown in **Figure 3**. First, in the AM peak period the northbound I-395 HOV mainline and ramps were balanced according to the traffic counts collected and those provided by Transurban. Next, the north- and southbound I-395 GP mainline and ramp segments were balanced holding the HOV ramp volumes constant. Finally, the study intersections were balanced holding the corresponding balanced ramp volumes from I-395 HOV and GP constant. The balanced volumes were then rounded to the nearest five vehicles. The intersection volumes were balanced by holding constant the approach and departure volumes controlled by freeway on- and off-ramps. The intersection turning movements at these locations were adjusted in accordance with the turning movement proportions defined by the original intersection counts. This procedure was repeated for the PM Peak Hour, with the only exception being the consideration of southbound vehicle traffic on the HOV lanes. **Attachment A** provides the mainline and ramps balanced volumes for AM and PM peak hour.

Figure 3 Volume Balancing Sequence

VISSIM Calibration Overview and Methodology

VISSIM Network Overview

VISSIM Version 9.0 is being used for a comprehensive network traffic analysis performed within the study area limits. Two VISSIM models were created: one representing the AM peak period and the second representing the PM peak period. The model networks include all freeways and arterials shown in **Figure 4**, including the signalized arterial intersections denoted in red. Calibration, based on simulated volume processed, travel times, queues, and speed profiles, has been performed against 2018 measured field conditions and traffic data.

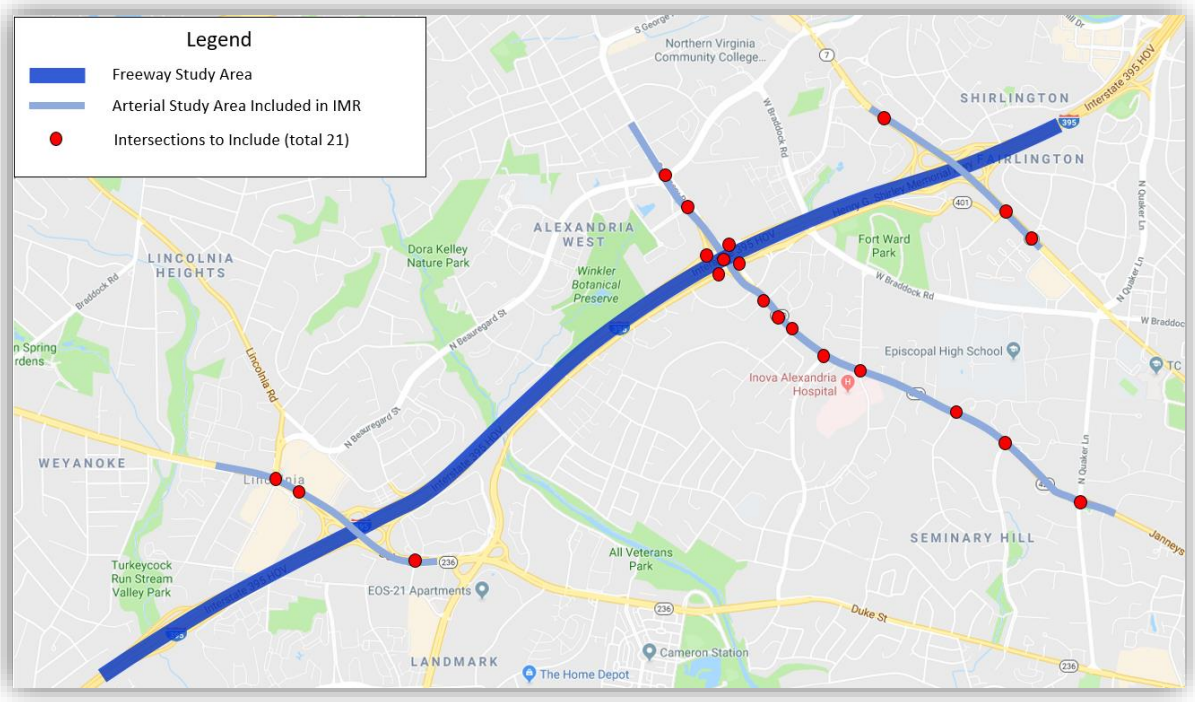


Figure 4 Project Study Area

Purpose of a Calibration

The purpose of a microsimulation traffic model is to investigate the impacts of proposed improvement alternatives. Calibration entails the adjustment of model parameters to improve the model's ability to reproduce observed traffic conditions. It is the essential step during any traffic analysis to ensure a model can reproduce local driving behavior and traffic performance characteristics within the study area. The model is calibrated to existing conditions using a variety of datasets including traffic volumes, speeds, travel times, and queue lengths. This calibration of existing conditions must be finalized prior to evaluating network performance with alternative designs. PTV's VISSIM microsimulation software is designed with a variety of adjustable parameters that support calibration to match local conditions at a reasonably accurate level. However, the default values will (almost) never elicit accurate results due to the unique characteristics of roadway geometries and driving behaviors prevalent in each location. Therefore, the calibration process is required to adjust all VISSIM models to provide an accurate baseline for the assessment of different alternatives.

Calibration Methodology and Thresholds

The AM and PM VISSIM models were calibrated using guidance and direction provided in the TOSAM. **Table 1** provides the calibration thresholds for each measure; a discussion is provided following the table of each metric and any deviations from TOSAM requirements.

Table 1. VISSIM Calibration Criteria and Acceptance Targets

Calibration Item	Basis	Criteria	Target
Simulated Traffic Volume (Intersections)	**By Intersection Approach**	Within ± 20% for <100 vph	At least 85% of all Intersection Approaches
		Within ± 15% for ≥ 100 vph to < 300 vph	
		Within ± 10% for ≥ 300 vph to < 1,000 vph	
		Within ± 5% for ≥ 1,000 vph	
Simulated Traffic Volume (Freeways)	**By Freeway Segment**	Within ± 20% for <100 vph	At least 85% of all Freeway Segments
		Within ± 15% for ≥ 100 vph to < 300 vph	
		Within ± 10% for ≥ 300 vph to < 1,000 vph	
		Within ± 5% for ≥ 1,000 vph	
Simulated Travel Time	**By Route**	Within ± 30% for average travel times on arterials	At least 85% of all Travel Time Routes (Including Segments)
		Within ± 20% for average travel times on freeways	
Maximum Simulated Queue Length	**By Approach for Targeted Critical Locations**	Modeled queues qualitatively reflect the impacts of observed queues	Qualitative Visual Match compared to Google Maps and INRIX
Visual Review of Bottleneck Locations	**Targeted Critical Locations**	Speed congestion maps qualitatively reflect patterns and duration of congestions	Qualitative Subjective Assessment

- **Traffic Volume:** Simulated throughput calibrated using data collected during the AM and PM peak hours. Freeway traffic volumes were calibrated for mainline, diverge, merge, weave, and ramp segments. Intersection traffic volumes were calibrated by total approach (link) volumes at the study intersections.
- **Travel Time:** Simulated travel time was calibrated using field data collected during the AM and PM peak periods. Floating car travel times were collected over a two-hour period with one half-hour interval on either side of the AM and PM peak hours; model travel times have been collected and calibrated over those same periods. Field collected southbound travel time during the PM peak on October 31st, 2018 and November 1st, 2018 indicated an anomaly when compared to the travelling speeds from INRIX for the same dates. Additional travel time runs were conducted in May 2019 and compared against the travel times derived from the INRIX speeds. It was determined that the travel time derived from INRIX was very close to the field travel times. Hence Travel time derived from INRIX speeds on the same days when the remaining data was collected, is used for PM southbound calibration. Please

see details in the PM travel time calibration results discussion. All travel times are along freeway segments.

- **Speeds:** Based the TOSAM guidelines the top 85 percent of network links (based on link travel volumes) or a select number of critical links and/or movements, meet a calibration threshold of average speeds within 5 mph for arterials and 7 mph for highways. In this project study area, speeds are highly variable on the freeway mainline and can vary substantially by hour and by day. As mentioned in the Framework document, for this study the simulated average speed has been captured as part of the travel time calibration process and the visual review of bottleneck locations against speed congestion maps. Average speeds have been extracted from the VISSIM models along the study corridors for I-395 at approximately one-quarter mile intervals and compared visually against speed congestion maps generated from INRIX vehicle probe data.
- **Queue Length:** Queuing within the study area is notably inconsistent and can oscillate numerous times within the peak periods or be absent altogether on some days. As mentioned in the Framework document, a qualitative subjective assessment has been conducted for queue lengths at targeted ramp locations in addition to the review of freeway mainline congestion/queues against the speed congestion maps. The targeted locations identified below, where extensive queuing issues consistently exist, have been focused on as critical locations:

    - Ramp from Duke Street WB to I-395 Southbound
    - Ramp from Seminary Road WB to I-395 Southbound
    - Seminary Road reversible HOV ramp

Simulation Peak Hours and Analysis Periods

After assessing the INRIX speed congestion map for the I-395 corridor (pulled from RITIS for average Tuesdays, Wednesdays, and Thursdays between October 23, 2018 and November 1, 2018), the project team recommended basing the analysis periods upon the magnitude of freeway congestion. Upon review of the INRIX speed data, the slowest speeds and heaviest queues during the AM peak period are along I-395 northbound, and during the PM are along I-395 southbound.

- AM: simulation analysis period from 6:30 AM to 8:30 AM; network representative hour from 7:30 AM to 8:30 AM. A one-hour seeding period was used for the AM model to accurately represent network-wide congestion. See **Figure 1** for INRIX speed patterns**.**
- PM: simulation analysis period from 4:00 PM to 5:30 PM; network representative hour from 4:30 PM to 5:30 PM. A 30-minute seeding period was used for the PM model to accurately represent network-wide congestion. See **Figure 2** for INRIX speed patterns**.**

Seeding Period

The seeding period is the period the model requires for the network-wide volumes to become stable. The length of the seeding period depends on numerous network factors like the size of the network and level of congestion. A seeding period is necessary to ensure the network conditions reach a realistic state before output data are collected. If this period is neglected, measures of network performance (e.g., travel time and congestion) may be under-reported. The guidance from VDOT suggests that seeding time should be determined based on either the existing peak hour travel time

to traverse between the farthest points of the study network in the peak direction of travel or twice the off-peak travel time between the network study limits. Based on end-to-end travel times collected in both periods, a seeding period of 30 minutes was used as a starting point for model calibration. This seeding period was sufficient for the PM VISSIM model; however, due to higher volumes and upstream traffic conditions outside of the study area, the AM model required a longer seeding period of one hour.

Number of Model Runs

Given the stochastic nature of microsimulation, VISSIM models require multiple iterations with different random seeds. The outputs of each iteration need to be post-processed and averaged to determine a representative state of traffic operations in the study network. To obtain a statistically valid result, the number of runs necessary for the analysis were determined based on VDOT Sample Size Determination Tool as shown in **Figure 5** for the AM peak and **Figure 6** for the PM peak. Average network-wide vehicle travel speed was identified as the MOE for the Sample Size Determination Tool. Following the steps of the VDOT Sample Size Determination Tool, as shown in the figures, 10 runs with unique random seeds were deemed sufficient for both the AM and PM scenarios. Therefore, the final calibration results for existing conditions were developed using the average of 10 simulation runs. The microsimulation modeling results for all future scenarios will be reported using the average of 10 simulation runs.

Figure 5. VDOT Sample Size Determination Tool – AM Peak

Sample Size Determination Tool, Version 2.0

User Inputs
Constants
Outputs

Sample Size (N) = Number of Model Runs
Sample Mean (X_s) = (1/N) ($X_1 + X_2 + X_3 \ldots + X_N$)
Sample Standard Deviation (S_s) = $\sqrt{[(\Sigma(X-X_s)^2)/(N-1)]}$
Sampling Error = Z ($S_s/\sqrt{N}$)
Confidence Level = $X_s \pm$ Z ($S_s/\sqrt{N}$)
% of Sample Mean (E) = % Tolerance * X_s
Sample Size Needed = $[(Z)^2 * (S_s)^2] / (E)^2$

Model Iterations

Measure of Effectiveness (MOE):	Speed
Confidence Interval:	95%
Tolerance Error:	10%
Number of Model Runs:	10

Run Number	*Speed*
1	26.09068
2	29.55559
3	27.562
4	29.84816
5	25.00433
6	25.84089
7	28.70578
8	25.39362
9	29.44456
10	28.41235

Sample Size Outputs

N	=	10.0
X_s	=	27.6
S_s	=	1.9
E	=	2.8
Z	=	1.96

Sampling Error	=	1.15		
95% Confidence Interval	=	26.4	to	28.7
Percentage of Mean	=	4.18%		Good
Sample Size Needed	=	**10**		

Z is the number of standard deviations away from the mean corresponding to the required confidence level in a normal distribution.

Figure 6. VDOT Sample Size Determination Tool – PM Peak

Sample Size Determination Tool, Version 2.0

User Inputs
Constants
Outputs

Sample Size (N) = Number of Model Runs
Sample Mean (X_s) = (1/N) ($X_1 + X_2 + X_3 \ldots + X_N$)
Sample Standard Deviation (S_s) = $\sqrt{[(\Sigma(X-X_s)^2)/(N-1)]}$
Sampling Error = Z ($S_s/\sqrt{N}$)
Confidence Level = $X_s \pm$ Z ($S_s/\sqrt{N}$)
% of Sample Mean (E) = % Tolerance * X_s
Sample Size Needed = $[(Z)^2 * (S_s)^2] / (E)^2$

Model Iterations

Measure of Effectiveness (MOE):	Speed
Confidence Interval:	95%
Tolerance Error:	10%
Number of Model Runs:	10

Run Number	*Speed*
1	26.30728
2	26.74575
3	26.30814
4	25.85643
5	26.67631
6	26.05747
7	26.88163
8	27.88535
9	25.3959
10	26.52405

Sample Size Outputs

N	=	10.0
X_s	=	26.5
S_s	=	0.7
E	=	2.6
Z	=	1.96

Sampling Error	=	0.42		
95% Confidence Interval	=	26.0	to	26.9
Percentage of Mean	=	1.57%		Good
Sample Size Needed	=	**10**		

Z is the number of standard deviations away from the mean corresponding to the required confidence level in a normal distribution.

Calibration Parameters and Adjustments

Calibrating the AM and PM VISSIM models involved adjusting specific parameters to achieve the target volume, travel time, speed, and queueing thresholds. The primary parameters that were adjusted are discussed below.

Lane Change Distances

One tool provided to a modeler for calibration is the lane-change look-back distance. Lane-change look-back distances are defined in VISSIM as the downstream distance where a vehicle will begin attempting a lane change into a target lane prior to an off-ramp, lane-drop, or turning movement. This lane-change distance is a parameter on every connector in the VISSIM network, and its default change distance value is 656 feet. This distance is typically acceptable for low speed, intersection turning movements; however, it doesn't represent realistic lane change behavior on freeway diverges and lane drops. As a starting point in the VISSIM models, the lane-change distances for diverges and lane drops on freeway segments were modified to match the first field-observed way-finding sign. This distance is typically one mile upstream of an off-ramp. The parameter was then adjusted on a case-by-case basis at different locations with the goal of calibrating existing queues, speeds, and travel times within the study area.

Driving Behavior – Car-Following Adjustments

VISSIM incorporates two different car-following models – one for freeways and one for arterials. In combination with other operational parameters, analysts have the ability to adjust certain parameters of these car-following models as needed to achieve desired flow conditions. In addition to other parameters, such as vehicle speed, heavy vehicle percentage, and number of lanes, the car-following parameters largely impact roadway capacity by influencing vehicle spacing, headways, and driver reaction.

The car-following parameters adjusted during the calibration process for freeways were modified based on previous experiences with similar type of networks and operations, engineering judgment, and field observations. They were typically adjusted if a field condition (i.e. poor vertical sight distance, narrow lateral clearances, etc.) warranted a change from VISSIM default parameters. In this calibration process, three of the most influential car-following model parameters—from the list of car-following parameters that can be modified in the TOSAM—were adjusted. These parameters and their adjustments are described below.

- CC0 – Standstill Distance is defined as the desired distance between stopped cars. This parameter is typically used to increase or decrease vehicle spacing while vehicles are in queue and is used during calibration to affect queue duration and length. CC0 was changed to range from 4.93 to 6.50 depending on location.
- CC1 – Headway Time is not a direct measure of headway time but rather a factor that affects the following (minimum desired safety) distance. The higher this value, the more cautious the driver is, thus reducing capacity. In the case of high volumes, it is the following distance that has the strongest influence on capacity. Based on default VISSIM parameters (including CC1), the capacity of an urban freeway link is approximately 1,900 vehicles/hour/lane (vphpl). CC1 was changed from 0.90 to values ranging from 0.8 to 1.5 seconds depending on location.
- CC2 – Following Variation defines the longitudinal oscillation that occurs during car-following, essentially defining the maximum drift from the desired safety distance before a driver

accelerates to reduce their following distance. CC2 was changed to range from 6.56 to 39.37 depending on location.

All of the above changes are within the acceptable thresholds set forth in TOSAM.

Driving Behavior – Lane-Change and Lane-Keeping Adjustments

In VISSIM, modelers can influence vehicles' lane-change behavior by adjusting a variety of parameters. There are two types of lane-changes considered in VISSIM: mandatory lane changes required to follow the designated route and discretionary lane changes desired to travel at a higher speed or in a less congested travel lane. The lane-change parameters were modified from default values in order to achieve more realistic lane-change behavior in the model. Most of the model modifications occurred at high-volume merges. Three main parameters were changed: (1) the maximum and accepted deceleration between the vehicle making a necessary lane change and the vehicle that vehicle is moving ahead of, (2) the safety reduction factor, and (3) the maximum deceleration rate for cooperative braking.

Adjustments in the lane-change parameters were used to better replicate actual driving behavior under congested and severe weaving conditions in the simulation model. It is important to note that many of these changes are link-specific to account for the variations in geometric and accompanying driver behaviors along the corridor. Furthermore, values may differ between the AM and PM peak hours since motorists will change their lane-change aggressiveness based on prevailing traffic conditions.

Similarly, adjustments to lane-keeping behavior can influence the realistic depiction of traffic flow, especially in bottleneck locations. The TOSAM does not provide guidance on lane-keeping parameters; therefore, VISSIM calibration guidance from Wisconsin DOT was followed to adjust the vehicle's lane-keeping parameters in highly congested locations within the model[2].

Adjustments for External Congestion

While the VISSIM model is coded to represent the project study area illustrated in **Figure 4**, the replication of upstream congestion was necessary in the AM peak period along I-395 northbound to accurately capture volume throughput, vehicle speeds, and travel times. The downstream congestion on I-395 northbound in the AM peak period was represented with reduced speed areas matching the INRIX speeds and induced lane-change movements representing the diverge behavior at Exit 6 to Shirlington. Streetlight O-D estimations were collected to determine the relative movements of vehicles traveling north of King Street on I-395 and exiting at Exit 6 to achieve accurate weaving movements. These weaving movements were replicated in the model by generating partial routes from the I-395 northbound mainline and the King Street on-ramps that allocated vehicle routes on the mainline and a dummy-link representing the Shirlington exit. The combination of these two strategies enabled realistic representation of traffic conditions on the I-395 northbound corridor within the project study area.

Similar to the AM, the downstream congestion on I-395 southbound in the PM peak period was represented with reduced speed areas matching the INRIX speeds. I-395 southbound operates under

[2] https://wisconsindot.gov/dtsdManuals/traffic-ops/manuals-and-standards/teops/16-20att6.3.pdf

saturated conditions even before the analysis period. To better match with the saturated conditions in the VISSIM network, an additional demand of 300 vehicles were added in the seeding period. The additional demand and the reduced speed areas enabled better representation of traffic conditions on I-395 southbound corridor within the study area.

VISSIM Calibration Results

AM MODEL: EXISTING CONDITIONS

Volume Calibration Results

Existing AM VISSIM processed volume (throughput) were compared to balanced traffic counts based on the criteria described in the previous section. **Table 2** summarizes the comparison of freeways and ramps based on volume criteria for northbound and southbound I-395. Overall, 100 percent of all freeway and ramp segments on the network meet the volume difference threshold, which is greater than the calibration target of 85 percent, indicating the model is meeting the freeway and ramp volume target. **Table 3** provides the results for all arterial approaches within the study area. As shown, 100 percent of all arterial approaches meet the volume difference threshold, which is greater than the calibration target of 85 percent, indicating the model is meeting the arterial volume target. Tables within **Attachment B** provide the freeway segments, ramps and intersection demand versus throughput comparison.

Table 2. Existing AM – Summary of Freeway/Ramp Volume Calibration

	Volume Criteria	Subtotal	Total	Percent	Target	Target Met
Segments (n = 52)	Within ± 20% for < 100 vph	0	52	100%	85%	Yes
	Within ± 15% for ≥ 100 vph to < 300 vph	6				
	Within ± 10% for ≥ 300 vph to < 1,000 vph	16				
	Within ± 5% for ≥ 1,000 vph	30				

Table 3. Existing AM – Summary of Arterial Volume Calibration

	Volume Criteria	Subtotal	Total	Percent	Target	Target Met
Approaches (n = 70)	Within ± 20% for < 100 vph	6	70	100%	85%	Yes
	Within ± 15% for ≥ 100 vph to < 300 vph	9				
	Within ± 10% for ≥ 300 vph to < 1,000 vph	28				
	Within ± 5% for ≥ 1,000 vph	27				

Travel Time Calibration Results

Travel times produced from the VISSIM model were compared to field measurements based on the criteria described in previous sections. **Table 4** and **Figure 7** summarize the results for the following corridor segments:

- I-395 northbound from Edsall Road to Duke Street
- I-395 northbound from Duke Street to Seminary Road

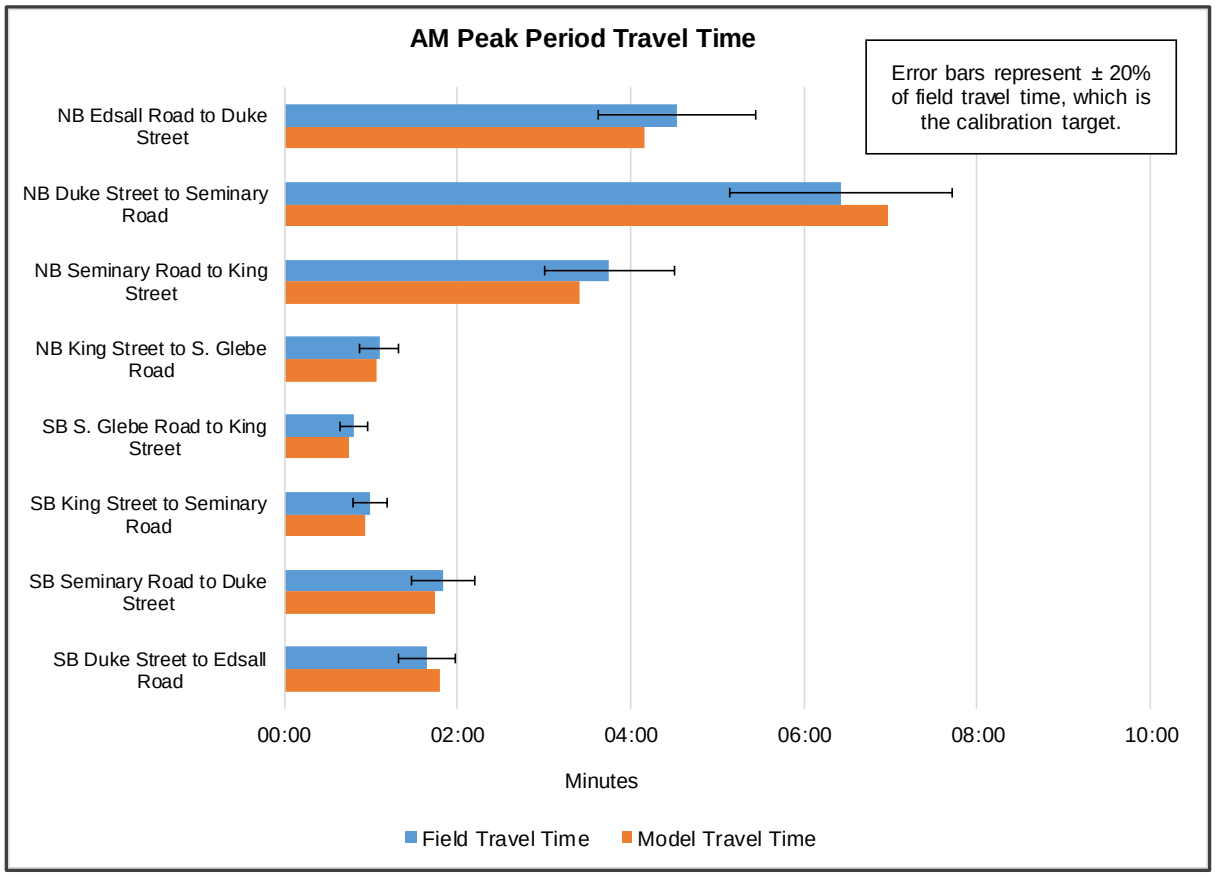
- I-395 northbound from Seminary Road to King Street
- I-395 northbound from King Street to S. Glebe Road
- I-395 southbound from S. Glebe Road to King Street
- I-395 southbound from King Street to Seminary Road
- I-395 southbound from Seminary Road to Duke Street
- I-395 southbound from Duke Street to Edsall Road

In **Figure 7**, calibration targets are depicted with high-low bars on field travel-time measures. As shown in this figure and in **Table 4**, calibration targets are met for all eight of the segments, which surpasses the target of an 85 percent. Detailed travel time results for each of the sub-segments is provided in **Attachment B**.

Table 4. Existing AM – Summary of Travel Time Calibration

I-395 Routes	Travel Time Criteria	Total	Percent	Target	Target Met
Northbound (n = 4)	Within ± 20% for average travel time on freeways	4	100%	85%	Yes
Southbound (n = 4)	Within ± 20% for average travel time on freeways	4	100%	85%	Yes

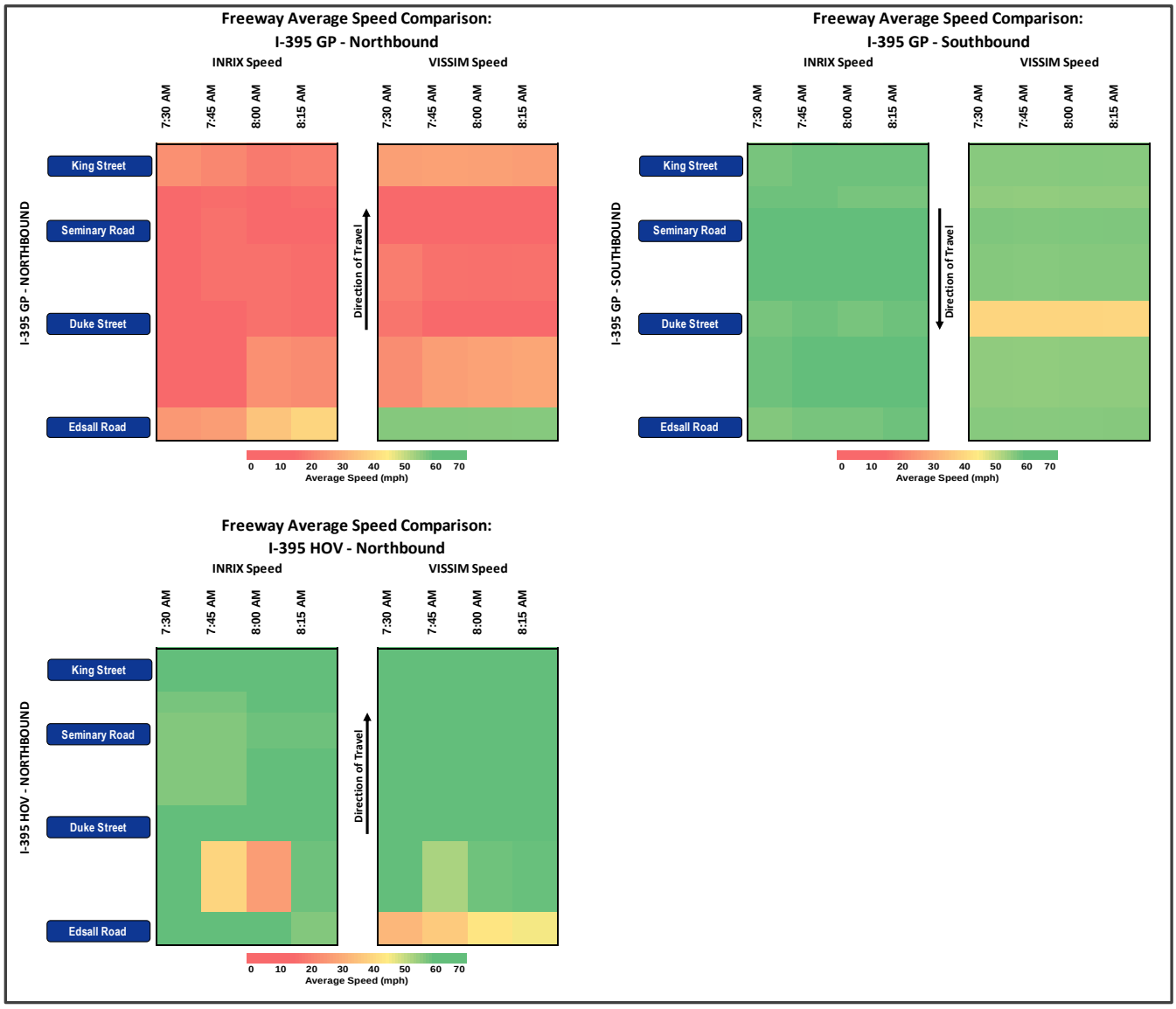
Figure 7. Existing AM – Travel Time Results



Bottleneck Locations, Length, and Duration of Backups

Comparison of INRIX data with travel speeds measured in the model approximately every one-quarter mile provides a useful way for checking bottleneck locations as well as the extent and temporal distribution of mainline queues and overall congestion. **Figure 8** depicts the "heat map" speed congestion diagrams for the I-395 GP northbound and southbound corridors, as well as the northbound HOV lanes in the AM peak hour. As shown, there is a clear qualitative match between INRIX and VISSIM results. Further investigation of the model suggests the simulated network performance in terms of specific bottleneck locations, length, and backup durations are replicated.

Figure 8. Existing AM – Speed Diagrams: Comparison of VISSIM Speeds to INRIX



Simulated Queue Length

As noted earlier, queuing within the study area is notably inconsistent and can oscillate numerous times within the peak periods or be absent altogether on some days. Thus, a qualitative

subjective assessment was conducted for queue lengths at targeted locations in addition to the review of freeway mainline congestion/queues against the speed congestion maps as shown above. Based on the VISSIM results, the modeled queues qualitatively reflect the impacts of observed queues at most of the locations that were identified. In the AM, the network queuing at the selected locations is minimal, which is also portrayed in the VISSIM model. **Table 5** provides a summary of the queue length calibration, and detailed results with a subjective comparison at each targeted queue location is provided in **Attachment B**.

Table 5. Existing AM – Summary of Queue Length Calibration

	Queue Criteria	Total	Percent	Target	Target Met
Approaches (n = 4)	Modeled queues qualitatively reflect the impacts of observed queues (e.g., spillback from ramp intersections, turn bay, or downstream intersection)	4	100%	85%	Yes

Calibration Summary

Table 6 provides an overall summary of calibration for the AM peak period. The Existing AM peak period VISSIM model is considered reasonably calibrated.

Table 6. AM Peak Period Calibration Summary

Calibration Item	Basis	Criteria	Total	Percent	Target	Target Met
Simulated Traffic Volume (Intersections)	**Approaches (n = 70)**	Within ± 20% for <100 vph	70	100%	85%	Yes
		Within ± 15% for ≥ 100 vph to < 300 vph				
		Within ± 10% for ≥ 300 vph to < 1,000 vph				
		Within ± 5% for ≥ 1,000 vph				
Simulated Traffic Volume (Freeways)	**Segments (n = 52)**	Within ± 20% for <100 vph	51	100%	85%	Yes
		Within ± 15% for ≥ 100 vph to < 300 vph				
		Within ± 10% for ≥ 300 vph to < 1,000 vph				
		Within ± 5% for ≥ 1,000 vph				
Simulated Travel Time	**Routes (n = 8)**	Within ± 20% for average travel time on freeways	8	100%	85%	Yes
Maximum Simulated Queue Length	**Approaches (n = 3)**	Modeled queues qualitatively reflect the impacts of observed queues				Reasonably Calibrated
Visual Review of Bottleneck Locations	**Targeted Critical Locations**	Speed congestion maps qualitatively reflect patterns and duration of congestions				Reasonably Calibrated

EXISTING PM MODEL

Volume Calibration Results

Throughput volumes produced by the VISSIM model were compared to balanced traffic counts based on the criteria described in previous section. **Table 7** summarizes the comparison based on volume criteria for freeway segments and ramps consistent with the AM segments. Overall, 92 percent of all freeway and ramp segments on the network meet the volume difference threshold, which is greater than the calibration target of 85 percent, indicating the model is meeting the freeway and ramp volume target. Also, as seen in **Table 8** below, 86 percent of the intersection approaches meet the designated volume target, which surpasses 85 percent criteria. Tables within **Attachment C** provide the freeway segments, ramps and intersection demand versus throughput comparison.

Table 7. Existing PM – Summary of Freeway/Ramp Volume Calibration

	Volume Criteria	Subtotal	Total	Percent	Target	Target Met
Segments (n = 52)	Within ± 20% for < 100 vph	0	48	92%	85%	Yes
	Within ± 15% for ≥ 100 vph to < 300 vph	5				
	Within ± 10% for ≥ 300 vph to < 1,000 vph	18				
	Within ± 5% for ≥ 1,000 vph	25				

Table 8. Existing PM – Summary of Arterial Volume Calibration

	Volume Criteria	Subtotal	Total	Percent	Target	Target Met
Approaches (n = 69)	Within ± 20% for < 100 vph	7	60	87%	85%	Yes
	Within ± 15% for ≥ 100 vph to < 300 vph	9				
	Within ± 10% for ≥ 300 vph to < 1,000 vph	223				
	Within ± 5% for ≥ 1,000 vph	21				

Travel Time Calibration Results

Travel times produced from the VISSIM model were compared to field measures based on the criteria described in previous sections. **Table 9** and **Figure 9** summarize the results for the following corridor segments for PM:

- I-395 northbound from Edsall Road to Duke Street
- I-395 northbound from Duke Street to Seminary Road
- I-395 northbound from Seminary Road to King Street
- I-395 northbound from King Street to S. Glebe Road
- I-395 southbound from S. Glebe Road to Edsall Road

As mentioned in previous section, field collected southbound travel time during the PM peak on October 31st, 2018 and November 1st, 2018 indicated an anomaly when compared to the travelling speeds from INRIX for the same dates. Field collected travel time on I-395 southbound from S. Glebe Road to Edsall Road is about 12 minutes, whereas travel time from INRIX for the same segments

and same day was approximately 21 minutes. Given the anomaly between field and INRIX travel time, another travel time run for I-395 southbound was conducted in the PM on May 4th, 2019. The new average field travel time was about 15 minutes and matched closely with the INRIX travel time for the same day. It indicates that the field travel time collected in November 2018 had errors and cannot be used to validate the VISSIM models. In order to be consistent with the other data which were collected during November 2018, travel time derived from INRIX speeds was used to validate the VISSIM model for the I-395 southbound movement. The travel times derived from INRIX speeds cannot be broken down into sub segments, hence the corridor travel times were compared for this movement.

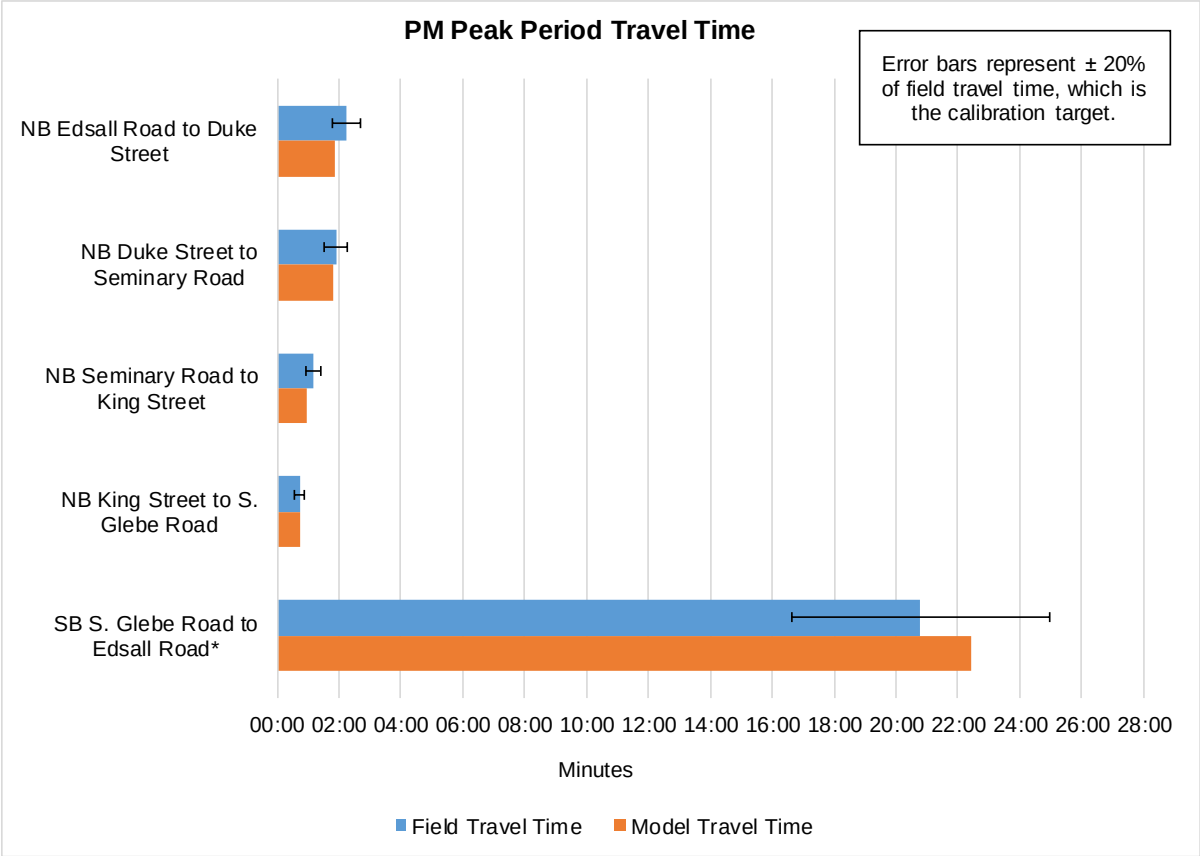
In **Figure 9**, calibration targets are depicted with high-low bars on field travel-time measures. As shown in this figure and in **Table 9**, calibration targets are met for all five of the segments, which surpasses the target of an 85 percent. Detailed travel time results for each of the sub-segments is provided in **Attachment C**.

Table 9. Existing PM – Summary of Travel Time Calibration

I-395 Routes	Travel Time Criteria	Total	Percent	Target	Target Met
Northbound (n = 4)	Within ± 20% for average travel time on freeways	4	100%	85%	Yes
Southbound (n = 1) *	Within ± 20% for average travel time on freeways	1	100%	85%	Yes

** I-395 Southbound travel time is derived from INRIX average segment speeds.*

Figure 9. Existing PM – Travel Time Results

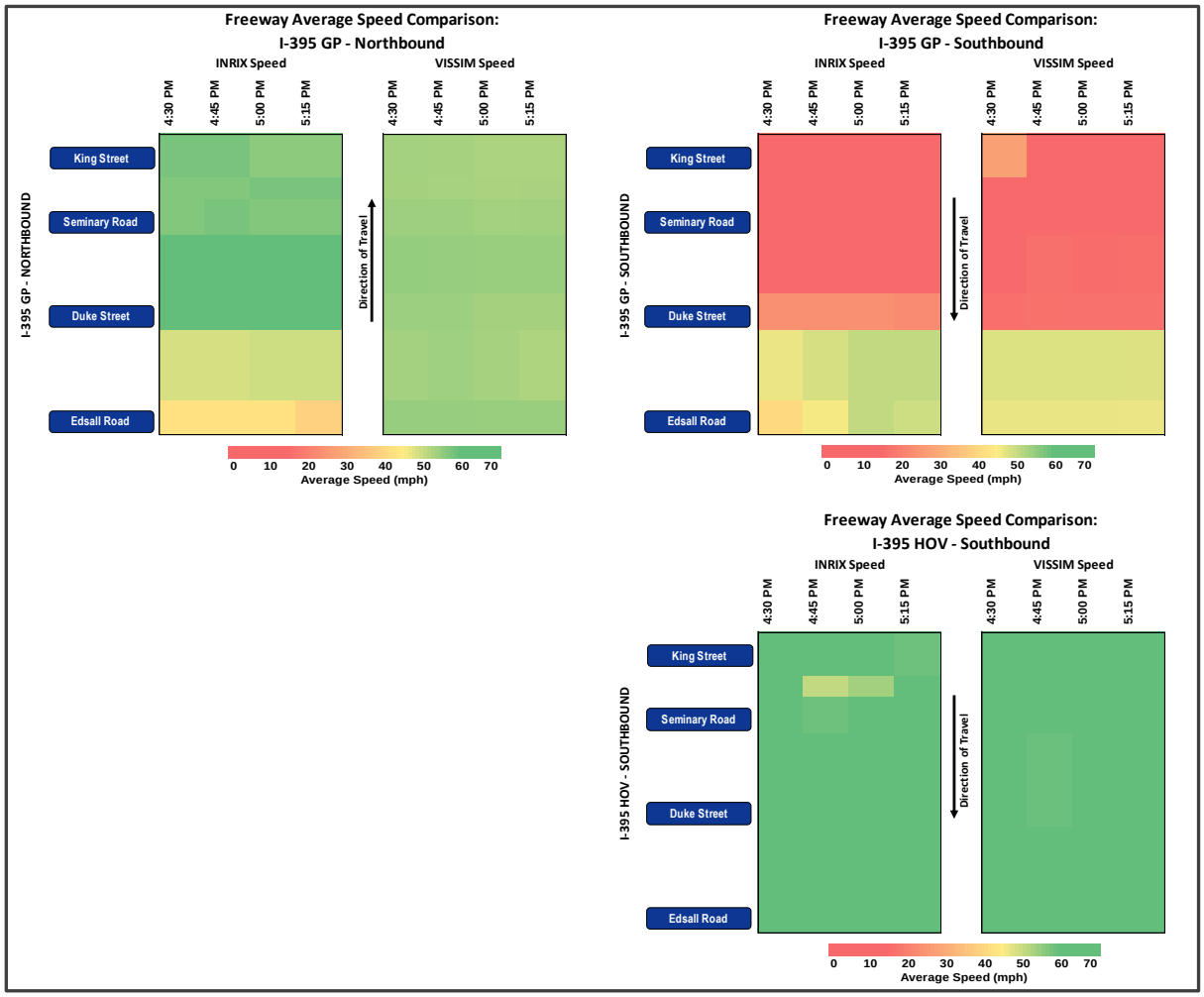


* *I-395 Southbound travel time is derived from INRIX average segment speeds.*

Bottleneck Locations, Length, and Duration of Backups

Comparison of INRIX data with travel speeds measured in the model every one-quarter mile provides a useful way for checking bottleneck locations as well as the extent and temporal distribution of mainline queues and overall congestion. **Figure 10** depicts the "heat map" speed congestion diagrams for the I-395 corridor in both north- and southbound directions, as well as the southbound HOV lanes during the PM peak hour. Similar to AM results, the results for the PM model are reasonably close to what is observed from INRIX data in terms of specific bottleneck locations, length, and duration of backups.

Figure 10. Existing PM – Speed Diagrams: Comparison of VISSIM Speeds to INRIX



Simulated Queue Length

As noted earlier, queuing within the study area is notably inconsistent and can oscillate numerous times within the peak periods or be absent altogether on some days. Thus, a qualitative subjective assessment was conducted for queue lengths at targeted locations in addition to the review of freeway mainline congestion/queues against the speed congestion maps as shown above. Based on the VISSIM results, the modeled queues qualitatively reflect the impacts of observed queues at most of the locations that were identified. **Table 10** provides a summary of the queue length calibration, and detailed results with a subjective comparison at each targeted queue location is provided in **Attachment C**.

Table 10. Existing PM – Summary of Queue Length Calibration

	Queue Criteria	Total	Percent	Target	Target Met
Approaches (n = 4)	Modeled queues qualitatively reflect the impacts of observed queues (e.g., spillback from ramp intersections, turn bay, or downstream intersection)	4	100%	85%	Yes

Calibration Summary

Table 11 provides an overall summary of calibration for the PM peak period. The Existing PM peak period VISSIM model is considered reasonably calibrated.

Table 11. PM Peak Period Calibration Summary

Calibration Item	Basis	Criteria	Total	Percent	Target	Target Met
Simulated Traffic Volume (Intersections)	**Approaches (n = 69)**	Within ± 20% for <100 vph	60	87%	85%	Yes
		Within ± 15% for ≥ 100 vph to < 300 vph				
		Within ± 10% for ≥ 300 vph to < 1,000 vph				
		Within ± 5% for ≥ 1,000 vph				
Simulated Traffic Volume (Freeways)	**Segments (n = 52)**	Within ± 20% for <100 vph	48	92%	85%	Yes
		Within ± 15% for ≥ 100 vph to < 300 vph				
		Within ± 10% for ≥ 300 vph to < 1,000 vph				
		Within ± 5% for ≥ 1,000 vph				
Simulated Travel Time	**Routes (n = 5)**	Within ± 20% for average travel time on freeways	5	100%	85%	Yes
Maximum Simulated Queue Length	**Approaches (n = 4)**	Modeled queues qualitatively reflect the impacts of observed queues				Reasonably Calibrated
Visual Review of Bottleneck Locations	**Targeted Critical Locations**	Speed congestion maps qualitatively reflect patterns and duration of congestions				Reasonably Calibrated

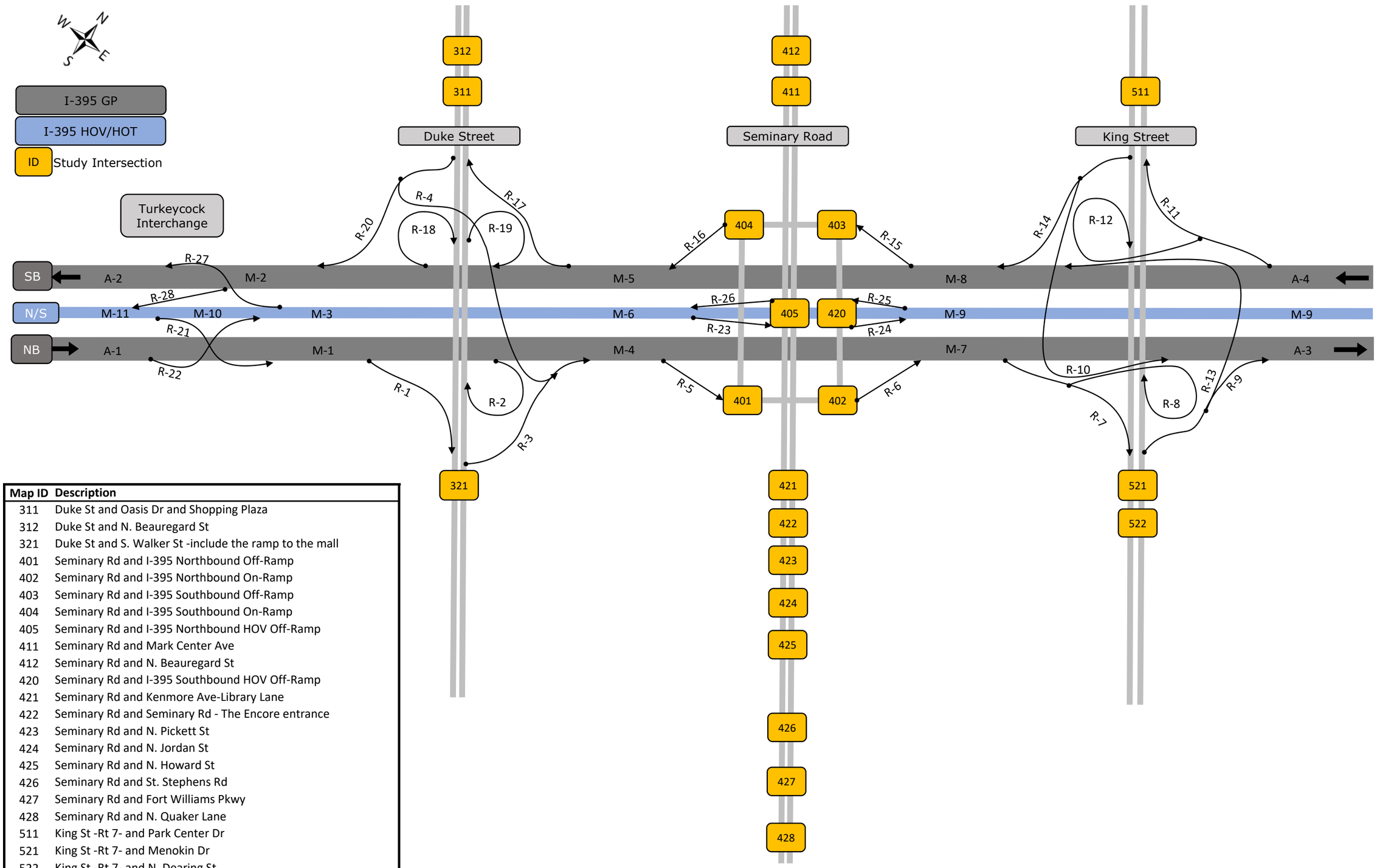
Summary

Based on the results obtained from the VISSIM AM and PM models, and their comparison with field data for all the calibration measures listed in previous sections, the models are considered to be reasonably calibrated to the standards and guidelines established by VDOT and, therefore, these models can be used as base model to develop future scenarios.

Attachment A: 2018 AM and PM Peak Hour Balanced Volumes for Mainline and Ramps

- Location key of Count Locations
- Visual representation of balanced freeway and ramp volumes for existing year 2018 AM and PM peak hour.
- Tabular representation of unbalanced and balanced mainline and ramp volumes for the 2018 AM and PM peak hour

Count Location Key

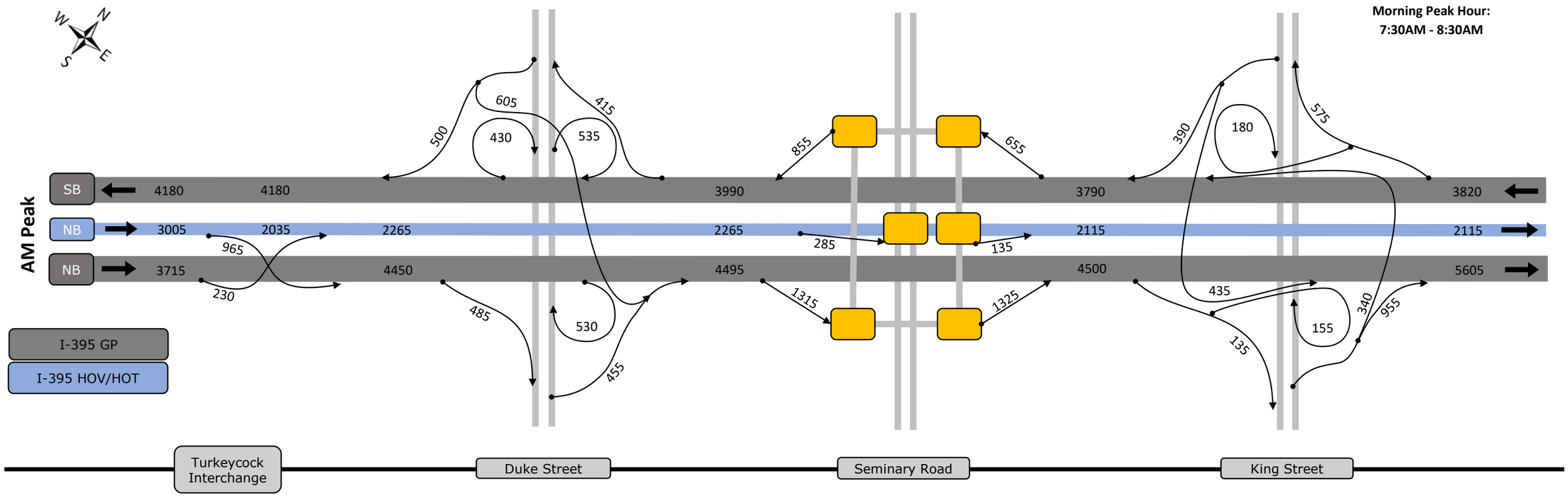


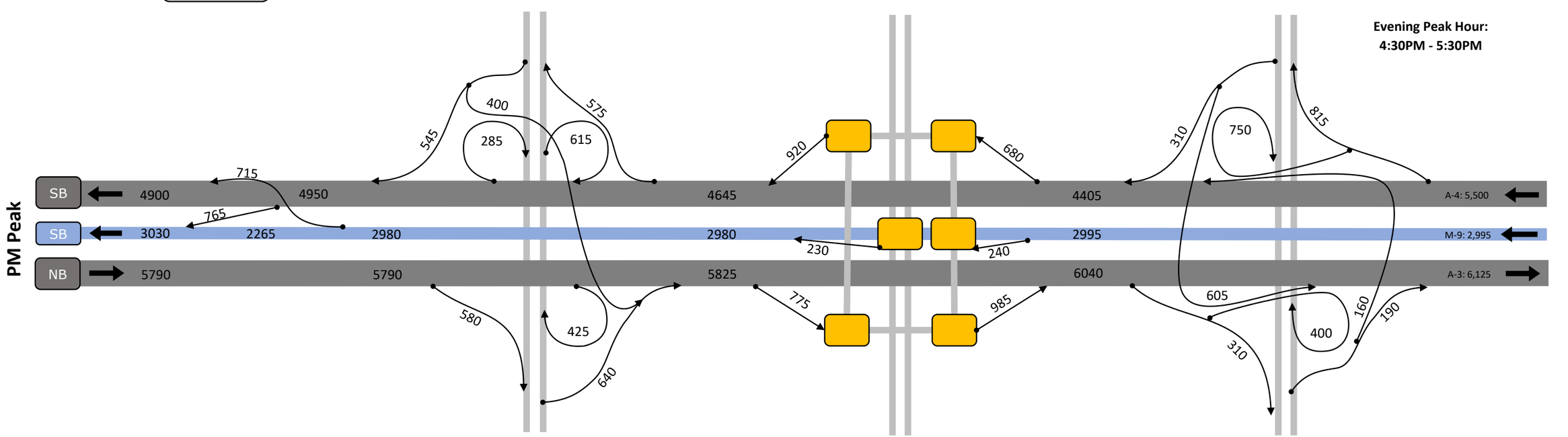
Map ID	Description
311	Duke St and Oasis Dr and Shopping Plaza
312	Duke St and N. Beauregard St
321	Duke St and S. Walker St -include the ramp to the mall
401	Seminary Rd and I-395 Northbound Off-Ramp
402	Seminary Rd and I-395 Northbound On-Ramp
403	Seminary Rd and I-395 Southbound Off-Ramp
404	Seminary Rd and I-395 Southbound On-Ramp
405	Seminary Rd and I-395 Northbound HOV Off-Ramp
411	Seminary Rd and Mark Center Ave
412	Seminary Rd and N. Beauregard St
420	Seminary Rd and I-395 Southbound HOV Off-Ramp
421	Seminary Rd and Kenmore Ave-Library Lane
422	Seminary Rd and Seminary Rd - The Encore entrance
423	Seminary Rd and N. Pickett St
424	Seminary Rd and N. Jordan St
425	Seminary Rd and N. Howard St
426	Seminary Rd and St. Stephens Rd
427	Seminary Rd and Fort Williams Pkwy
428	Seminary Rd and N. Quaker Lane
511	King St -Rt 7- and Park Center Dr
521	King St -Rt 7- and Menokin Dr
522	King St -Rt 7- and N. Dearing St

Kimley»Horn

Not to Scale

Balanced Freeway and Ramp Volumes - Existing Year 2018 AM and PM Peak Hour





Kimley»Horn

Not to Scale

Unbalanced and Balanced Volumes - 2018

Location			Index	AM Peak Period: 7:30AM - 8:30AM				PM Peak Period: 4:30PM - 5:30PM			
				Unbalanced Volumes	Final Balanced Volumes	Difference in Vehicles	Percent Error	Unbalanced Volumes	Final Balanced Volumes	Difference in Vehicles	Percent Error
Mainline Segments	NB	I-395 NB GP - South of Turkeycock Interchange	A-1	--	3715	--	--	--	5790	--	--
		I-395 NB GP - South of Duke Street Interchange	M-1	4365	4450	85	1.9%	5638	5790	152	2.7%
		I-395 NB GP - Between Duke St and Seminary Rd Interchange	M-4	4726	4495	-231	-5.0%	5741	5825	85	1.5%
		I-395 NB GP - Between Seminary Rd and Rte 7 Interchange	M-7	4535	4500	-35	-0.8%	6060	6040	-20	-0.3%
		I-395 NB GP - North of King Street Interchange	A-3	--	5605	--	--	--	6125	--	--
	SB	I-395 SB GP - North of King Street Interchange	A-4	--	3820	--	--	--	5500	--	--
		I-395 SB GP - Between Seminary Rd and Rte 7 Interchange	M-8	3617	3790	173	4.7%	4595	4405	-190	-4.2%
		I-395 SB GP - Between Duke St and Seminary Rd Interchange	M-5	3962	3990	28	0.7%	4123	4645	522	11.9%
		I-395 SB GP - South of Duke Street Interchange	M-2	4182	4180	-2	0.0%	4352	4950	598	12.9%
		I-395 SB GP - South of Turkeycock Interchange	A-2	--	4180	--	--	--	4900	--	--
HOV/HOT	NB/ SB	I-395 HOT - South of Duke Street Interchange	M-3	2757	2265	-492	0	2619	2980	361	0
		I-395 HOT - Between Duke St and Seminary Rd Interchange	M-6	1847	2265	418	20.3%	2860	2980	120	4.1%
		I-395 HOT - Between Seminary Rd and Rte 7 Interchange	M-9	1847	2115	268	13.5%	2993	2995	3	0.1%
		I-395 HOT - Center of Turkeycock Interchange	M-10	2159	2035	-124	-5.9%	2258	2265	7	0.3%
		I-395 HOT - South of Turkeycock Interchange	M-11	3004	3005	2	0.0%	3024	3030	7	0.2%
Ramps	NB	I-395 NB to Duke St EB	R-1	487	485	-2	-0.4%	582	580	-2	-0.3%
		I-395 NB to Duke St WB	R-2	528	530	2	0.4%	427	425	-2	-0.4%
		Duke St WB to I-395 NB	R-3	442	455	13	2.9%	625	640	16	2.5%
		Duke St EB to I-395 NB	R-4	592	605	14	2.3%	392	400	9	2.1%
		I-395 NB to Seminary Rd	R-5	1317	1315	-2	-0.1%	774	775	1	0.1%
		Seminary Rd to I-395 NB	R-6	1293	1325	33	2.5%	959	985	26	2.7%
		I-395 NB to King St EB	R-7	134	135	1	0.7%	311	310	-1	-0.3%
		I-395 NB to King St WB	R-8	154	155	2	1.0%	398	400	2	0.5%
		King St WB to I-395 NB	R-9	935	955	21	2.2%	186	190	4	2.1%
		King St EB to I-395 NB	R-10	423	435	13	2.9%	591	605	15	2.4%
	SB	I-395 SB to King St WB	R-11	576	575	-1	-0.2%	714	815	101	13.2%
		I-395 SB to King St EB	R-12	179	180	2	0.8%	660	750	90	12.8%
		King St WB to I-395 SB	R-13	326	340	15	4.4%	160	160	1	0.3%
		King St EB to I-395 SB	R-14	373	390	17	4.5%	312	310	-2	-0.5%
		I-395 SB to Seminary Rd	R-15	657	655	-2	-0.3%	596	680	84	13.2%
		Seminary Rd to I-395 SB	R-16	822	855	34	4.0%	920	920	0	0.0%
		I-395 SB to Duke St WB	R-17	415	415	1	0.1%	504	575	72	13.3%
		I-395 SB to Duke St EB	R-18	428	430	3	0.6%	251	285	34	12.7%
		Duke St WB to I-395 SB	R-19	516	535	20	3.7%	614	615	1	0.2%
		Duke St EB to I-395 SB	R-20	481	500	20	4.0%	547	545	-2	-0.4%
	HOT/ HOV	I-395 HOV NB to I-395 GP NB	R-21	845	965	120	13.3%	0	0	0	--
		I-395 GP NB to I-395 HOV NB	R-22	228	230	2	0.9%	0	0	0	--
		I-395 HOV NB to Seminary Rd	R-23	249	285	37	13.7%	0	--	--	--
		Seminary Rd to I-395 HOV NB	R-24	137	135	-2	-1.1%	0	--	--	--
		I-395 HOV SB to Seminary Rd	R-25	0	--	--	--	237	240	3	0
		Seminary Rd to I-395 HOV SB	R-26	0	--	--	--	228	230	3	0
		I-395 HOV SB to I-395 GP SB	R-27	0	0	0	--	0	715	715	2
		I-395 GP SB to I-395 HOV SB	R-28	0	0	0	--	765	765	0	0

Attachment B: AM Peak Period Calibration Detailed Summary Tables

- Freeway/Ramp Individual Link Volume Calibration
- Arterial Intersection Volume Calibration
- Travel Time Calibration
- Speed congestion Map Calibration
- Queue Length Calibration

AM Peak Period Calibration Summary

Calibration Item	Basis	Criteria	Total	Percent	Target	Target Met
Simulated Traffic Volume (Intersections)	**Approaches (n = 27)**	Within ± 20% for <100 vph	70	100%	85%	Yes
		Within ± 15% for ≥ 100 vph to < 300 vph				
		Within ± 10% for ≥ 300 vph to < 1,000 vph				
		Within ± 5% for ≥ 1,000 vph				
Simulated Traffic Volume (Freeways)	**Segments (n = 52)**	Within ± 20% for <100 vph	51	98%	85%	Yes
		Within ± 15% for ≥ 100 vph to < 300 vph				
		Within ± 10% for ≥ 300 vph to < 1,000 vph				
		Within ± 5% for ≥ 1,000 vph				
Simulated Travel Time	**Routes (n = 8)**	Within ± 20% for average travel time on freeways	8	100%	85%	Yes
Maximum Simulated Queue Length	**Approaches (n = 3)**	Modeled queues qualitatively reflect the impacts of observed queues				Reasonably Calibrated
Visual Review of Bottleneck Locations	**Targeted Critical Locations**	Speed heat maps qualitatively reflect patterns and duration of congestions				Reasonably Calibrated

* Deviation from TOSAM Requirements

1. Simulated Average Speed – Speeds are highly variable on the interstate mainline as well as on the local arterial network and residential roadways, and can vary substantially by hour and by day. Simulated average speed was captured as part of the travel time calibration process and the visual review of bottleneck locations against speed heat maps.

2. Simulated Queue Length – Queuing within the study area is notably inconsistent and can oscillate numerous times within the peak periods, or be absent altogether on some days. A qualitative subjective assessment was conducted for queue lengths at targeted locations in addition to the review of freeway mainline congestion/queues against the speed heat maps.

Volume Calibration and MOEs (Freeways)

AM Peak Period (7:30 AM - 8:30 AM)

		Subtotal	Total	Percent	Target	Target Met
Segments (n = 52)	Within ± 20% for < 100 vph	0	51	98%	85%	Yes
	Within ± 15% for ≥ 100 vph to < 300 vph	6				
	Within ± 10% for ≥ 300 vph to < 1,000 vph	16				
	Within ± 5% for ≥ 1,000 vph	29				

Facility	Segment	Type	Balanced Count (vph)	VISSIM Throughput (vph)	Difference (vph)	Difference (%)
NB I-395 GP	Mainline south of Turkeycock	Basic/Diverge	3,717	3,704	-13	0%
	Between off-ramp to HOV NB and on-ramp from HOT NB at Turkeycock	Basic	3,487	3,504	17	0%
	Between on-ramp from HOT NB at Turkeycock and off-ramp to Duke Street EB & WB	Merge/Diverge	4,452	4,534	82	2%
	Between off-ramp to Duke Street EB and off-ramp to Duke Street WB	Diverge	3,965	4,037	71	2%
	Between off-ramp to Duke Street WB and on-ramp from Duke Street EB & WB	Basic	3,437	3,499	62	2%
	Between on-ramp from Duke Street EB and off-ramp to Seminary Road	Merge/Diverge	4,495	4,472	-23	-1%
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	3,179	3,176	-3	0%
	Between on-ramp from Seminary Road and off-ramp to King Street EB	Merge/Diverge	4,502	4,458	-44	-1%
	Between off-ramp to King Street EB & WB and on-ramp from King Street EB	Basic	4,215	4,180	-35	-1%
	Between on-ramp from King Street EB and on-ramp from King Street WB	Merge	4,648	4,622	-25	-1%
	Mainline north of King Street	Weave	5,604	5,073	-531	-9%
SB I-395 GP	Mainline north of King Street	Weave	3,819	3,822	3	0%
	Between off-ramp to King Street EB & WB and on-ramp from King Street WB	Basic	3,064	3,068	4	0%
	Between on-ramp from King Street WB and on-ramp from King Street EB	Merge	3,403	3,402	-1	0%
	Between on-ramp from King Street EB and off-ramp to Seminary Road	Weave	3,791	3,765	-25	-1%
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	3,134	3,153	19	1%
	Between on-ramp from Seminary Road and off-ramp to Duke Street WB	Merge/Basic/Diverge	3,988	3,977	-11	0%
	Between off-ramp to Duke Street WB and on-ramp from Duke Street WB	Basic	3,573	3,583	9	0%
	Between on-ramp from Duke Street WB and off-ramp to Duke Street EB	Weave	4,109	4,030	-80	-2%
	Between off-ramp to Duke Street EB and on-ramp from Duke Street EB	Basic	3,682	3,698	16	0%
	Between on-ramp from Duke Street EB and off-ramp to HOT SB at Turkeycock	Merge/Diverge	4,182	4,194	12	0%
	Between off-ramp to HOT SB and on-ramp from HOV SB at Turkeycock	Basic	4,182	4,196	14	0%
	Mainline south of Turkeycock	Merge/Basic	4,182	4,198	17	0%
NB I-395 HOV	Mainline south of Turkeycock	Basic/Diverge	3,004	3,018	14	0%
	Between off-ramp to GP SB and on-ramp from GP SB at Turkeycock	Basic	2,036	2,048	12	1%
	Between on-ramp from GP SB at Turkeycock to off-ramp to Seminary Road	Merge/Basic/Diverge	2,264	2,273	9	0%
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	1,979	2,005	26	1%
	Mainline north of King Street	Merge/Basic	2,116	2,140	24	1%

AM Volume Calibration (Freeways and Ramps)

Interchange	Ramp		Balanced Count (vph)	VISSIM Throughput (vph)	Difference (vph)	Difference (%)
Duke Street	I-395 NB to Duke St EB		485	500	15	3%
	I-395 NB to Duke St WB		530	531	1	0%
	Duke St WB to I-395 NB		455	440	-15	-3%
	Duke St EB to I-395 NB		605	612	7	1%
	I-395 SB to Duke St WB		415	405	-10	-2%
	I-395 SB to Duke St EB		430	430	0	0%
	Duke St WB to I-395 SB		535	546	11	2%
	Duke St EB to I-395 SB		500	495	-5	-1%
Seminary Road	I-395 NB to Seminary Rd		1,315	1,290	-25	-2%
	Seminary Rd to I-395 NB		1,325	1,293	-32	-2%
	I-395 SB to Seminary Rd		655	646	-9	-1%
	Seminary Rd to I-395 SB		855	831	-24	-3%
	I-395 HOV NB to Seminary Rd		285	284	-1	0%
	Seminary Rd to I-395 HOV NB		135	125	-10	-8%
King Street	I-395 NB to King St EB		135	130	-6	-4%
	I-395 NB to King St WB		155	151	-4	-2%
	King St WB to I-395 NB		955	964	9	1%
	King St EB to I-395 NB		435	437	2	0%
	I-395 SB to King St WB		575	584	9	1%
	I-395 SB to King St EB		180	180	0	0%
	King St WB to I-395 SB		340	333	-7	-2%
	King St EB to I-395 SB		390	391	1	0%
Turkeycock	I-395 HOV NB to I-395 GP NB		965	977	12	1%
	I-395 GP NB to I-395 HOV NB		230	224	-6	-3%

Volume Calibration and MOEs (Intersections)

AM Peak Period (7:30 AM - 8:30 AM)

	Volume Criteria	Subtotal	Total	Percent	Target	Target Met
Approaches (n = 27)	Within ± 20% for < 100 vph	6	70	100%	85%	Yes
	Within ± 15% for ≥ 100 vph to < 300 vph	9				
	Within ± 10% for ≥ 300 vph to < 1,000 vph	28				
	Within ± 5% for ≥ 1,000 vph	27				

#	Intersection	Approach	Movement	Balanced Count (vph)		VISSIM Throughput (vph)		Difference (vph)		Difference (%)	
311	Duke St and Oasis Dr and Right-in-Right-out at Shopping Plaza	NB	U	0	115	0	113	0	-2	-	-2%
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	115		113		-2		-2%	
		SB	U	0	15	0	13	0	-2	-	-13%
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	15		13		-2		-13%	
		EB	U	0	1,725	0	1,732	0	7	-	0%
			LT	0		0		0		-	
			TH	1,710		1,717		7		0%	
			RT	15		15		0		0%	
		WB	U	0	2,080	0	2,076	0	-4	-	0%
			LT	105		106		1		1%	
			TH	1,865		1,866		1		0%	
			RT	110		104		-6		-5%	
		Intersection		3,935		3,934		-1		0%	
312	Duke St and N. Beauregard St	NB	U	0	200	0	195	0	-5	-	-3%
			LT	85		82		-3		-4%	
			TH	65		64		-1		-2%	
			RT	50		49		-1		-2%	
		SB	U	0	870	0	866	0	-4	-	0%
			LT	670		673		3		0%	
			TH	30		29		-1		-3%	
			RT	170		164		-6		-4%	
		EB	U	0	1,340	0	1,339	0	-1	-	0%
			LT	310		306		-4		-1%	
			TH	1,005		1,006		1		0%	
			RT	25		27		2		8%	
		WB	U	0	1,875	0	1,872	0	-3	-	0%
			LT	45		40		-5		-11%	
			TH	1,195		1,211		16		1%	
			RT	635		621		-14		-2%	
		Intersection		4,285		4,272		-13		0%	
321	Duke St and S. Walker St - include the ramp to the mall	NB	U	0	790	0	795	0	5	-	1%
			LT	670		675		5		1%	
			TH	0		0		0		-	
			RT	120		120		0		0%	
		SB	U	0	25	0	24	0	-1	-	-4%
			LT	5		5		0		0%	
			TH	0		0		0		-	
			RT	20		19		-1		-5%	
		EB	U	0	1,640	0	1,660	0	20	-	1%
			LT	0		0		0		-	
			TH	1,365		1,379		14		1%	
			RT	275		281		6		2%	
		WB	U	0	1,565	0	1,544	0	-21	-	-1%
			LT	50		48		-2		-4%	
			TH	1,515		1,496		-19		-1%	
			RT	0		0		0		-	
		Intersection		4,020		4,023		3		0%	

AM Volume Calibration (Intersections)

#	Intersection	Approach	Movement	Balanced Count (vph)		VISSIM Throughput (vph)		Difference (vph)		Difference (%)	
401	Seminary Rd and I-395 Northbound Off-Ramp	NB	U	0	1,315	0	1,293	0	-22	-	-2%
			LT	0		0		0		-	
			TH	1,095		1,079		-16		-1%	
			RT	220		214		-6		-3%	
		SB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		EB	U	0	840	0	831	0	-9	-	-1%
			LT	650		644		-6		-1%	
			TH	190		187		-3		-2%	
			RT	0		0		0		-	
		WB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		Intersection		2,155		2,124		-31		-1%	
402	Seminary Rd and I-395 Northbound On-Ramp	NB	U	0	1,740	0	1,723	0	-17	-	-1%
			LT	1,125		1,106		-19		-2%	
			TH	615		617		2		0%	
			RT	0		0		0		-	
		SB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		EB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		WB	U	0	1,045	0	1,011	0	-34	-	-3%
			LT	0		0		0		-	
			TH	335		320		-15		-4%	
			RT	710		691		-19		-3%	
		Intersection		2,785		2,734		-51		-2%	
403	Seminary Rd and I-395 Southbound Off-Ramp	NB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		SB	U	0	585	0	570	0	-15	-	-3%
			LT	0		0		0		-	
			TH	190		187		-3		-2%	
			RT	395		383		-12		-3%	
		EB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		WB	U	0	1,325	0	1,304	0	-21	-	-2%
			LT	295		293		-2		-1%	
			TH	1,030		1,011		-19		-2%	
			RT	0		0		0		-	
		Intersection		1,910		1,874		-36		-2%	
404	Seminary Rd and I-395 Southbound On-Ramp	NB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		SB	U	0	485	0	480	0	-5	-	-1%
			LT	190		187		-3		-2%	
			TH	295		293		-2		-1%	
			RT	0		0		0		-	
		EB	U	0	1,210	0	1,202	0	-8	-	-1%
			LT	0		0		0		-	
			TH	650		646		-4		-1%	
			RT	560		556		-4		-1%	
		WB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		Intersection		1,695		1,682		-13		-1%	

AM Volume Calibration (Intersections)

#	Intersection	Approach	Movement	Balanced Count (vph)		VISSIM Throughput (vph)		Difference (vph)		Difference (%)	
405	Seminary Rd and I-395 Northbound HOV Off-Ramp	NB	U	0	285	0	285	0	0	-	0%
			LT	205		202		-3		-1%	
			TH	0		0		0		-	
			RT	80		83		3		4%	
		SB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		EB	U	0	585	0	585	0	0	-	0%
			LT	0		0		0		-	
			TH	585		585		0		0%	
			RT	0		0		0		-	
		WB	U	0	805	0	788	0	-17	-	-2%
			LT	0		0		0		-	
			TH	805		788		-17		-2%	
			RT	0		0		0		-	
		Intersection		1,675		1,658		-17		-1%	
411	Seminary Rd and Mark Center Ave	NB	U	0	170	0	165	0	-5	-	-3%
			LT	20		19		-1		-5%	
			TH	20		19		-1		-5%	
			RT	130		127		-3		-2%	
		SB	U	0	460	0	450	0	-10	-	-2%
			LT	265		256		-9		-3%	
			TH	80		81		1		1%	
			RT	115		113		-2		-2%	
		EB	U	0	1,525	0	1,545	0	20	-	1%
			LT	65		68		3		5%	
			TH	1,395		1,407		12		1%	
			RT	65		70		5		8%	
		WB	U	0	2,435	0	2,398	0	-37	-	-2%
			LT	310		304		-6		-2%	
			TH	2,040		2,011		-29		-1%	
			RT	85		83		-2		-2%	
		Intersection		4,590		4,558		-32		-1%	
412	Seminary Rd and N. Beauregard St	NB	U	0	1,165	0	1,151	0	-14	-	-1%
			LT	375		364		-11		-3%	
			TH	305		299		-6		-2%	
			RT	485		488		3		1%	
		SB	U	0	380	0	371	0	-9	-	-2%
			LT	135		131		-4		-3%	
			TH	180		177		-3		-2%	
			RT	65		63		-2		-3%	
		EB	U	0	1,200	0	1,206	0	6	-	1%
			LT	45		42		-3		-7%	
			TH	905		917		12		1%	
			RT	250		247		-3		-1%	
		WB	U	0	2,170	0	2,126	0	-44	-	-2%
			LT	845		811		-34		-4%	
			TH	1,180		1,169		-11		-1%	
			RT	145		146		1		1%	
		Intersection		4,915		4,854		-61		-1%	
421	Seminary Rd and Kenmore Ave-Library Lane	NB	U	0	70	0	68	0	-2	-	-3%
			LT	45		42		-3		-7%	
			TH	10		10		0		0%	
			RT	15		16		1		7%	
		SB	U	0	95	0	88	0	-7	-	-7%
			LT	45		40		-5		-11%	
			TH	10		9		-1		-10%	
			RT	40		39		-1		-3%	
		EB	U	0	1,130	0	1,103	0	-27	-	-2%
			LT	190		176		-14		-7%	
			TH	930		918		-12		-1%	
			RT	10		9		-1		-10%	
		WB	U	0	1,410	0	1,380	0	-30	-	-2%
			LT	20		19		-1		-5%	
			TH	1,315		1,294		-21		-2%	
			RT	75		67		-8		-11%	
		Intersection		2,705		2,639		-66		-2%	

AM Volume Calibration (Intersections)

#	Intersection	Approach	Movement	Balanced Count (vph)		VISSIM Throughput (vph)		Difference (vph)		Difference (%)	
422	Seminary Rd and Seminary Rd - The Encore entrance	NB	U	0	130	0	121	0	-9	-	-7%
			LT	85		80		-5		-6%	
			TH	0		0		0		-	
			RT	45		41		-4		-9%	
		SB	U	0	45	0	39	0	-6	-	-13%
			LT	10		6		-4		-40%	
			TH	0		0		0		-	
			RT	35		33		-2		-6%	
		EB	U	0	860	0	845	0	-15	-	-2%
			LT	10		8		-2		-20%	
			TH	850		837		-13		-2%	
			RT	0		0		0		-	
		WB	U	0	1,320	0	1,289	0	-31	-	-2%
			LT	0		0		0		-	
			TH	1,300		1,264		-36		-3%	
			RT	20		25		5		25%	
		Intersection		2,355		2,294		-61		-3%	
423	Seminary Rd and N. Pickett St	NB	U	0	200	0	199	0	-1	-	-1%
			LT	100		101		1		1%	
			TH	0		0		0		-	
			RT	100		98		-2		-2%	
		SB	U	0	0	0	4	0	4	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		4		4		-	
		EB	U	0	905	0	881	0	-24	-	-3%
			LT	0		0		0		-	
			TH	770		751		-19		-2%	
			RT	135		130		-5		-4%	
		WB	U	0	1,295	0	1,270	0	-25	-	-2%
			LT	80		78		-2		-3%	
			TH	1,215		1,192		-23		-2%	
			RT	0		0		0		-	
		Intersection		2,400		2,354		-46		-2%	
424	Seminary Rd and N. Jordan St	NB	U	0	420	0	425	0	5	-	1%
			LT	355		359		4		1%	
			TH	0		0		0		-	
			RT	65		66		1		2%	
		SB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		EB	U	0	870	0	858	0	-12	-	-1%
			LT	0		0		0		-	
			TH	750		736		-14		-2%	
			RT	120		122		2		2%	
		WB	U	0	955	0	933	0	-22	-	-2%
			LT	20		19		-1		-5%	
			TH	935		914		-21		-2%	
			RT	0		0		0		-	
		Intersection		2,245		2,216		-29		-1%	
425	Seminary Rd and N. Howard St	NB	U	0	420	0	420	0	0	-	0%
			LT	135		138		3		2%	
			TH	235		233		-2		-1%	
			RT	50		49		-1		-2%	
		SB	U	0	315	0	314	0	-1	-	0%
			LT	130		130		0		0%	
			TH	100		98		-2		-2%	
			RT	85		86		1		1%	
		EB	U	0	815	0	797	0	-18	-	-2%
			LT	245		243		-2		-1%	
			TH	410		395		-15		-4%	
			RT	160		159		-1		-1%	
		WB	U	0	1,080	0	1,049	0	-31	-	-3%
			LT	70		71		1		1%	
			TH	735		715		-20		-3%	
			RT	275		263		-12		-4%	
		Intersection		2,630		2,580		-50		-2%	

AM Volume Calibration (Intersections)

#	Intersection	Approach	Movement	Balanced Count (vph)		VISSIM Throughput (vph)		Difference (vph)		Difference (%)	
426	Seminary Rd and St. Stephens Rd	NB	U	0	220	0	222	0	2	-	1%
			LT	175		177		2		1%	
			TH	0		0		0		-	
			RT	45		45		0		0%	
		SB	U	0	5	0	0	0	-5	-	-100%
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	5		0		-5		-100%	
		EB	U	0	590	0	568	0	-22	-	-4%
			LT	5		0		-5		-100%	
			TH	460		445		-15		-3%	
			RT	125		123		-2		-2%	
		WB	U	0	995	0	980	0	-15	-	-2%
			LT	100		101		1		1%	
			TH	895		879		-16		-2%	
			RT	0		0		0		-	
		Intersection		1,810		1,770		-40		-2%	
427	Seminary Rd and Fort Williams Pkwy	NB	U	0	150	0	149	0	-1	-	-1%
			LT	110		108		-2		-2%	
			TH	0		0		0		-	
			RT	40		41		1		3%	
		SB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		EB	U	0	505	0	491	0	-14	-	-3%
			LT	0		0		0		-	
			TH	470		456		-14		-3%	
			RT	35		35		0		0%	
		WB	U	0	910	0	897	0	-13	-	-1%
			LT	25		22		-3		-12%	
			TH	885		875		-10		-1%	
			RT	0		0		0		-	
		Intersection		1,565		1,537		-28		-2%	
428	Seminary Rd and N. Quaker Lane	NB	U	0	1,270	0	1,257	0	-13	-	-1%
			LT	555		546		-9		-2%	
			TH	680		676		-4		-1%	
			RT	35		35		0		0%	
		SB	U	0	635	0	630	0	-5	-	-1%
			LT	140		142		2		1%	
			TH	420		417		-3		-1%	
			RT	75		71		-4		-5%	
		EB	U	0	510	0	496	0	-14	-	-3%
			LT	65		67		2		3%	
			TH	245		239		-6		-2%	
			RT	200		190		-10		-5%	
		WB	U	0	475	0	472	0	-3	-	-1%
			LT	35		38		3		9%	
			TH	285		278		-7		-2%	
			RT	155		156		1		1%	
		Intersection		2,890		2,855		-35		-1%	
511	King St -Rt 7- and Park Center Dr	NB	U	0	425	0	418	0	-7	-	-2%
			LT	70		66		-4		-6%	
			TH	0		0		0		-	
			RT	355		352		-3		-1%	
		SB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		EB	U	0	1,400	0	1,398	0	-2	-	0%
			LT	0		0		0		-	
			TH	1,360		1,357		-3		0%	
			RT	40		41		1		3%	
		WB	U	0	1,200	0	1,218	0	18	-	2%
			LT	135		125		-10		-7%	
			TH	1,065		1,093		28		3%	
			RT	0		0		0		-	
		Intersection		3,025		3,034		9		0%	

AM Volume Calibration (Intersections)

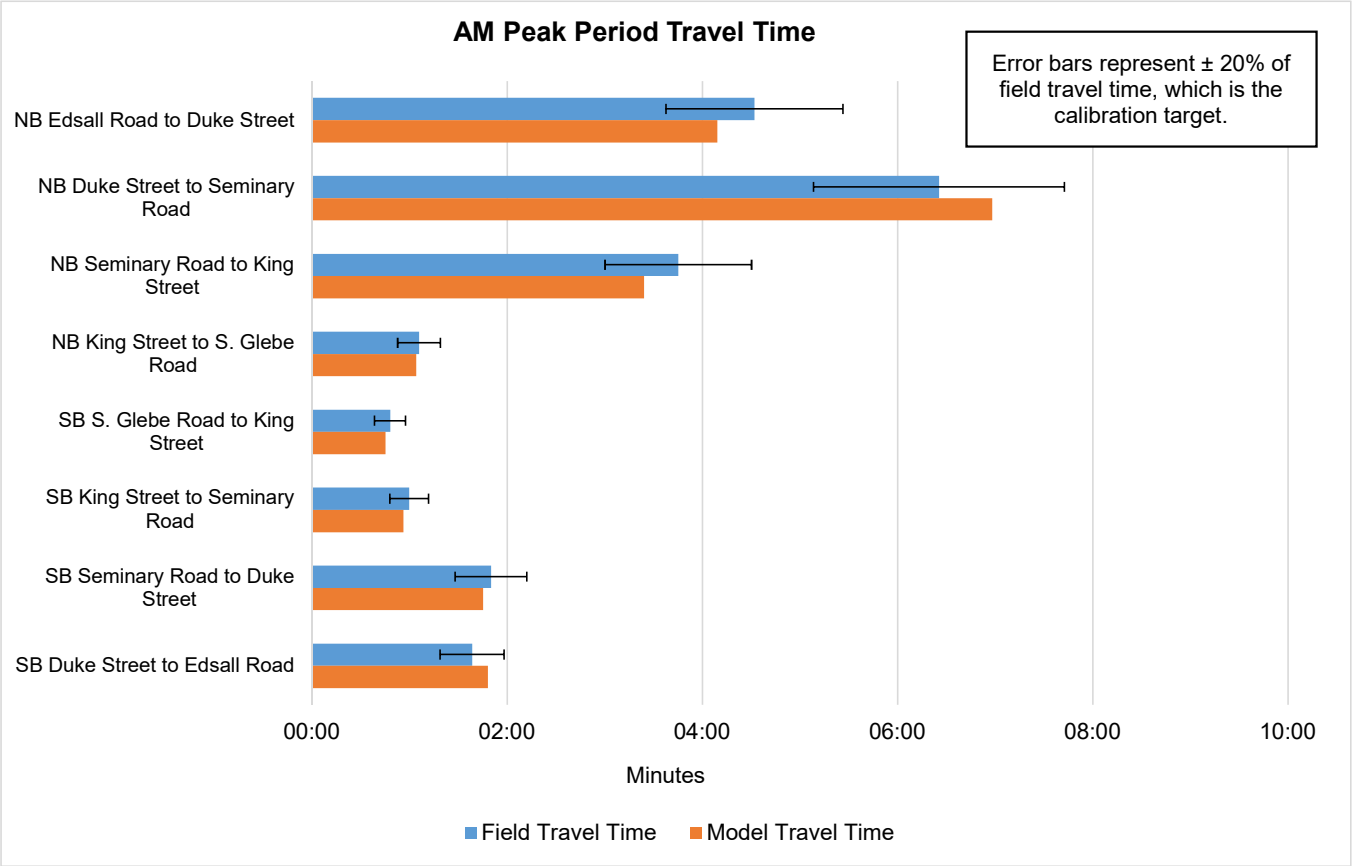
#	Intersection	Approach	Movement	Balanced Count (vph)		VISSIM Throughput (vph)		Difference (vph)		Difference (%)	
521	King St -Rt 7- and Menokin Dr	NB	U	0	760	0	761	0	1	-	0%
			LT	705		710		5		1%	
			TH	0		0		0		-	
			RT	55		51		-4		-7%	
		SB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		EB	U	0	1,200	0	1,197	0	-3	-	0%
			LT	0		0		0		-	
			TH	1,055		1,057		2		0%	
			RT	145		140		-5		-3%	
		WB	U	0	1,100	0	1,110	0	10	-	1%
			LT	40		34		-6		-15%	
			TH	1,060		1,076		16		2%	
			RT	0		0		0		-	
		Intersection		3,060		3,068		8		0%	
522	King St -Rt 7- and N. Dearing St	NB	U	0	180	0	180	0	0	-	0%
			LT	150		152		2		1%	
			TH	20		20		0		0%	
			RT	10		8		-2		-20%	
		SB	U	0	305	0	306	0	1	-	0%
			LT	55		58		3		5%	
			TH	20		21		1		5%	
			RT	230		227		-3		-1%	
		EB	U	0	1,115	0	1,102	0	-13	-	-1%
			LT	80		82		2		3%	
			TH	915		904		-11		-1%	
			RT	120		116		-4		-3%	
		WB	U	0	765	0	761	0	-4	-	-1%
			LT	15		13		-2		-13%	
			TH	725		723		-2		0%	
			RT	25		25		0		0%	
		Intersection		2,365		2,349		-16		-1%	

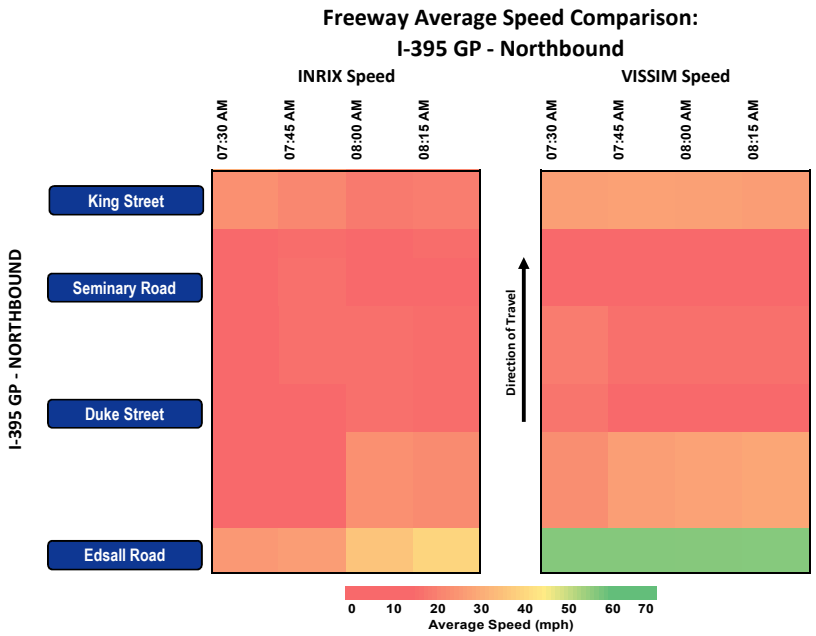
Travel Time Calibration

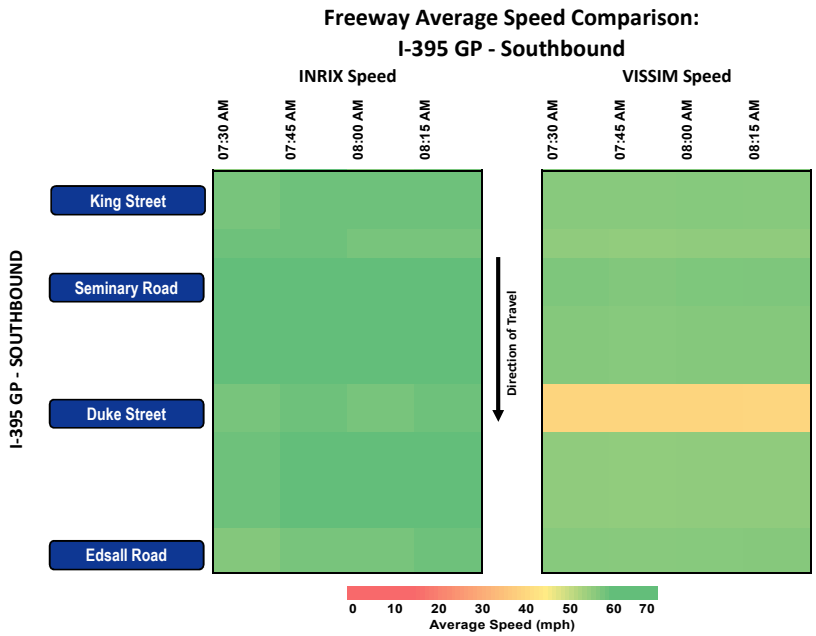
AM Peak Period (7:30 AM - 8:30 AM)

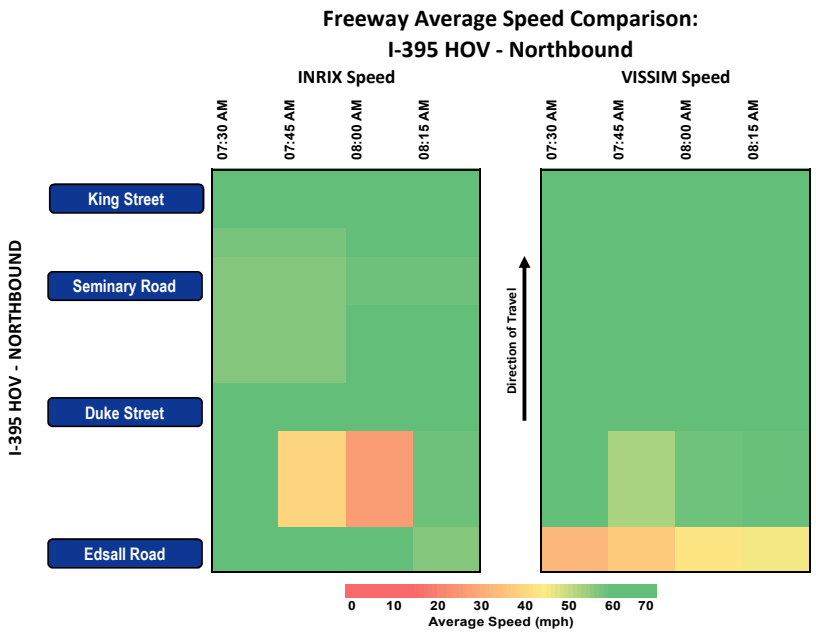
	Travel Time Criteria	Total	Percent	Target	Target Met
Routes (n = 8)	Within ± 20% for average travel time on freeways	8	100%	85%	Yes

Segment ID	Route	Peak Period Travel Time			
		Field (MM:SS)	VISSIM (MM:SS)	Difference (MM:SS)	Difference (%)
1	NB Edsall Road to Duke Street	04:32	04:09	-00:23	-8%
2	NB Duke Street to Seminary Road	06:25	06:58	00:33	8%
3	NB Seminary Road to King Street	03:45	03:24	-00:21	-9%
4	NB King Street to S. Glebe Road	01:06	01:04	-00:02	-3%
5	SB S. Glebe Road to King Street	00:48	00:45	-00:03	-6%
6	SB King Street to Seminary Road	01:00	00:56	-00:04	-6%
7	SB Seminary Road to Duke Street	01:50	01:45	-00:05	-5%
8	SB Duke Street to Edsall Road	01:38	01:48	00:10	10%




Freeway Average Speed Comparison:
I-395 GP - Northbound
INRIX Speed
VISSIM Speed
07:30 AM
07:45 AM
08:00 AM
08:15 AM
I-395 GP - NORTHBOUND
King Street
Seminary Road
Duke Street
Edsall Road
Direction of Travel
0 10 20 30 40 50 60 70
Average Speed (mph)


Freeway Average Speed Comparison:
I-395 GP - Southbound
INRIX Speed
VISSIM Speed
07:30 AM
07:45 AM
08:00 AM
08:15 AM
I-395 GP - SOUTHBOUND
King Street
Seminary Road
Duke Street
Edsall Road
Direction of Travel
0 10 20 30 40 50 60 70
Average Speed (mph)


Freeway Average Speed Comparison:
I-395 HOV - Northbound
INRIX Speed
VISSIM Speed
07:30 AM
07:45 AM
08:00 AM
08:15 AM
I-395 HOV - NORTHBOUND
King Street
Seminary Road
Duke Street
Edsall Road
Direction of Travel
0 10 20 30 40 50 60 70
Average Speed (mph)

Queue Length Calibration

AM Peak Period (7:30 AM - 8:30 AM)

	Queue Criteria	Total	Percent	Target	Target Met
Approaches (n = 3)	Modeled queues qualitatively reflect the impacts of observed queues (e.g., spillback from ramp intersections, turn bay, or downstream intersection)	2	67%	85%	No

Interchange	Location	Observed Max Queue (feet)	VISSIM Max Queue (feet)	Max Queue Difference (feet)	Max Queue Difference (%)	Field Conditions Represented (Yes/No)	Field-Observed Queue Description	VISSIM Queue Description
Duke Street	Ramp from Duke Street westbound to I-395 southbound	0	0	0	-	Y	No queue observed.	
Seminary Road	Ramp from Seminary Road westbound to I-395 southbound	0	0	0	-	Y	No queue observed.	
	Ramp from I-395 HOV northbound to Seminary Road	2,600	140	-2,460	-95%	N	Rolling queue - vehicles not fully stopped. Backup does not appear to influence HOV mainline.	
	Ramp from Seminary Road to I-395 HOV southbound		0	0	-	Y	No queue observed.	

* 5PM Typical Traffic on Wednesday

Attachment C: PM Peak Period Calibration Detailed Summary Tables

- Freeway/Ramp Individual Link Volume Calibration
- Arterial Intersection Volume Calibration
- Travel Time Calibration
- Speed congestion Map Calibration
- Queue Length Calibration

PM Peak Period Calibration Summary

Calibration Item	Basis	Criteria	Total	Percent	Target	Target Met
Simulated Traffic Volume (Intersections)	**Approaches (n = 26)**	Within ± 20% for <100 vph	59	86%	85%	Yes
		Within ± 15% for ≥ 100 vph to < 300 vph				
		Within ± 10% for ≥ 300 vph to < 1,000 vph				
		Within ± 5% for ≥ 1,000 vph				
Simulated Traffic Volume (Freeways)	**Segments (n = 52)**	Within ± 20% for <100 vph	48	92%	85%	Yes
		Within ± 15% for ≥ 100 vph to < 300 vph				
		Within ± 10% for ≥ 300 vph to < 1,000 vph				
		Within ± 5% for ≥ 1,000 vph				
Simulated Travel Time	**Routes (n = 5)**	Within ± 20% for average travel time on freeways	5	100%	85%	Yes
Maximum Simulated Queue Length	**Approaches (n = 4)**	Modeled queues qualitatively reflect the impacts of observed queues				Reasonably Calibrated
Visual Review of Bottleneck Locations	**Targeted Critical Locations**	Speed heat maps qualitatively reflect patterns and duration of congestions				Reasonably Calibrated

* Deviation from TOSAM Requirements

1. Simulated Average Speed – Speeds are highly variable on the interstate mainline as well as on the local arterial network and residential roadways, and can vary substantially by hour and by day. Simulated average speed was captured as part of the travel time calibration process and the visual review of bottleneck locations against speed heat maps.

2. Simulated Queue Length – Queuing within the study area is notably inconsistent and can oscillate numerous times within the peak periods, or be absent altogether on some days. A qualitative subjective assessment was conducted for queue lengths at targeted locations in addition to the review of freeway mainline congestion/queues against the speed heat maps.

Volume Calibration and MOEs (Freeways)

PM Peak Period (4:30 PM - 5:30 PM)

		Subtotal	Total	Percent	Target	Target Met
Segments (n = 52)	Within ± 20% for < 100 vph	0	48	92%	85%	Yes
	Within ± 15% for ≥ 100 vph to < 300 vph	5				
	Within ± 10% for ≥ 300 vph to < 1,000 vph	18				
	Within ± 5% for ≥ 1,000 vph	25				

Facility	Segment	Type	Balanced Count (vph)	VISSIM Throughput (vph)	Difference (vph)	Difference (%)
NB I-395 GP	Mainline south of Turkeycock	Basic/Diverge	5,792	5,783	-8	0%
	Between off-ramp to HOV NB and on-ramp from HOT NB at Turkeycock	Basic	5,792	5,777	-15	0%
	Between on-ramp from HOT NB at Turkeycock and off-ramp to Duke Street EB & WB	Merge/Diverge	5,792	5,775	-17	0%
	Between off-ramp to Duke Street EB and off-ramp to Duke Street WB	Diverge	5,210	5,191	-19	0%
	Between off-ramp to Duke Street WB and on-ramp from Duke Street EB & WB	Basic	4,784	4,755	-29	-1%
	Between on-ramp from Duke Street EB and off-ramp to Seminary Road	Merge/Diverge	5,827	5,756	-72	-1%
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	5,053	4,982	-71	-1%
	Between on-ramp from Seminary Road and off-ramp to King Street EB	Merge/Diverge	6,038	5,934	-104	-2%
	Between off-ramp to King Street EB & WB and on-ramp from King Street EB	Basic	5,329	5,213	-116	-2%
	Between on-ramp from King Street EB and on-ramp from King Street WB	Merge	5,936	5,823	-113	-2%
	Mainline north of King Street	Weave	6,127	5,991	-136	-2%
SB I-395 GP	Mainline north of King Street	Weave	5,498	5,421	-77	-1%
	Between off-ramp to King Street EB & WB and on-ramp from King Street WB	Basic	3,934	3,887	-47	-1%
	Between on-ramp from King Street WB and on-ramp from King Street EB	Merge	4,093	4,011	-83	-2%
	Between on-ramp from King Street EB and off-ramp to Seminary Road	Weave	4,405	4,143	-262	-6%
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	3,726	3,491	-235	-6%
	Between on-ramp from Seminary Road and off-ramp to Duke Street WB	Merge/Basic/Diverge	4,646	4,063	-583	-13%
	Between off-ramp to Duke Street WB and on-ramp from Duke Street WB	Basic	4,073	3,925	-148	-4%
	Between on-ramp from Duke Street WB and off-ramp to Duke Street EB	Weave	4,687	4,469	-218	-5%
	Between off-ramp to Duke Street EB and on-ramp from Duke Street EB	Basic	4,401	4,312	-90	-2%
	Between on-ramp from Duke Street EB and off-ramp to HOT SB at Turkeycock	Merge/Diverge	4,948	4,869	-79	-2%
	Between off-ramp to HOT SB and on-ramp from HOV SB at Turkeycock	Basic	4,183	4,061	-122	-3%
	Mainline south of Turkeycock	Merge/Basic	4,898	4,771	-127	-3%
SB I-395 HOV	Mainline north of King Street	Basic/Diverge	2,993	2,983	-9	0%
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	2,755	2,736	-19	-1%
	Between on-ramp from Seminary Road and off-ramp to GP SB at Turkeycock	Merge/Basic/Diverge	2,982	2,965	-17	-1%
	Between off-ramp to GP SB and on-ramp from GP SB at Turkeycock	Basic	2,266	2,233	-33	-1%
	Mainline south of Turkeycock	Merge/Basic	3,031	3,038	7	0%

PM Volume Calibration (Freeways)

Interchange	Ramp		Balanced Count (vph)	VISSIM Throughput (vph)	Difference (vph)	Difference (%)
Duke Street	I-395 NB to Duke St EB		580	578	-2	0%
	I-395 NB to Duke St WB		425	428	3	1%
	Duke St WB to I-395 NB		640	625	-15	-2%
	Duke St EB to I-395 NB		400	400	0	0%
	I-395 SB to Duke St WB		575	475	-100	-17%
	I-395 SB to Duke St EB		285	268	-17	-6%
	Duke St WB to I-395 SB		615	612	-3	0%
	Duke St EB to I-395 SB		545	559	14	3%
Seminary Road	I-395 NB to Seminary Rd		775	771	-4	0%
	Seminary Rd to I-395 NB		985	956	-29	-3%
	I-395 SB to Seminary Rd		680	624	-56	-8%
	Seminary Rd to I-395 SB		920	905	-15	-2%
	I-395 HOV SB to Seminary Rd		240	228	-12	-5%
	Seminary Rd to I-395 HOV SB		230	241	11	5%
King Street	I-395 NB to King St EB		310	311	1	0%
	I-395 NB to King St WB		400	399	-1	0%
	King St WB to I-395 NB		190	185	-5	-2%
	King St EB to I-395 NB		605	617	12	2%
	I-395 SB to King St WB		815	794	-21	-3%
	I-395 SB to King St EB		750	728	-22	-3%
	King St WB to I-395 SB		160	156	-4	-3%
	King St EB to I-395 SB		310	301	-9	-3%
	I-395 HOV SB to I-395 GP SB		715	716	1	0%
	I-395 GP SB to I-395 HOV SB		765	807	42	6%

Volume Calibration and MOEs (Intersections)

PM Peak Period (4:30 PM - 5:30 PM)

	Volume Criteria	Subtotal	Total	Percent	Target	Target Met
Approaches (n = 26)	Within ± 20% for < 100 vph	7	59	86%	85%	Yes
	Within ± 15% for ≥ 100 vph to < 300 vph	9				
	Within ± 10% for ≥ 300 vph to < 1,000 vph	22				
	Within ± 5% for ≥ 1,000 vph	21				

#	Intersection	Approach	Movement	Balanced Count (vph)		VISSIM Throughput (vph)		Difference (vph)		Difference (%)	
311	Duke St and Oasis Dr and Right-in-Right-out at Shopping Plaza	NB	U	0	170	0	169	0	-1	-	-1%
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	170		169		-1		-1%	
		SB	U	0	110	0	109	0	-1	-	-1%
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	110		109		-1		-1%	
		EB	U	0	1,815	0	1,829	0	14	-	1%
			LT	0		0		0		-	
			TH	1,800		1,816		16		1%	
			RT	15		13		-2		-13%	
		WB	U	0	2,140	0	2,042	0	-98	-	-5%
			LT	230		222		-8		-3%	
			TH	1,600		1,532		-68		-4%	
			RT	310		288		-22		-7%	
		Intersection		4,235		4,149		-86		-2%	
312	Duke St and N. Beauregard St	NB	U	0	360	0	335	0	-25	-	-7%
			LT	135		122		-13		-10%	
			TH	125		117		-8		-6%	
			RT	100		96		-4		-4%	
		SB	U	0	1,045	0	1,062	0	17	-	2%
			LT	810		832		22		3%	
			TH	70		69		-1		-1%	
			RT	165		161		-4		-2%	
		EB	U	0	1,185	0	1,179	0	-6	-	-1%
			LT	245		245		0		0%	
			TH	905		902		-3		0%	
			RT	35		32		-3		-9%	
		WB	U	0	1,715	0	1,616	0	-99	-	-6%
			LT	100		85		-15		-15%	
			TH	1,120		1,060		-60		-5%	
			RT	495		471		-24		-5%	
		Intersection		4,305		4,192		-113		-3%	
321	Duke St and S. Walker St - include the ramp to the mall	NB	U	0	810	0	799	0	-11	-	-1%
			LT	680		667		-13		-2%	
			TH	0		0		0		-	
			RT	130		132		2		2%	
		SB	U	0	80	0	78	0	-2	-	-3%
			LT	15		14		-1		-7%	
			TH	10		10		0		0%	
			RT	55		54		-1		-2%	
		EB	U	0	1,890	0	1,885	0	-5	-	0%
			LT	0		0		0		-	
			TH	1,335		1,335		0		0%	
			RT	555		550		-5		-1%	
		WB	U	0	1,940	0	1,914	0	-26	-	-1%
			LT	180		182		2		1%	
			TH	1,760		1,732		-28		-2%	
			RT	0		0		0		-	
		Intersection		4,720		4,676		-44		-1%	

PM Volume Calibration (Intersections)

#	Intersection	Approach	Movement	Balanced Count (vph)		VISSIM Throughput (vph)		Difference (vph)		Difference (%)	
401	Seminary Rd and I-395 Northbound Off-Ramp	NB	U	0	775	0	563	0	-212	-	-27%
			LT	0		0		0		-	
			TH	565		563		-2		0%	
			RT	210		0		-210		-100%	
		SB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		EB	U	0	1,100	0	552	0	-548	-	-50%
			LT	560		552		-8		-1%	
			TH	540		0		-540		-100%	
			RT	0		0		0		-	
		WB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		Intersection		1,875		1,115		-760		-41%	
402	Seminary Rd and I-395 Northbound On-Ramp	NB	U	0	1,125	0	1,115	0	-10	-	-1%
			LT	565		562		-3		-1%	
			TH	560		553		-7		-1%	
			RT	0		0		0		-	
		SB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		EB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		WB	U	0	760	0	610	0	-150	-	-20%
			LT	0		0		0		-	
			TH	335		210		-125		-37%	
			RT	425		400		-25		-6%	
		Intersection		1,885		1,725		-160		-8%	
403	Seminary Rd and I-395 Southbound Off-Ramp	NB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		SB	U	0	630	0	578	0	-52	-	-8%
			LT	0		0		0		-	
			TH	310		285		-25		-8%	
			RT	320		293		-27		-8%	
		EB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		WB	U	0	1,135	0	1,013	0	-122	-	-11%
			LT	375		381		6		2%	
			TH	760		632		-128		-17%	
			RT	0		0		0		-	
		Intersection		1,765		1,591		-174		-10%	
404	Seminary Rd and I-395 Southbound On-Ramp	NB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		SB	U	0	685	0	667	0	-18	-	-3%
			LT	390		367		-23		-6%	
			TH	295		300		5		2%	
			RT	0		0		0		-	
		EB	U	0	1,335	0	1,173	0	-162	-	-12%
			LT	0		0		0		-	
			TH	710		550		-160		-23%	
			RT	625		623		-2		0%	
		WB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		Intersection		2,020		1,840		-180		-9%	

PM Volume Calibration (Intersections)

#	Intersection	Approach	Movement	Balanced Count (vph)		VISSIM Throughput (vph)		Difference (vph)		Difference (%)	
405	Seminary Rd and I-395 Northbound HOV Off-Ramp	NB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		SB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		EB	U	0	1,170	0	1,299	0	129	-	11%
			LT	0		0		0		-	
			TH	990		1,121		131		13%	
			RT	180		178		-2		-1%	
		WB	U	0	525	0	617	0	92	-	18%
			LT	50		50		0		0%	
			TH	475		567		92		19%	
			RT	0		0		0		-	
		Intersection		1,695		1,916		221		13%	
411	Seminary Rd and Mark Center Ave	NB	U	0	1,010	0	1,016	0	6	-	1%
			LT	105		107		2		2%	
			TH	15		14		-1		-7%	
			RT	890		895		5		1%	
		SB	U	0	305	0	309	0	4	-	1%
			LT	155		158		3		2%	
			TH	40		41		1		3%	
			RT	110		110		0		0%	
		EB	U	0	1,535	0	1,494	0	-41	-	-3%
			LT	40		43		3		8%	
			TH	1,460		1,420		-40		-3%	
			RT	35		31		-4		-11%	
		WB	U	0	1,555	0	1,414	0	-141	-	-9%
			LT	45		44		-1		-2%	
			TH	1,385		1,269		-116		-8%	
			RT	125		101		-24		-19%	
		Intersection		4,405		4,233		-172		-4%	
412	Seminary Rd and N. Beauregard St	NB	U	0	910	0	916	0	6	-	1%
			LT	310		304		-6		-2%	
			TH	225		238		13		6%	
			RT	375		374		-1		0%	
		SB	U	0	720	0	721	0	1	-	0%
			LT	175		169		-6		-3%	
			TH	495		500		5		1%	
			RT	50		52		2		4%	
		EB	U	0	1,600	0	1,581	0	-19	-	-1%
			LT	50		52		2		4%	
			TH	980		966		-14		-1%	
			RT	570		563		-7		-1%	
		WB	U	0	1,605	0	1,477	0	-128	-	-8%
			LT	515		463		-52		-10%	
			TH	935		869		-66		-7%	
			RT	155		145		-10		-6%	
		Intersection		4,835		4,695		-140		-3%	
421	Seminary Rd and Kenmore Ave-Library Lane	NB	U	0	65	0	64	0	-1	-	-2%
			LT	45		45		0		0%	
			TH	10		9		-1		-10%	
			RT	10		10		0		0%	
		SB	U	0	170	0	168	0	-2	-	-1%
			LT	90		93		3		3%	
			TH	10		9		-1		-10%	
			RT	70		66		-4		-6%	
		EB	U	0	1,475	0	1,442	0	-33	-	-2%
			LT	180		170		-10		-6%	
			TH	1,275		1,253		-22		-2%	
			RT	20		19		-1		-5%	
		WB	U	0	985	0	947	0	-38	-	-4%
			LT	25		25		0		0%	
			TH	880		846		-34		-4%	
			RT	80		76		-4		-5%	
		Intersection		2,695		2,621		-74		-3%	

PM Volume Calibration (Intersections)

#	Intersection	Approach	Movement	Balanced Count (vph)		VISSIM Throughput (vph)		Difference (vph)		Difference (%)	
422	Seminary Rd and Seminary Rd - The Encore entrance	NB	U	0	10	0	10	0	0	-	0%
			LT	5		0		-5		-100%	
			TH	0		0		0		-	
			RT	5		10		5		100%	
		SB	U	0	50	0	42	0	-8	-	-16%
			LT	20		15		-5		-25%	
			TH	0		0		0		-	
			RT	30		27		-3		-10%	
		EB	U	0	1,370	0	1,357	0	-13	-	-1%
			LT	20		19		-1		-5%	
			TH	1,350		1,338		-12		-1%	
			RT	0		0		0		-	
		WB	U	0	965	0	935	0	-30	-	-3%
			LT	0		0		0		-	
			TH	950		921		-29		-3%	
			RT	15		14		-1		-7%	
		Intersection		2,395		2,344		-51		-2%	
423	Seminary Rd and N. Pickett St	NB	U	0	95	0	94	0	-1	-	-1%
			LT	60		61		1		2%	
			TH	0		0		0		-	
			RT	35		33		-2		-6%	
		SB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		EB	U	0	1,370	0	1,361	0	-9	-	-1%
			LT	0		0		0		-	
			TH	1,215		1,201		-14		-1%	
			RT	155		160		5		3%	
		WB	U	0	1,010	0	967	0	-43	-	-4%
			LT	105		93		-12		-11%	
			TH	905		874		-31		-3%	
			RT	0		0		0		-	
		Intersection		2,475		2,422		-53		-2%	
424	Seminary Rd and N. Jordan St	NB	U	0	210	0	206	0	-4	-	-2%
			LT	190		185		-5		-3%	
			TH	0		0		0		-	
			RT	20		21		1		5%	
		SB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		EB	U	0	1,250	0	1,224	0	-26	-	-2%
			LT	0		0		0		-	
			TH	885		866		-19		-2%	
			RT	365		358		-7		-2%	
		WB	U	0	900	0	865	0	-35	-	-4%
			LT	80		80		0		0%	
			TH	820		785		-35		-4%	
			RT	0		0		0		-	
		Intersection		2,360		2,295		-65		-3%	
425	Seminary Rd and N. Howard St	NB	U	0	335	0	328	0	-7	-	-2%
			LT	145		142		-3		-2%	
			TH	115		112		-3		-3%	
			RT	75		74		-1		-1%	
		SB	U	0	560	0	527	0	-33	-	-6%
			LT	100		96		-4		-4%	
			TH	220		198		-22		-10%	
			RT	240		233		-7		-3%	
		EB	U	0	910	0	887	0	-23	-	-3%
			LT	120		118		-2		-2%	
			TH	675		660		-15		-2%	
			RT	115		109		-6		-5%	
		WB	U	0	665	0	639	0	-26	-	-4%
			LT	60		56		-4		-7%	
			TH	510		491		-19		-4%	
			RT	95		92		-3		-3%	
		Intersection		2,470		2,381		-89		-4%	

PM Volume Calibration (Intersections)

#	Intersection	Approach	Movement	Balanced Count (vph)		VISSIM Throughput (vph)		Difference (vph)		Difference (%)	
426	Seminary Rd and St. Stephens Rd	NB	U	0	155	0	148	0	-7	-	-5%
			LT	100		92		-8		-8%	
			TH	0		0		0		-	
			RT	55		56		1		2%	
		SB	U	0	5	0	0	0	-5	-	-100%
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	5		0		-5		-100%	
		EB	U	0	845	0	824	0	-21	-	-2%
			LT	0		1		1		-	
			TH	770		751		-19		-2%	
			RT	75		72		-3		-4%	
		WB	U	0	605	0	586	0	-19	-	-3%
			LT	40		39		-1		-3%	
			TH	565		547		-18		-3%	
			RT	0		0		0		-	
		Intersection		1,610		1,558		-52		-3%	
427	Seminary Rd and Fort Williams Pkwy	NB	U	0	40	0	45	0	5	-	13%
			LT	20		23		3		15%	
			TH	0		0		0		-	
			RT	20		22		2		10%	
		SB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		EB	U	0	825	0	809	0	-16	-	-2%
			LT	0		0		0		-	
			TH	720		708		-12		-2%	
			RT	105		101		-4		-4%	
		WB	U	0	650	0	627	0	-23	-	-4%
			LT	65		63		-2		-3%	
			TH	585		564		-21		-4%	
			RT	0		0		0		-	
		Intersection		1,515		1,481		-34		-2%	
428	Seminary Rd and N. Quaker Lane	NB	U	0	930	0	920	0	-10	-	-1%
			LT	280		271		-9		-3%	
			TH	620		619		-1		0%	
			RT	30		30		0		0%	
		SB	U	0	1,000	0	993	0	-7	-	-1%
			LT	280		280		0		0%	
			TH	600		601		1		0%	
			RT	120		112		-8		-7%	
		EB	U	0	740	0	720	0	-20	-	-3%
			LT	85		86		1		1%	
			TH	425		408		-17		-4%	
			RT	230		226		-4		-2%	
		WB	U	0	465	0	460	0	-5	-	-1%
			LT	30		32		2		7%	
			TH	250		245		-5		-2%	
			RT	185		183		-2		-1%	
		Intersection		3,135		3,093		-42		-1%	
511	King St -Rt 7- and Park Center Dr	NB	U	0	280	0	277	0	-3	-	-1%
			LT	70		66		-4		-6%	
			TH	0		0		0		-	
			RT	210		211		1		0%	
		SB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		EB	U	0	1,400	0	1,390	0	-10	-	-1%
			LT	0		0		0		-	
			TH	1,300		1,289		-11		-1%	
			RT	100		101		1		1%	
		WB	U	0	1,890	0	1,832	0	-58	-	-3%
			LT	295		284		-11		-4%	
			TH	1,595		1,548		-47		-3%	
			RT	0		0		0		-	
		Intersection		3,570		3,499		-71		-2%	

PM Volume Calibration (Intersections)

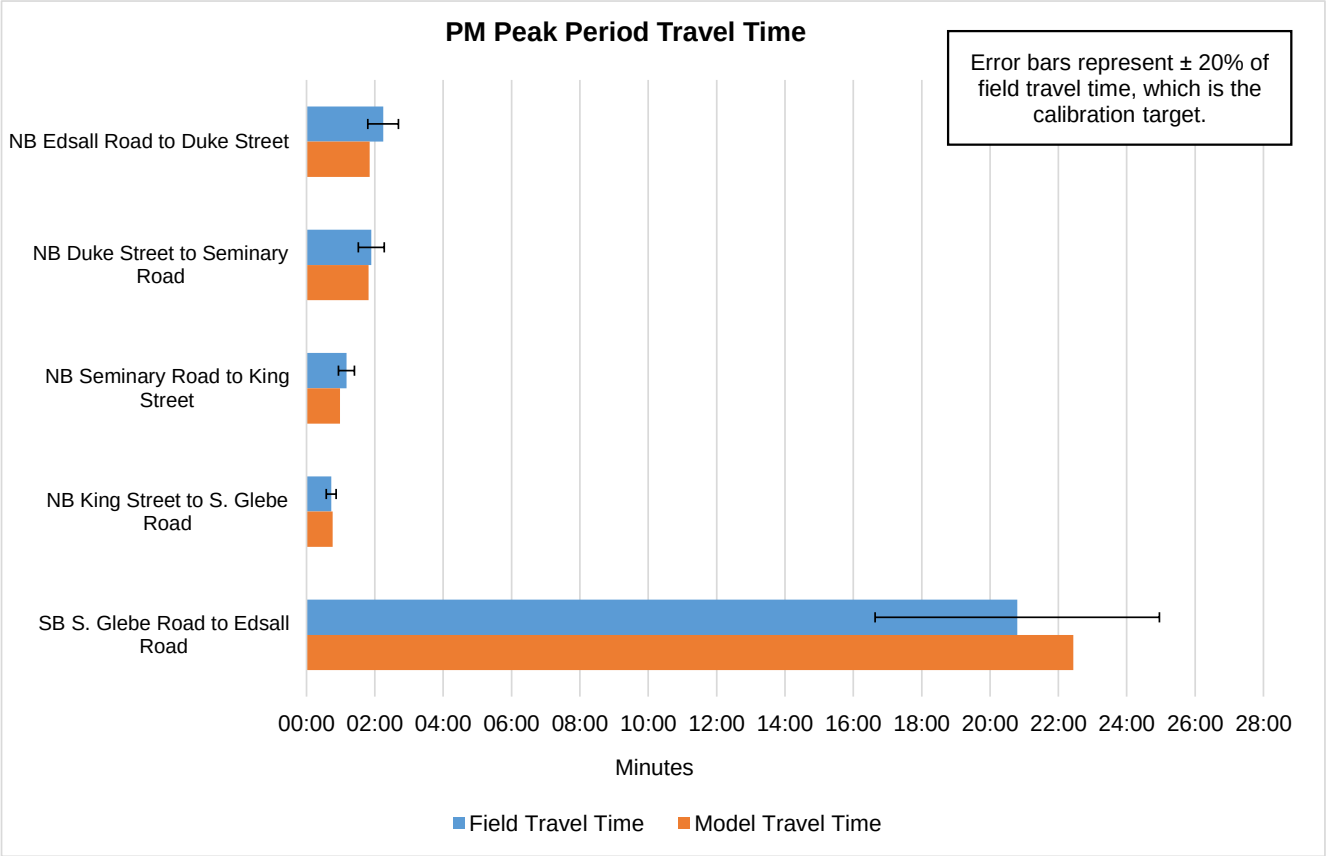
#	Intersection	Approach	Movement	Balanced Count (vph)		VISSIM Throughput (vph)		Difference (vph)		Difference (%)	
521	King St -Rt 7- and Menokin Dr	NB	U	0	155	0	150	0	-5	-	-3%
			LT	125		121		-4		-3%	
			TH	0		0		0		-	
			RT	30		29		-1		-3%	
		SB	U	0	0	0	0	0	0	-	-
			LT	0		0		0		-	
			TH	0		0		0		-	
			RT	0		0		0		-	
		EB	U	0	1,655	0	1,620	0	-35	-	-2%
			LT	0		0		0		-	
			TH	1,020		994		-26		-3%	
			RT	635		626		-9		-1%	
		WB	U	0	1,010	0	986	0	-24	-	-2%
			LT	110		111		1		1%	
			TH	900		875		-25		-3%	
			RT	0		0		0		-	
		Intersection		2,820		2,756		-64		-2%	
522	King St -Rt 7- and N. Dearing St	NB	U	0	120	0	118	0	-2	-	-2%
			LT	95		96		1		1%	
			TH	15		12		-3		-20%	
			RT	10		10		0		0%	
		SB	U	0	150	0	147	0	-3	-	-2%
			LT	30		28		-2		-7%	
			TH	25		25		0		0%	
			RT	95		94		-1		-1%	
		EB	U	15	1,050	0	1,021	-15	-29	-100%	-3%
			LT	105		103		-2		-2%	
			TH	785		779		-6		-1%	
			RT	145		139		-6		-4%	
		WB	U	0	870	0	859	0	-11	-	-1%
			LT	25		25		0		0%	
			TH	810		797		-13		-2%	
			RT	35		37		2		6%	
		Intersection		2,190		2,145		-45		-2%	

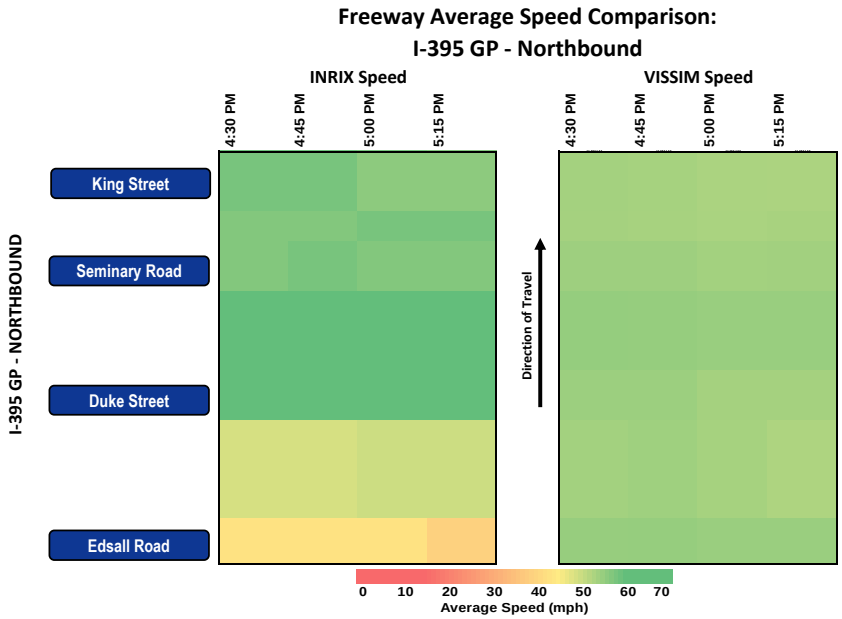
Travel Time Calibration

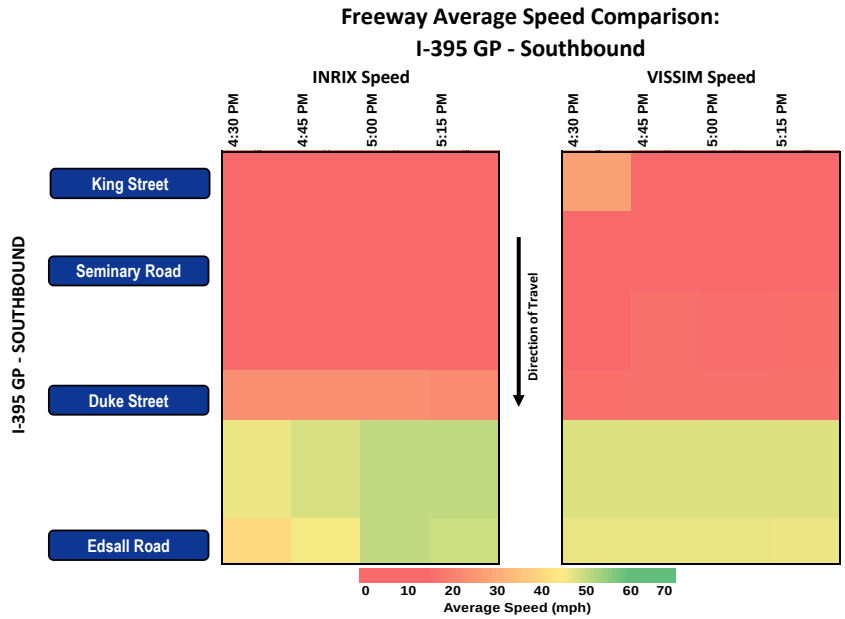
PM Peak Period (4:30 PM - 5:30 PM)

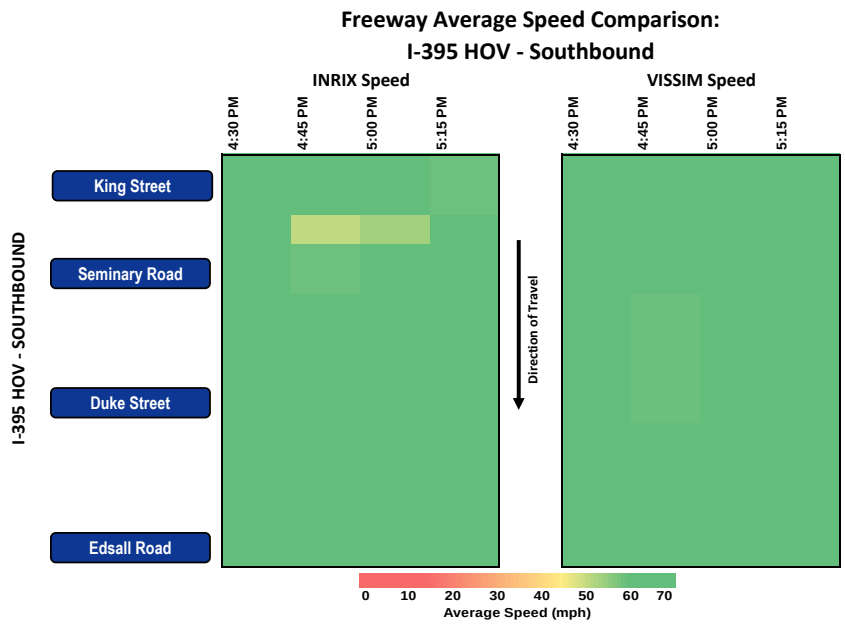
	Travel Time Criteria	Total	Percent	Target	Target Met
Routes (n = 5)	Within ± 20% for average travel time on freeways	5	100%	85%	Yes

Segment ID	Route	Peak Period Travel Time			
		Field/INRIX (MM:SS)	VISSIM (MM:SS)	Difference (MM:SS)	Difference (%)
1	NB Edsall Road to Duke Street	02:15	01:51	-00:23	-17%
2	NB Duke Street to Seminary Road	01:54	01:49	-00:05	-4%
3	NB Seminary Road to King Street	01:10	00:59	-00:11	-16%
4	NB King Street to S. Glebe Road	00:43	00:46	00:03	6%
5	SB S. Glebe Road to Edsall Road	20:48	22:26	01:38	8%




Freeway Average Speed Comparison:
I-395 GP - Northbound
INRIX Speed
VISSIM Speed
4:30 PM
4:45 PM
5:00 PM
5:15 PM
King Street
Seminary Road
Duke Street
Edsall Road
I-395 GP - NORTHBOUND
Direction of Travel
0 10 20 30 40 50 60 70
Average Speed (mph)


Freeway Average Speed Comparison:
I-395 GP - Southbound
INRIX Speed
VISSIM Speed
4:30 PM
4:45 PM
5:00 PM
5:15 PM
King Street
Seminary Road
Duke Street
Edsall Road
I-395 GP - SOUTHBOUND
Direction of Travel
0 10 20 30 40 50 60 70
Average Speed (mph)


Freeway Average Speed Comparison:
I-395 HOV - Southbound
INRIX Speed
VISSIM Speed
4:30 PM
4:45 PM
5:00 PM
5:15 PM
King Street
Seminary Road
Duke Street
Edsall Road
I-395 HOV - SOUTHBOUND
Direction of Travel
0 10 20 30 40 50 60 70
Average Speed (mph)

Queue Length Calibration

PM Peak Period (4:30 PM - 5:30 PM)

	Queue Criteria	Total	Percent	Target	Target Met
Approaches (n = 4)	Modeled queues qualitatively reflect the impacts of observed queues (e.g., spillback from ramp intersections, turn bay, or downstream intersection)	4	100%	85%	Yes

Interchange	Location	Observed Max Queue (feet)	VISSIM Max Queue (feet)	Max Queue Difference (feet)	Max Queue Difference (%)	Field Conditions Represented (Yes/No)	Field-Observed Queue Description	VISSIM Queue Description
Duke Street	Ramp from Duke Street westbound to I-395 southbound	1,500	1,423	-77	-5%	Y	Queue extends to diverge with Ramp from Duke Street westbound to I-395 northbound. Rolling queue, vehicles are not completely stopped.	Queue occasionly extends to I-395 NB on-ramp from Duke westbound but dissipates soon. Most of time stays within SB loop on-ramp.
Seminary Road	Ramp from Seminary Road westbound to I-395 southbound	1,500	1,361	-139	-9%	Y	Queue extends to right turn off of seminary road westbound, splilling back onto Seminary Road mainline. Traffic is completely stopped.	Queue extends to Mark Center Ave intersection from time to time.
	Ramp from I-395 HOV southbound to Seminary Road	0	119	119	-	Y	No queue observed.	No queue observed.
	Ramp from Seminary Road to I-395 HOV southbound	0	0	0	-	Y	No queue observed.	No queue observed.

* 5PM Typical Traffic on Wednesday

APPENDIX D: 2020 NO-BUILD AND BUILD AM PEAK PERIOD OPERATIONAL ANALYSIS SUMMARY TABLES

- **Freeway and Ramp Volume and MOEs Comparison**
- **Intersection Volume and MOE Comparison**
- **Travel Time Comparison**
- **Targeted Queue Location Comparison**
- **Speed Heat Maps**

2020 Freeway and Ramp Volume and MOEs Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

Facility	Segment	Type	Existing AM			2020 No-Build AM			2020 Build AM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
NB I-395 GP	Mainline south of Turkeycock	Basic/Diverge	3,704	57	16.3	3,953	17	59.9	3,951	19	56.9
	Between off-ramp to HOV NB and on-ramp from HOT NB at Turkeycock	Basic	3,504	39	38.1	3,757	36	38.0	3,768	43	29.0
	Between on-ramp from HOT NB at Turkeycock and off-ramp to Duke Street EB	Merge/Diverge	4,534	15	99.5	4,387	34	39.7	4,387	48	22.1
	Between off-ramp to Duke Street EB and off-ramp to Duke Street WB	Diverge	4,037	16	68.0	3,895	29	50.1	3,899	51	19.3
	Between off-ramp to Duke Street WB and on-ramp from Duke Street	Basic	3,499	15	79.5	3,289	23	66.0	3,347	48	25.4
	Between on-ramp from Duke Street EB and off-ramp to Seminary Road	Merge/Basic/Diverge	4,472	18	63.6	4,257	25	43.7	4,423	38	32.2
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	3,176	13	84.6	2,861	41	29.0	3,072	23	58.6
	Between on-ramp from Seminary Road and off-ramp to King Street EB	Merge/Diverge	4,458	14	71.6	4,224	32	37.1	4,430	19	59.4
	Between off-ramp to King Street and on-ramp from King Street	Basic	4,180	25	55.7	3,930	32	43.4	4,152	27	52.1
	Between on-ramp from King Street EB and on-ramp from King Street WB	Merge	4,622	30	46.3	4,342	36	37.1	4,543	33	41.6
	Mainline north of King Street	Weave	5,681	36	36.2	5,407	36	34.2	5,574	36	35.4
SB I-395 GP	Mainline north of King Street	Weave	3,822	57	13.4	3,900	57	13.6	3,890	57	13.6
	Between off-ramp to King Street EB & WB and on-ramp from King Street WB	Basic	3,068	57	13.4	3,124	57	13.7	3,115	57	13.6
	Between on-ramp from King Street WB and on-ramp from King Street EB	Merge	3,402	56	14.3	3,464	56	14.5	3,450	56	14.5
	Between on-ramp from King Street EB and off-ramp to Seminary Road	Weave	3,765	56	13.5	3,856	55	13.9	3,844	55	13.9
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	3,153	57	13.7	3,235	57	14.1	3,231	57	14.1
	Between on-ramp from Seminary Road and off-ramp to Duke Street WB	Merge/Basic/Diverge	3,977	57	16.5	4,119	57	17.1	4,136	57	17.1
	Between off-ramp to Duke Street WB and on-ramp from Duke Street WB	Basic	3,583	56	18.1	3,305	57	14.3	3,306	57	14.3
	Between on-ramp from Duke Street WB and off-ramp to Duke Street EB	Weave	4,030	48	20.9	3,982	57	16.8	3,976	57	16.7
	Between off-ramp to Duke Street EB and on-ramp from Duke Street EB	Basic	3,698	56	22.0	3,302	57	17.0	3,303	57	16.9
	Between on-ramp from Duke Street EB and off-ramp to HOT SB at Turkeycock	Merge/Diverge	4,194	55	23.0	3,982	57	17.5	3,975	57	17.4
	Between off-ramp to HOT SB and on-ramp from HOV SB at Turkeycock	Basic	4,196	56	24.9	3,979	57	17.5	3,972	57	17.4
	Mainline south of Turkeycock	Merge/Basic	4,198	57	18.5	4,439	57	15.6	4,439	57	15.6

Facility	Segment	Type	Existing AM			2020 No-Build AM			2020 Build AM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
NB I-395 HOV/HOT	Mainline south of Turkeycock	Basic/Diverge	3,018	40	56.3	3,142	66	14.9	3,248	66	15.4
	Between off-ramp to GP and on-ramp from GP at Turkeycock	Basic	2,048	58	19.7	2,465	67	11.7	2,637	67	12.6
	Between on-ramp from GP at Turkeycock to off-ramp to Seminary Road	Merge/Basic/Diverge	2,273	66	16.6	2,633	68	12.8	2,835	68	13.8
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	2,005	67	15.0	2,434	68	12.0	2,482	68	12.2
	Mainline north of King Street	Merge/Basic	2,140	67	15.7	2,656	67	13.0	2,707	67	13.2

Facility	Segment	Type	Existing AM			2020 No-Build AM			2020 Build AM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
Duke Street Interchange Ramps	I-395 NB to Duke St EB		500	43	11.7	478	44	10.9	489	44	11.1
	I-395 NB to Duke St WB		531	29	18.0	518	29	17.6	557	29	18.9
	Duke St WB to I-395 NB		440	44	10.1	478	42	12.0	478	43	11.0
	Duke St EB to I-395 NB		612	41	14.8	617	40	15.4	621	41	15.1
	I-395 SB to Duke St WB		405	44	7.5	820	42	7.6	831	42	7.6
	I-395 SB to Duke St EB		430	30	14.2	426	8	26.0	439	8	26.5
	Duke St WB to I-395 SB		546	29	18.5	676	36	18.9	669	36	18.7
	Duke St EB to I-395 SB		495	44	11.1	468	44	10.5	473	44	10.5
Seminary Road Interchange Ramps	I-395 NB to Seminary Rd		1,290	22	36.2	1,394	5	151.6	1,352	13	72.0
	Seminary Rd to I-395 NB		1,293	33	20.2	1,328	42	16.1	1,354	36	19.3
	I-395 SB to Seminary Rd		646	48	6.7	653	49	6.7	644	48	6.6
	Seminary Rd to I-395 SB		831	40	20.5	896	40	22.1	915	40	22.6
	I-395 HOV/HOT NB to Seminary Rd		284	17	8.3	224	21	5.3	378	21	8.9
	Seminary Rd to I-395 HOV/HOT NB		125	42	2.9	206	42	4.9	212	42	5.0
King Street Interchange Ramps	I-395 NB to King St EB		130	36	3.6	141	36	3.9	147	36	4.1
	I-395 NB to King St WB		151	32	4.7	160	32	4.9	135	32	4.2
	King St WB to I-395 NB		964	37	13.0	969	37	13.1	938	37	12.6
	King St EB to I-395 NB		437	29	15.1	411	29	14.1	392	29	13.4
	I-395 SB to King St WB		584	36	16.2	592	36	16.4	592	36	16.4
	I-395 SB to King St EB		180	35	5.2	182	35	5.2	181	35	5.2
	King St WB to I-395 SB		333	33	9.8	341	33	10.1	335	33	10.0
	King St EB to I-395 SB		391	34	11.5	425	34	12.5	428	34	12.6
Turkeycock Interchange Ramps	I-395 GP NB to I-395 HOV NB		977	20	93.1	680	44	15.5	612	46	13.2
	Seminary Rd to I-395 HOV/HOT NB		224	41	5.5	159	41	3.9	186	41	4.6

2020 Intersection Volume and MOEs Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

#	Intersection	Approach	Movement	Existing AM				2020 No-Build AM				2020 Build AM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
311	Duke St and Oasis Dr and Right-in-Right-out at Shopping Plaza	NB	RT	21.3	21.3	C	C	26.3	26.3	C	C	24.3	24.3	C	C
		SB	RT	0.3	0.3	A	A	0.3	0.3	A	A	0.3	0.3	A	A
		EB	TH	3.8	3.8	A	A	4.2	4.2	A	A	3.6	3.6	A	A
			RT	2.3		A		3.6		A		3.0		A	
		WB	LT	19.2	11.8	B	B	22.1	16.4	C	B	20.3	15.0	C	B
			TH	11.9		B		16.9		B		15.4		B	
			RT	1.9		A		4.3		A		4.2		A	
		Intersection		8.5		A		11.3		B		10.3		B	
312	Duke St and N. Beauregard St	NB	LT	90.7	85.6	F	F	88.8	84.9	F	F	89.4	85.1	F	F
			TH	88.5		F		90.0		F		88.9		F	
			RT	73.1		E		69.6		E		70.9		E	
		SB	LT	71.3	59.8	E	E	72.6	59.1	E	E	72.7	59.3	E	E
			TH	74.0		E		72.5		E		72.2		E	
			RT	10.1		B		10.4		B		11.1		B	
		EB	LT	87.4	42.0	F	D	90.1	44.5	F	D	89.5	44.2	F	D
			TH	28.7		C		29.5		C		29.2		C	
			RT	25.2		C		23.3		C		25.6		C	
		WB	LT	108.2	28.3	F	C	109.8	27.0	F	C	109.8	26.2	F	C
			TH	32.5		C		31.5		C		30.8		C	
			RT	15.0		B		12.5		B		11.4		B	
		Intersection		41.6		D		41.7		D		41.3		D	
321	Duke St and S. Walker St - include the ramp to the mall	NB	LT	51.5	44.4	D	D	52.9	45.7	D	D	53.0	45.5	D	D
			RT	4.5		A		4.6		A		4.4		A	
		SB	LT	68.1	59.4	E	E	64.8	56.9	E	E	69.7	61.4	E	E
			RT	57.1		E		55.3		E		59.0		E	
		EB	TH	19.5	17.0	B	B	21.9	19.1	C	B	22.1	19.5	C	B
			RT	4.7		A		6.1		A		6.3		A	
		WB	LT	68.5	14.7	E	B	72.4	16.7	E	B	69.8	16.5	E	B
			TH	13.0		B		14.9		B		14.7		B	
		Intersection		21.8		C		23.9		C		24.1		C	
300	Duke St and I-395 Southbound Off-Ramp (Signal Added in 2020 and 2040 Scenarios)	SB	LT	Signal not built in Existing Conditions.				37.1	37.1	D	D	36.6	36.6	D	D
		EB	TH					6.9	6.9	A	A	7.2	7.2	A	A
		WB	TH					8.4	8.4	A	A	8.5	8.5	A	A
		Intersection						12.3		B		12.4		B	

#	Intersection	Approach	Movement	Existing AM				2020 No-Build AM				2020 Build AM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
401	Seminary Rd and I-395 Northbound Off-Ramp	NB	TH	53.6	46.9	D	D	59.4	52.7	E	D	57.1	50.5	E	D
			RT	13.3		B		14.8		B		13.4		B	
		EB	LT	8.0	6.7	A	A	8.6	7.1	A	A	8.6	7.1	A	A
			TH	2.3		A		2.1		A		2.3		A	
		Intersection		31.2		C		35.4		D		33.5		C	
402	Seminary Rd and I-395 Northbound On-Ramp	NB	LT	1.3	1.2	A	A	1.4	1.3	A	A	1.5	1.3	A	A
			TH	1.0		A		1.0		A		1.0		A	
		WB	TH	76.3	24.6	E	C	84.6	27.7	F	C	81.8	25.1	F	C
			RT	0.6		A		0.9		A		0.8		A	
		Intersection		9.8		A		11.2		B		10.2		B	
403	Seminary Rd and I-395 Southbound Off-Ramp	SB	TH	74.6	27.8	E	C	76.2	29.0	E	C	75.9	30.3	E	C
			RT	5.0		A		5.0		A		4.7		A	
		WB	LT	2.2	1.2	A	A	2.1	1.2	A	A	1.8	1.0	A	A
			TH	0.9		A		1.0		A		0.8		A	
		Intersection		9.3		A		9.5		A		10.0		A	
404	Seminary Rd and I-395 Southbound On-Ramp	SB	LT	1.4	1.4	A	A	1.6	1.9	A	A	1.6	2.1	A	A
			TH	1.4		A		2.1		A		2.5		A	
		EB	TH	65.6	35.5	E	D	65.5	33.9	E	C	65.1	33.0	E	C
			RT	0.5		A		0.6		A		0.6		A	
		Intersection		25.8		C		24.9		C		24.7		C	
405	Seminary Rd and I-395 Northbound HOV Off-Ramp	NB	LT	25.8	25.5	C	C	17.4	17.7	B	B	16.9	17.2	B	B
			RT	25.0		C		18.3		B		17.9		B	
		EB	TH	5.3	5.3	A	A	5.2	5.2	A	A	7.1	7.1	A	A
		WB	TH	7.1	7.1	A	A	5.6	5.6	A	A	7.7	7.7	A	A
		Intersection		9.7		A		7.9		A		10.4		B	
411	Seminary Rd and Mark Center Ave	NB	LT	60.1	38.8	E	D	63.2	40.1	E	D	66.9	40.3	E	D
			TH	63.3		E		68.5		E		63.1		E	
			RT	32.0		C		31.6		C		32.6		C	
		SB	LT	54.4	43.7	D	D	53.1	42.0	D	D	52.1	41.5	D	D
			TH	54.4		D		55.2		E		55.8		E	
			RT	11.7		B		10.1		B		9.9		A	
		EB	LT	83.3	22.5	F	C	81.8	21.6	F	C	82.8	21.0	F	C
			TH	19.8		B		18.6		B		17.9		B	
			RT	17.1		B		16.3		B		16.7		B	
		WB	LT	60.4	30.8	E	C	61.0	26.1	E	C	61.8	27.7	E	C
			TH	27.1		C		21.2		C		23.4		C	
			RT	13.6		B		9.6		A		12.2		B	
		Intersection		29.5		C		26.7		C		27.3		C	
412	Seminary Rd and N. Beauregard St	NB	LT	69.4	36.0	E	D	80.8	40.4	F	D	73.1	37.5	E	D
			TH	51.2		D		52.0		D		52.0		D	
			RT	1.8		A		1.7		A		1.8		A	
		SB	LT	139.1	83.8	F	F	116.7	75.8	F	E	124.0	77.1	F	E
			TH	58.8		E		59.5		E		58.0		E	
			RT	39.2		D		44.8		D		40.9		D	
		EB	LT	118.6	38.0	F	D	113.2	35.3	F	D	114.0	35.8	F	D
			TH	41.7		D		40.1		D		40.2		D	
			RT	10.4		B		8.5		A		8.6		A	
		WB	LT	61.4	32.0	E	C	43.9	22.1	D	C	49.0	24.9	D	C
			TH	15.0		B		8.1		A		9.6		A	
			RT	4.9		A		2.5		A		2.9		A	
		Intersection		38.4		D		34.5		C		35.0		D	

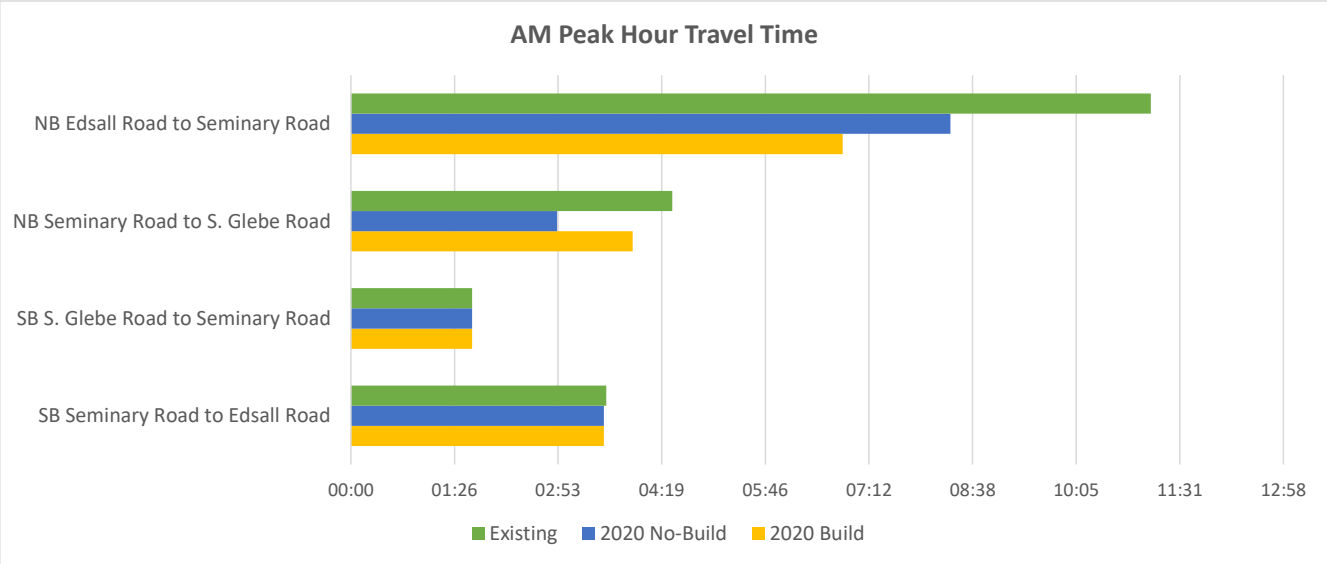
#	Intersection	Approach	Movement	Existing AM				2020 No-Build AM				2020 Build AM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
421	Seminary Rd and Kenmore Ave-Library Lane	NB	LT	65.9	65.7	E	E	63.3	62.5	E	E	62.8	62.5	E	E
			TH	64.7		E		63.3		E		64.6		E	
			RT	65.8		E		60.3		E		60.4		E	
		SB	LT	64.2	62.9	E	E	64.5	64.9	E	E	64.5	64.7	E	E
			TH	63.2		E		63.9		E		64.6		E	
			RT	61.6		E		65.4		E		64.9		E	
		EB	LT	18.5	10.7	B	B	13.4	10.0	B	A	13.5	9.6	B	A
			TH	9.1		A		9.4		A		8.9		A	
			RT	16.6		B		7.3		A		8.4		A	
		WB	LT	8.1	4.5	A	A	5.3	3.7	A	A	5.5	3.6	A	A
			TH	4.5		A		3.6		A		3.5		A	
			RT	4.7		A		4.1		A		4.0		A	
		Intersection		10.6		B		10.1		B		9.8		A	
422	Seminary Rd and Seminary Rd - The Encore entrance	NB	LT	54.8	48.8	D	D	54.4	47.3	D	D	54.5	47.2	D	D
			RT	37.2		D		35.4		D		35.0		C	
		SB	LT	53.2	14.0	D	B	55.8	18.7	E	B	55.5	17.6	E	B
			RT	6.9		A		7.9		A		7.8		A	
		EB	LT	21.5	6.5	C	A	22.2	6.1	C	A	18.2	5.8	B	A
			TH	6.4		A		5.9		A		5.7		A	
		WB	TH	5.5	5.5	A	A	5.1	5.1	A	A	5.2	5.2	A	A
			RT	4.8		A		5.3		A		5.6		A	
		Intersection		8.3		A		8.2		A		8.1		A	
423	Seminary Rd and N. Pickett St	NB	LT	59.8	40.0	E	D	62.1	37.9	E	D	61.6	40.0	E	D
			RT	19.6		B		18.7		B		20.6		C	
		EB	TH	9.0	8.8	A	A	9.2	9.0	A	A	9.7	9.4	A	A
			RT	7.6		A		7.3		A		7.8		A	
		WB	LT	15.6	7.6	B	A	10.1	5.6	B	A	11.4	6.0	B	A
			TH	7.1		A		5.3		A		5.6		A	
		Intersection		10.8		B		9.8		A		10.4		B	
424	Seminary Rd and N. Jordan St	NB	LT	49.6	44.2	D	D	51.8	45.2	D	D	52.0	45.1	D	D
			RT	14.8		B		13.5		B		12.9		B	
		EB	TH	9.1	8.8	A	A	6.4	6.2	A	A	6.5	6.4	A	A
			RT	7.2		A		5.2		A		5.8		A	
		WB	LT	19.6	7.6	B	A	15.4	6.5	B	A	13.2	6.5	B	A
			TH	7.4		A		6.3		A		6.3		A	
		Intersection		15.1		B		13.8		B		13.7		B	
425	Seminary Rd and N. Howard St	NB	LT	38.8	49.2	D	D	40.3	50.4	D	D	40.1	50.4	D	D
			TH	56.1		E		56.4		E		56.4		E	
			RT	45.6		D		48.7		D		49.0		D	
		SB	LT	42.0	39.3	D	D	41.8	39.7	D	D	41.9	39.6	D	D
			TH	52.9		D		52.3		D		51.6		D	
			RT	19.7		B		19.0		B		19.1		B	
		EB	LT	42.1	33.1	D	C	31.6	25.3	C	C	34.9	27.5	C	C
			TH	33.3		C		27.5		C		28.8		C	
			RT	19.0		B		11.4		B		13.5		B	
		WB	LT	17.0	24.6	B	C	15.3	21.7	B	C	15.3	21.8	B	C
			TH	24.6		C		21.8		C		22.0		C	
			RT	26.5		C		23.4		C		23.2		C	
		Intersection		33.0		C		30.1		C		30.7		C	

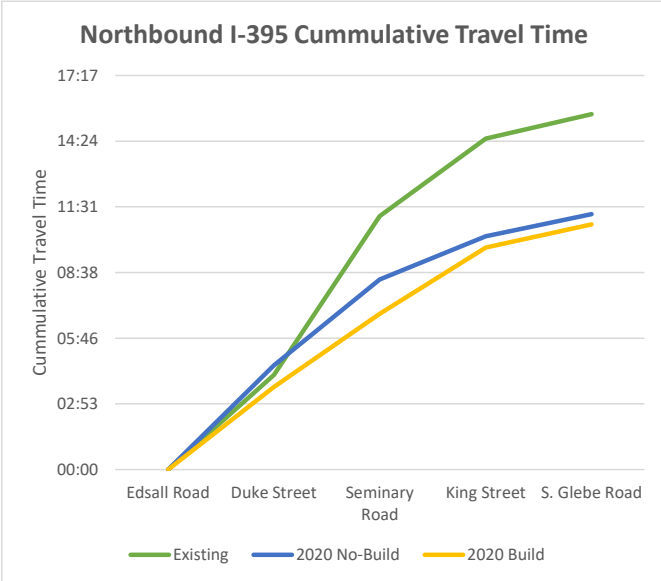
#	Intersection	Approach	Movement	Existing AM				2020 No-Build AM				2020 Build AM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
426	Seminary Rd and St. Stephens Rd	NB	LT	21.7	20.2	C	C	21.1	19.2	C	B	20.8	19.2	C	B
			RT	14.3		B		13.0		B		13.9		B	
		EB	TH	6.4	6.0	A	A	5.6	5.3	A	A	5.7	5.4	A	A
			RT	4.4		A		4.2		A		4.2		A	
		WB	LT	14.6	9.0	B	A	13.2	8.0	B	A	14.1	8.4	B	A
			TH	8.4		A		7.2		A		7.6		A	
		Intersection		9.4		A		8.5		A		8.8		A	
427	Seminary Rd and Fort Williams Pkwy	NB	LT	5.2	4.5	A	A	4.6	3.8	A	A	4.7	3.9	A	A
			RT	2.4		A		1.9		A		1.8		A	
		EB	TH	0.3	0.3	A	A	0.3	0.3	A	A	0.3	0.3	A	A
			RT	0.7		A		0.7		A		0.8		A	
		WB	LT	3.7	0.7	A	A	3.1	0.6	A	A	2.8	0.6	A	A
			TH	0.6		A		0.6		A		0.5		A	
		Intersection		0.9		A		0.8		A		0.8		A	
428	Seminary Rd and N. Quaker Lane	NB	LT	77.8	50.3	E	D	58.9	40.4	E	D	65.0	42.7	E	D
			TH	29.3		C		28.3		C		28.2		C	
			RT	25.9		C		24.1		C		24.2		C	
		SB	LT	45.1	34.0	D	C	50.4	36.3	D	D	53.9	37.1	D	D
			TH	31.6		C		32.9		C		33.1		C	
			RT	25.7		C		27.1		C		27.2		C	
		EB	LT	26.5	31.8	C	C	22.2	29.5	C	C	23.5	28.9	C	C
			TH	36.3		D		34.6		C		32.7		C	
			RT	27.9		C		25.7		C		26.0		C	
		WB	LT	25.0	27.6	C	C	24.6	24.5	C	C	25.8	24.3	C	C
			TH	32.3		C		29.4		C		29.0		C	
			RT	19.7		B		17.2		B		16.7		B	
		Intersection		39.7		D		35.1		D		36.2		D	
511	King St -Rt 7- and Park Center Dr	NB	LT	53.3	25.2	D	C	56.6	26.9	E	C	56.2	28.0	E	C
			RT	20.0		B		21.5		C		22.8		C	
		EB	TH	11.4	11.4	B	B	12.4	12.3	B	B	12.5	12.4	B	B
			RT	10.2		B		9.2		A		9.6		A	
		WB	LT	15.9	6.2	B	A	16.2	6.6	B	A	17.2	6.7	B	A
			TH	5.1		A		5.4		A		5.4		A	
		Intersection		11.2		B		12.1		B		12.4		B	
521	King St -Rt 7- and Menokin Dr	NB	LT	31.5	31.4	C	C	33.2	32.9	C	C	32.9	32.7	C	C
			RT	29.2		C		27.6		C		30.2		C	
		EB	TH	20.5	19.9	C	B	18.1	17.7	B	B	18.7	18.3	B	B
			RT	15.3		B		14.3		B		14.9		B	
		WB	LT	19.6	16.7	B	B	18.4	14.8	B	B	18.4	14.8	B	B
			TH	16.6		B		14.7		B		14.7		B	
		Intersection		21.6		C		19.9		B		20.1		C	
522	King St -Rt 7- and N. Dearing St	NB	LT	37.9	37.9	D	D	37.7	37.6	D	D	37.9	37.9	D	D
			TH	37.7		D		37.5		D		38.5		D	
			RT	39.3		D		36.6		D		36.7		D	
		SB	LT	45.9	31.8	D	C	46.8	33.8	D	C	45.9	33.4	D	C
			TH	53.8		D		57.1		E		58.1		E	
			RT	26.2		C		28.5		C		28.1		C	
		EB	LT	14.6	11.8	B	B	15.8	11.1	B	B	14.6	11.2	B	B
			TH	11.5		B		10.7		B		10.9		B	
			RT	11.9		B		10.8		B		10.8		B	
		WB	LT	11.6	13.3	B	B	13.5	13.7	B	B	11.1	13.7	B	B
			TH	13.4		B		13.8		B		13.8		B	
			RT	11.5		B		10.1		B		11.0		B	
		Intersection		16.9		B		16.8		B		16.8		B	

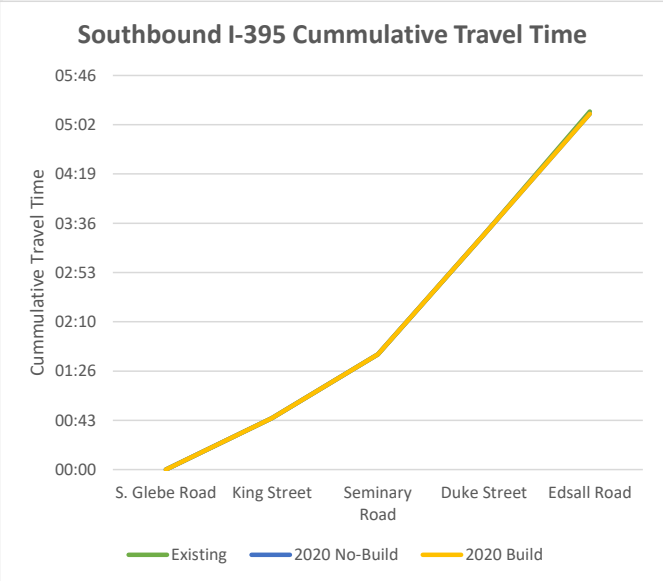
2020 Travel Time Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

Segment ID: Description of Route	AM Peak Hour Travel Time				
	Existing VISSIM (MM:SS)	2020 No-Build VISSIM (MM:SS)	2020 Build VISSIM (MM:SS)	Difference between No-Build and Build (MM:SS)	Percent Difference between No-Build and Build
NB Edsall Road to Seminary Road	11:07	08:20	06:50	- 01:30	- 19.8%
NB Seminary Road to S. Glebe Road	04:28	02:52	03:55	01:03	31.0%
NB Total	**15:35**	**11:12**	**10:45**	**- 00:27**	**- 4.1%**
SB S. Glebe Road to Seminary Road	01:41	01:41	01:41	00:00	0.0%
SB Seminary Road to Edsall Road	03:33	03:31	03:31	00:00	0.0%
SB Total	**05:14**	**05:12**	**05:12**	**00:00**	**0.0%**







2020 Targeted Queue Location Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

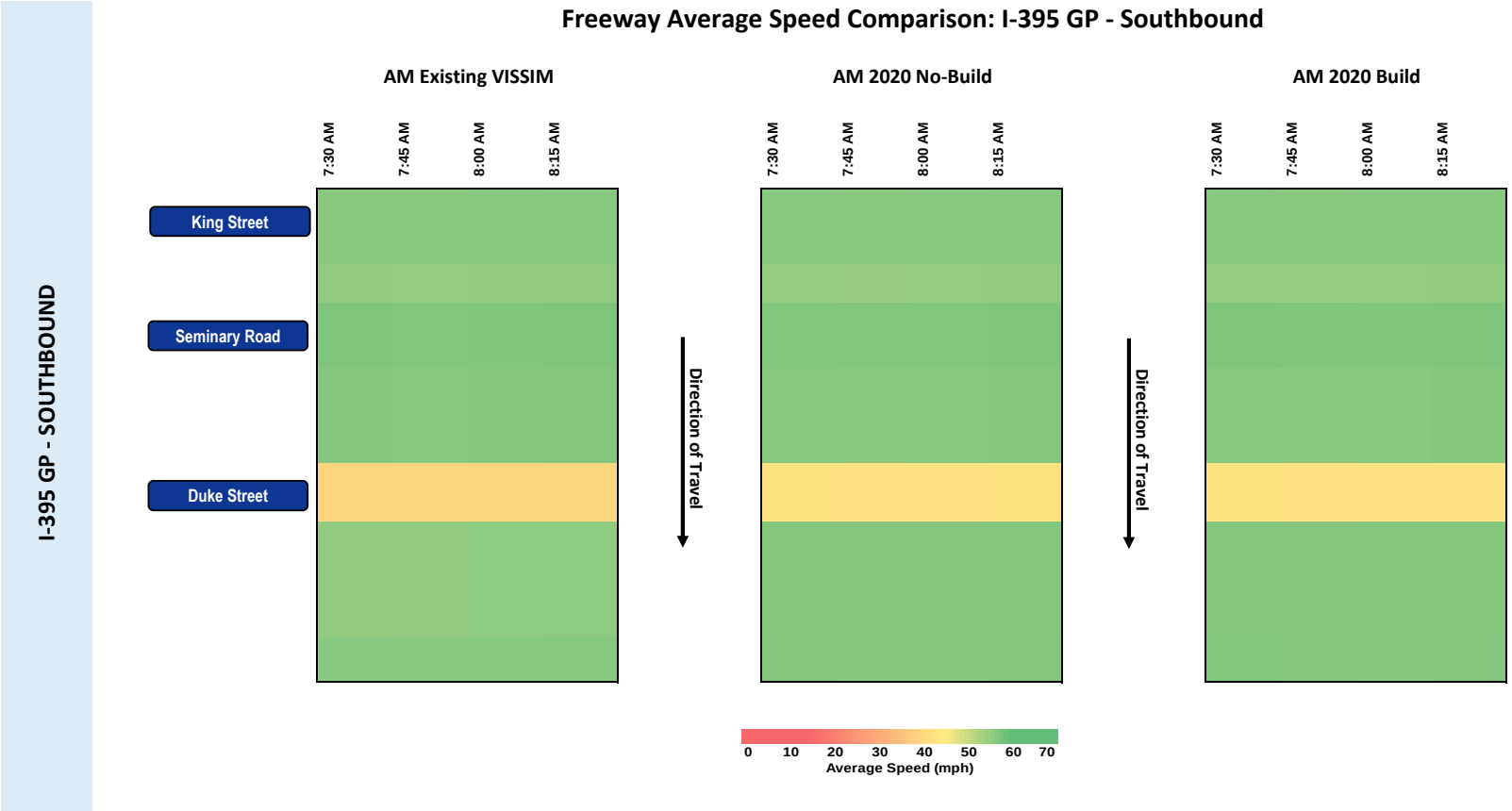
Interchange	Location	Approximate Storage (feet)	AM Vissim Max Queue Length (feet)		
			Existing	2020 No-Build	2020 Build
Duke Street	Ramp from Duke Street westbound to I-395 southbound	2,500	0	0	0
Seminary Road	Ramp from Seminary Road westbound to I-395 southbound	1,300	0	0	0
	Ramp from I-395 HOV northbound to Seminary Road	1,100	140	104	146
	Ramp from Seminary Road to I-395 HOV northbound	2,600	0	0	0

2020 Speed Heat Map Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

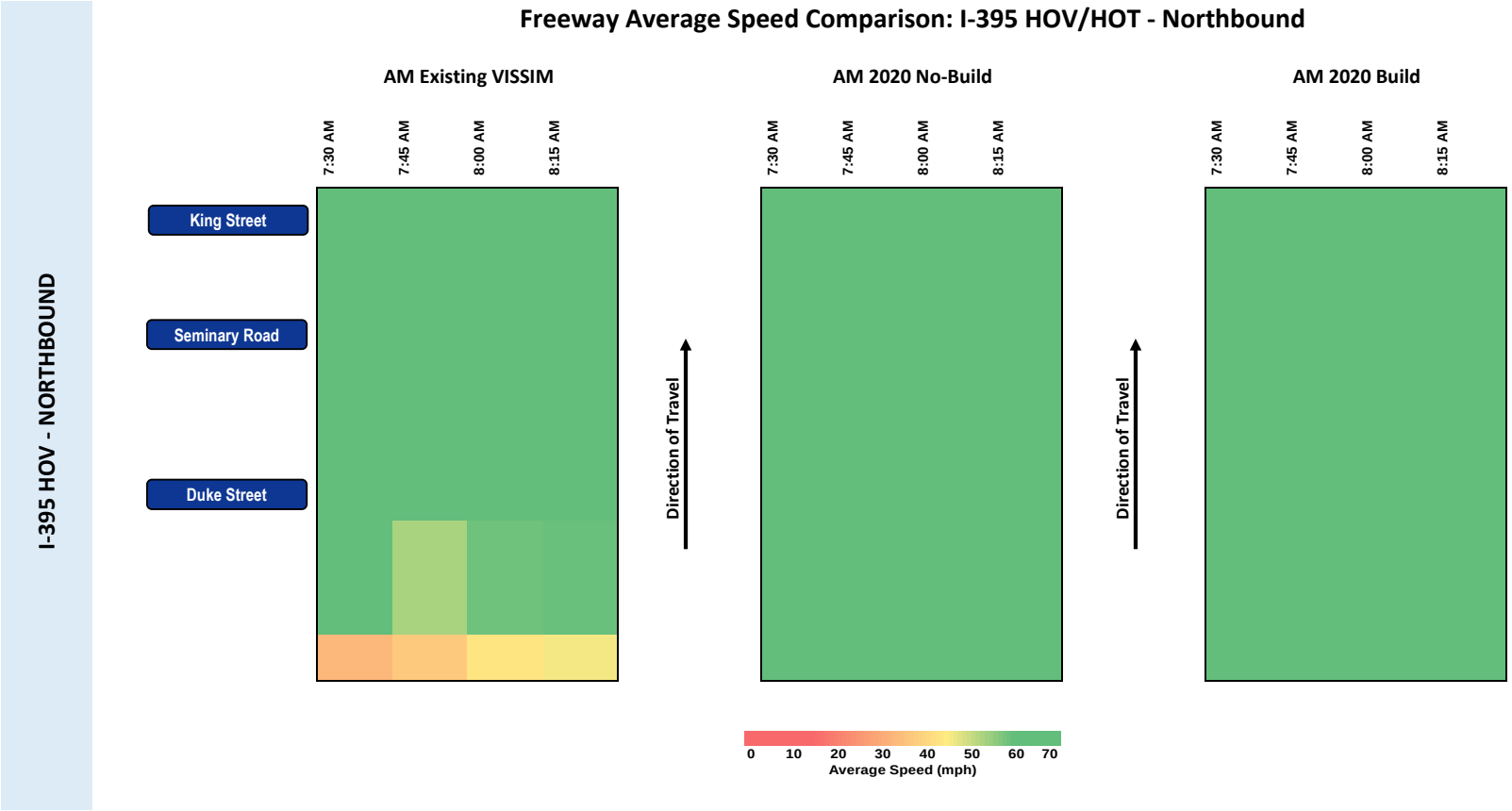
2020 Speed Heat Map Comparison

AM Peak Hour (7:30 AM - 8:30 AM)



2020 Speed Heat Map Comparison

AM Peak Hour (7:30 AM - 8:30 AM)



APPENDIX E: 2020 NO-BUILD AND BUILD PM PEAK PERIOD OPERATIONAL ANALYSIS SUMMARY TABLES

- **Freeway and Ramp Volume and MOEs Comparison**
- **Intersection Volume and MOE Comparison**
- **Travel Time Comparison**
- **Targeted Queue Location Comparison**
- **Speed Heat Maps**

2020 Freeway and Ramp Volume and MOEs Comparison

PM Peak Hour (4:30 PM - 5:30 PM)

Facility	Segment	Type	Existing PM			2020 No-Build PM			2020 Build PM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
NB I-395 GP	Mainline south of Turkeycock	Basic/Diverge	5,783	55	26.3	5,937	55	27.0	5,947	55	27.1
	Between off-ramp to HOV NB and on-ramp from HOT NB at Turkeycock	Basic	5,777	55	35.2	5,930	55	36.3	5,941	55	36.3
	Between on-ramp from HOT NB at Turkeycock and off-ramp to Duke Street EB	Merge/Diverge	5,775	53	26.3	5,927	51	28.2	5,933	52	27.6
	Between off-ramp to Duke Street EB and off-ramp to Duke Street WB	Diverge	5,191	53	24.4	5,333	52	25.4	5,344	53	25.2
	Between off-ramp to Duke Street WB and on-ramp from Duke Street	Basic	4,755	55	28.7	4,865	55	29.4	4,891	55	29.6
	Between on-ramp from Duke Street EB and off-ramp to Seminary Road	Merge/Basic/Diverge	5,756	55	25.7	5,902	55	26.4	5,932	55	26.6
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	4,982	54	30.6	5,125	54	31.5	5,142	54	31.8
	Between on-ramp from Seminary Road and off-ramp to King Street EB	Merge/Diverge	5,934	53	25.0	6,077	54	25.5	6,092	54	25.6
	Between off-ramp to King Street and on-ramp from King Street	Basic	5,213	55	31.7	5,358	54	32.7	5,347	54	32.7
	Between on-ramp from King Street EB and on-ramp from King Street WB	Merge	5,823	52	33.5	5,990	51	35.0	5,988	51	35.0
	Mainline north of King Street	Weave	5,991	56	26.8	6,151	56	27.6	6,155	56	27.6
SB I-395 GP	Mainline north of King Street	Weave	5,421	41	38.5	5,247	54	24.4	5,266	54	24.7
	Between off-ramp to King Street EB & WB and on-ramp from King Street WB	Basic	3,887	15	73.9	3,722	49	20.7	3,784	49	21.0
	Between on-ramp from King Street WB and on-ramp from King Street EB	Merge	4,011	14	77.2	3,906	51	18.1	3,952	51	18.3
	Between on-ramp from King Street EB and off-ramp to Seminary Road	Weave	4,143	9	104.4	4,227	55	15.3	4,266	55	15.4
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	3,491	6	148.9	3,668	55	16.9	3,706	55	17.1
	Between on-ramp from Seminary Road and off-ramp to Duke Street WB	Merge/Basic/Diverge	4,196	14	87.9	4,817	53	22.2	4,693	53	21.5
	Between off-ramp to Duke Street WB and on-ramp from Duke Street WB	Basic	3,925	17	67.7	3,925	57	17.1	3,761	57	16.4
	Between on-ramp from Duke Street WB and off-ramp to Duke Street EB	Weave	4,469	13	88.4	4,685	51	22.1	4,503	52	21.2
	Between off-ramp to Duke Street EB and on-ramp from Duke Street EB	Basic	4,312	38	37.7	3,916	51	22.3	3,750	52	21.3
	Between on-ramp from Duke Street EB and off-ramp to HOT SB at Turkeycock	Merge/Diverge	4,869	49	30.6	4,687	50	23.3	4,503	51	22.3
	Between off-ramp to HOT SB and on-ramp from HOV SB at Turkeycock	Basic	4,061	48	28.2	4,205	48	21.9	4,134	48	21.5
	Mainline south of Turkeycock	Merge/Basic	4,771	47	25.3	5,388	48	22.5	5,421	48	22.6

Facility	Segment	Type	Existing PM			2020 No-Build PM			2020 Build PM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
SB I-395 HOV/HOT	Mainline south of Turkeycock	Basic/Diverge	2,983	65	22.4	3,749	60	20.5	3,833	60	21.0
	Between off-ramp to GP and on-ramp from GP at Turkeycock	Basic	2,736	66	20.8	3,324	59	18.6	3,385	59	19.0
	Between on-ramp from GP at Turkeycock to off-ramp to Seminary Road	Merge/Basic/Diverge	2,965	61	24.4	3,513	66	17.1	3,765	66	18.4
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	2,233	63	17.0	2,812	67	13.8	2,958	67	14.6
	Mainline north of King Street	Merge/Basic	3,038	67	14.8	3,296	67	15.7	3,328	67	15.8

Facility	Segment	Type	Existing PM			2020 No-Build PM			2020 Build PM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
Duke Street Interchange Ramps	I-395 NB to Duke St EB		578	40	14.4	593	40	14.7	588	40	14.7
	I-395 NB to Duke St WB		428	26	16.4	456	26	17.4	448	26	17.0
	Duke St WB to I-395 NB		625	40	15.5	643	40	15.9	645	40	16.0
	Duke St EB to I-395 NB		400	38	10.4	411	38	10.6	418	38	10.8
	I-395 SB to Duke St WB		475	40	9.7	884	38	11.8	919	38	12.1
	I-395 SB to Duke St EB		268	27	10.0	329	8	20.5	352	8	21.8
	Duke St WB to I-395 SB		612	23	29.2	777	33	23.7	761	33	23.0
	Duke St EB to I-395 SB		559	41	13.3	501	42	11.8	509	41	12.1
Seminary Road Interchange Ramps	I-395 NB to Seminary Rd		771	43	8.9	778	43	8.9	791	43	9.1
	Seminary Rd to I-395 NB		956	42	11.4	948	42	11.4	949	42	11.4
	I-395 SB to Seminary Rd		624	44	7.0	591	46	6.4	592	46	6.4
	Seminary Rd to I-395 SB		905	9	117.3	1,102	40	27.6	941	40	23.3
	I-395 HOV/HOT SB to Seminary Rd		228	40	6.7	190	38	11.1	380	38	11.4
	Seminary Rd to I-395 HOV/HOT SB		241	39	2.9	405	40	2.4	432	40	4.8
King Street Interchange Ramps	I-395 NB to King St EB		311	32	9.6	300	32	9.3	300	32	9.3
	I-395 NB to King St WB		399	29	13.9	419	28	14.7	431	28	15.1
	King St WB to I-395 NB		185	34	2.7	169	34	2.5	175	34	2.6
	King St EB to I-395 NB		617	26	23.6	638	26	24.4	645	26	24.6
	I-395 SB to King St WB		794	34	23.5	889	33	26.4	885	33	26.3
	I-395 SB to King St EB		728	31	23.6	800	31	25.9	771	31	24.9
	King St WB to I-395 SB		156	30	5.1	184	30	6.1	168	30	5.5
	King St EB to I-395 SB		301	29	10.5	365	31	11.7	357	31	11.5
Turkeycock Interchange Ramps	I-395 GP NB to I-395 HOV SB		716	39	18.1	690	39	17.9	795	38	20.7
	Seminary Rd to I-395 HOV/HOT SB		807	42	19.3	485	42	11.5	371	42	8.8

2020 Intersection Volume and MOEs Comparison

PM Peak Hour (4:30 PM - 5:30 PM)

#	Intersection	Approach	Movement	Existing PM				2020 No-Build PM				2020 Build PM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
311	Duke St and Oasis Dr and Right-in-Right-out at Shopping Plaza	NB	RT	23.4	23.4	C	C	21.5	21.5	C	C	20.6	20.6	C	C
		SB	RT	14.8	14.8	B	B	8.4	8.4	A	A	4.7	4.7	A	A
		EB	TH	4.1	4.1	A	A	3.0	3.0	A	A	3.2	3.2	A	A
			RT	3.5		A		3.3		A		4.8		A	
		WB	LT	24.3	14.4	C	B	27.2	12.1	C	B	30.4	14.2	C	B
			TH	15.1		B		11.7		B		14.0		B	
			RT	3.5		A		3.7		A		4.0		A	
		Intersection		10.3		B		8.5		A		9.5		A	
312	Duke St and N. Beauregard St	NB	LT	147.8	129.4	F	F	144.9	128.2	F	F	156.6	138.9	F	F
			TH	146.5		F		147.7		F		157.0		F	
			RT	85.2		F		82.5		F		93.8		F	
		SB	LT	65.5	57.4	E	E	64.7	56.6	E	E	74.4	65.1	E	E
			TH	72.6		E		69.0		E		83.3		F	
			RT	9.2		A		9.9		A		10.6		B	
		EB	LT	96.3	48.5	F	D	97.2	48.5	F	D	97.6	50.0	F	D
			TH	36.1		D		35.1		D		37.2		D	
			RT	33.2		C		32.5		C		35.1		D	
		WB	LT	126.5	38.6	F	D	124.3	34.2	F	C	125.4	34.8	F	C
			TH	38.5		D		34.4		C		35.1		D	
			RT	23.0		C		18.3		B		18.5		B	
		Intersection		53.4		D		51.1		D		54.7		D	
321	Duke St and S. Walker St - include the ramp to the mall	NB	LT	53.5	45.4	D	D	54.1	46.9	D	D	53.1	45.7	D	D
			RT	4.3		A		4.7		A		4.5		A	
		SB	LT	77.3	156.0	E	F	68.8	153.8	E	F	75.9	305.7	E	F
			RT	193.5		F		188.8		F		356.5		F	
		EB	TH	28.1	22.1	C	C	30.6	25.1	C	C	29.5	24.1	C	C
			RT	7.5		A		12.5		B		12.4		B	
		WB	LT	79.4	20.7	E	C	78.4	21.0	E	C	78.3	20.6	E	C
			TH	14.5		B		15.6		B		15.0		B	
		Intersection		27.7		C		30.0		C		33.0		C	
300	Duke St and I-395 Southbound Off-Ramp (Signal Added in 2020 and 2040 Scenarios)	SB	LT	Signal not built in Existing Conditions.				40.9	40.9	D	D	40.6	40.6	D	D
		EB	TH					4.1	4.1	A	A	4.7	4.7	A	A
		WB	TH					6.7	6.7	A	A	6.8	6.8	A	A
		Intersection						9.5		A		10.0		A	

#	Intersection	Approach	Movement	Existing PM				2020 No-Build PM				2020 Build PM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
401	Seminary Rd and I-395 Northbound Off-Ramp	NB	TH	53.2	41.2	D	D	55.5	42.2	E	D	54.9	41.1	D	D
			RT	8.1		A		9.2		A		8.7		A	
		EB	LT	5.6	5.3	A	A	5.6	5.7	A	A	5.5	6.0	A	A
			TH	4.9		A		5.9		A		6.6		A	
		Intersection		21.6		C		22.1		C		21.7		C	
402	Seminary Rd and I-395 Northbound On-Ramp	NB	LT	1.5	0.9	A	A	1.6	1.0	A	A	1.4	0.9	A	A
			TH	0.4		A		0.4		A		0.4		A	
		WB	TH	76.8	26.6	E	C	80.9	36.8	F	D	80.9	35.2	F	D
			RT	0.2		A		0.6		A		0.5		A	
		Intersection		10.0		A		16.4		B		14.9		B	
403	Seminary Rd and I-395 Southbound Off-Ramp	SB	TH	77.2	43.5	E	D	72.8	41.7	E	D	73.7	41.3	E	D
			RT	10.8		B		0.7		A		0.8		A	
		WB	LT	7.1	5.5	A	A	8.2	6.6	A	A	7.7	6.0	A	A
			TH	4.5		A		5.5		A		4.9		A	
		Intersection		19.3		B		16.7		B		16.3		B	
404	Seminary Rd and I-395 Southbound On-Ramp	SB	LT	4.0	4.3	A	A	5.4	3.1	A	A	5.7	3.5	A	A
			TH	4.7		A		0.6		A		0.9		A	
		EB	TH	60.4	28.7	E	C	63.9	26.7	E	C	65.1	31.0	E	C
			RT	0.6		A		0.4		A		0.4		A	
		Intersection		19.8		B		17.2		B		19.5		B	
405	Seminary Rd and I-395 Northbound HOV Off-Ramp	NB	LT	-	-	-	-	-	-	-	-	-	-	-	-
			RT	-		-		-		-		-		-	
		EB	TH	1.4	1.5	A	A	2.3	2.3	A	A	3.1	3.2	A	A
		WB	TH	31.7	29.5	C	C	0.0	1.2	A	A	0.0	2.0	A	A
		Intersection		10.5		B		2.0		A		2.9		A	
411	Seminary Rd and Mark Center Ave	NB	LT	68.0	38.7	E	D	53.1	33.5	D	C	52.9	35.4	D	D
			TH	66.2		E		48.3		D		51.9		D	
			RT	34.8		C		30.4		C		32.8		C	
		SB	LT	53.1	40.4	D	D	59.2	39.9	E	D	57.6	39.5	E	D
			TH	51.6		D		56.3		E		57.8		E	
			RT	18.0		B		8.2		A		7.9		A	
		EB	LT	89.8	16.3	F	B	88.2	15.1	F	B	86.5	14.6	F	B
			TH	14.2		B		13.0		B		12.5		B	
			RT	10.5		B		9.8		A		9.0		A	
		WB	LT	65.0	62.1	E	E	65.2	26.7	E	C	65.8	27.2	E	C
			TH	63.9		E		26.9		C		27.7		C	
			RT	38.5		D		10.6		B		10.5		B	
		Intersection		38.7		D		25.3		C		25.7		C	
412	Seminary Rd and N. Beauregard St	NB	LT	70.1	36.2	E	D	71.4	38.9	E	D	70.0	37.7	E	D
			TH	48.3		D		50.6		D		49.1		D	
			RT	1.1		A		1.0		A		0.9		A	
		SB	LT	87.5	59.9	F	E	82.8	59.7	F	E	83.1	58.6	F	E
			TH	52.0		D		53.3		D		51.7		D	
			RT	46.5		D		47.3		D		44.6		D	
		EB	LT	119.3	30.2	F	C	105.4	26.2	F	C	107.4	26.9	F	C
			TH	36.4		D		32.8		C		33.4		C	
			RT	11.3		B		8.7		A		8.8		A	
		WB	LT	142.8	56.2	F	E	45.7	20.4	D	C	43.4	19.0	D	B
			TH	18.8		B		9.8		A		8.9		A	
			RT	3.6		A		1.5		A		1.6		A	
		Intersection		44.1		D		32.0		C		31.6		C	

#	Intersection	Approach	Movement	Existing PM				2020 No-Build PM				2020 Build PM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
421	Seminary Rd and Kenmore Ave-Library Lane	NB	LT	44.1	43.9	D	D	43.4	42.0	D	D	43.6	42.6	D	D
			TH	41.6		D		38.2		D		44.4		D	
			RT	45.3		D		39.4		D		37.7		D	
		SB	LT	54.9	54.0	D	D	51.5	50.6	D	D	49.3	48.6	D	D
			TH	49.3		D		48.4		D		48.4		D	
			RT	53.5		D		50.1		D		48.2		D	
		EB	LT	16.6	16.6	B	B	15.1	12.1	B	B	14.5	11.8	B	B
			TH	16.7		B		11.7		B		11.4		B	
			RT	10.2		B		9.5		A		9.1		A	
		WB	LT	12.8	9.2	B	A	10.5	8.2	B	A	9.4	7.8	A	A
			TH	9.1		A		8.1		A		7.8		A	
			RT	9.2		A		8.1		A		8.2		A	
		Intersection		17.0		B		14.4		B		13.7		B	
422	Seminary Rd and Seminary Rd - The Encore entrance	NB	LT	-	53.3	#N/A	D	-	26.8	#N/A	C	-	26.2	#N/A	C
			RT	53.3		D		26.8		C		26.2		C	
		SB	LT	56.7	25.3	E	C	43.6	22.7	D	C	42.7	22.8	D	C
			RT	7.9		A		7.6		A		8.5		A	
		EB	LT	22.0	22.5	C	C	15.3	12.5	B	B	16.1	12.7	B	B
			TH	22.5		C		12.5		B		12.7		B	
		WB	TH	1.3	1.3	A	A	1.1	1.1	A	A	1.1	1.1	A	A
			RT	1.2		A		1.2		A		1.1		A	
		Intersection		14.2		B		8.3		A		8.5		A	
423	Seminary Rd and N. Pickett St	NB	LT	51.8	38.0	D	D	52.9	37.0	D	D	52.9	36.8	D	D
			RT	12.4		B		12.6		B		11.9		B	
		EB	TH	19.1	19.0	B	B	15.5	15.3	B	B	15.8	15.6	B	B
			RT	18.3		B		13.3		B		14.1		B	
		WB	LT	17.6	5.6	B	A	16.3	5.2	B	A	15.8	4.9	B	A
			TH	4.3		A		3.6		A		3.4		A	
		Intersection		14.4		B		12.2		B		12.1		B	
424	Seminary Rd and N. Jordan St	NB	LT	46.7	42.7	D	D	45.8	42.2	D	D	47.7	43.6	D	D
			RT	7.0		A		6.7		A		7.2		A	
		EB	TH	14.2	13.2	B	B	11.5	10.8	B	B	9.8	9.6	A	A
			RT	10.9		B		9.1		A		9.2		A	
		WB	LT	30.3	7.3	C	A	25.4	6.4	C	A	25.9	6.4	C	A
			TH	5.0		A		4.3		A		4.3		A	
		Intersection		13.6		B		12.0		B		11.5		B	
425	Seminary Rd and N. Howard St	NB	LT	33.7	34.2	C	C	33.1	33.6	C	C	34.1	34.9	C	C
			TH	41.6		D		40.0		D		42.3		D	
			RT	24.2		C		25.1		C		25.3		C	
		SB	LT	38.8	71.5	D	E	32.8	64.2	C	E	35.9	67.7	D	E
			TH	98.6		F		85.2		F		92.2		F	
			RT	62.0		E		54.7		D		56.9		E	
		EB	LT	17.9	16.5	B	B	15.8	14.8	B	B	17.5	15.4	B	B
			TH	17.1		B		15.8		B		16.1		B	
			RT	11.8		B		9.3		A		9.3		A	
		WB	LT	18.4	14.6	B	B	17.5	15.0	B	B	17.5	14.8	B	B
			TH	14.3		B		14.5		B		14.2		B	
			RT	14.2		B		15.8		B		15.4		B	
		Intersection		30.6		C		29.2		C		30.2		C	

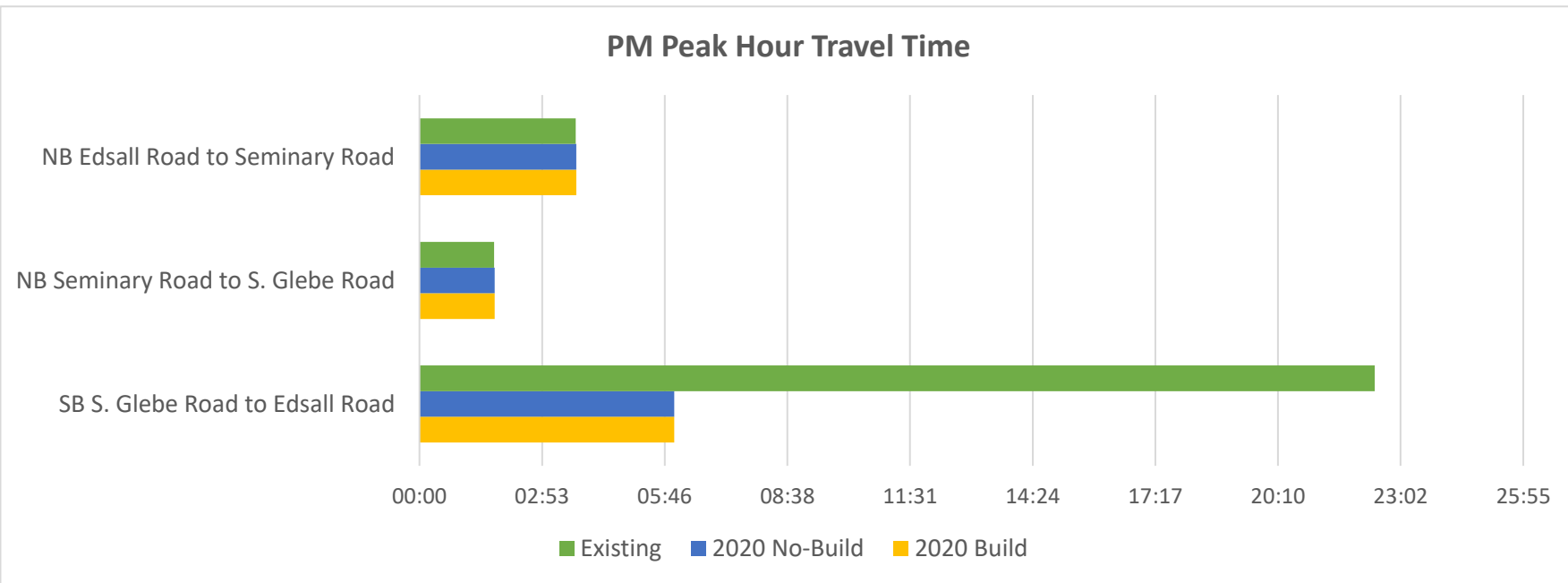
#	Intersection	Approach	Movement	Existing PM				2020 No-Build PM				2020 Build PM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
426	Seminary Rd and St. Stephens Rd	NB	LT	28.3	23.4	C	C	27.3	22.6	C	C	28.7	23.8	C	C
			RT	15.4		B		14.8		B		15.2		B	
		EB	TH	11.9	11.7	B	B	10.4	10.2	B	B	11.3	11.0	B	B
			RT	9.8		A		7.7		A		8.2		A	
		WB	LT	8.4	4.5	A	A	8.1	4.3	A	A	9.1	4.4	A	A
			TH	4.2		A		4.0		A		4.0		A	
		Intersection		10.1		B		9.2		A		9.8		A	
427	Seminary Rd and Fort Williams Pkwy	NB	LT	6.2	3.8	A	A	6.8	4.3	A	A	5.8	3.5	A	A
			RT	1.4		A		1.7		A		1.3		A	
		EB	TH	0.7	0.8	A	A	0.5	0.6	A	A	0.6	0.8	A	A
			RT	1.6		A		1.5		A		1.6		A	
		WB	LT	8.1	1.1	A	A	7.0	0.9	A	A	7.0	0.9	A	A
			TH	0.3		A		0.3		A		0.3		A	
		Intersection		1.0		A		0.8		A		0.9		A	
428	Seminary Rd and N. Quaker Lane	NB	LT	42.7	32.0	D	C	43.8	31.5	D	C	38.4	30.1	D	C
			TH	27.8		C		26.8		C		27.1		C	
			RT	23.6		C		23.2		C		24.5		C	
		SB	LT	69.2	45.2	E	D	69.1	44.4	E	D	61.3	42.3	E	D
			TH	36.6		D		36.1		D		35.6		D	
			RT	31.3		C		29.5		C		31.6		C	
		EB	LT	24.7	36.5	C	D	23.5	34.1	C	C	23.4	35.2	C	D
			TH	39.8		D		37.7		D		38.6		D	
			RT	35.2		D		31.4		C		33.1		C	
		WB	LT	26.7	24.0	C	C	25.6	23.6	C	C	25.6	23.2	C	C
			TH	29.7		C		29.3		C		28.8		C	
			RT	15.9		B		15.9		B		15.8		B	
		Intersection		36.1		D		35.2		D		34.2		C	
511	King St -Rt 7- and Park Center Dr	NB	LT	50.5	22.6	D	C	55.1	24.6	E	C	53.8	24.7	D	C
			RT	13.9		B		15.3		B		15.4		B	
		EB	TH	11.6	11.5	B	B	13.3	13.2	B	B	12.7	12.6	B	B
			RT	10.4		B		12.0		B		12.0		B	
		WB	LT	20.5	6.6	C	A	26.5	8.5	C	A	25.1	8.0	C	A
			TH	4.1		A		5.3		A		5.0		A	
		Intersection		9.8		A		11.6		B		11.1		B	
521	King St -Rt 7- and Menokin Dr	NB	LT	50.9	47.4	D	D	48.1	44.8	D	D	49.2	45.6	D	D
			RT	32.9		C		31.3		C		30.8		C	
		EB	TH	9.8	10.9	A	B	8.3	9.3	A	A	9.4	10.5	A	B
			RT	12.8		B		11.1		B		12.5		B	
		WB	LT	28.5	8.9	C	A	24.2	7.8	C	A	26.2	8.9	C	A
			TH	6.5		A		6.3		A		6.8		A	
		Intersection		12.2		B		10.4		B		11.8		B	
522	King St -Rt 7- and N. Dearing St	NB	LT	31.4	31.0	C	C	33.5	33.1	C	C	34.0	33.4	C	C
			TH	29.1		C		33.9		C		33.8		C	
			RT	30.2		C		28.6		C		28.7		C	
		SB	LT	58.1	40.6	E	D	55.9	39.1	E	D	57.5	39.1	E	D
			TH	66.7		E		64.6		E		62.8		E	
			RT	28.4		C		28.8		C		28.8		C	
		EB	LT	14.9	9.7	B	A	15.8	10.3	B	B	15.1	9.4	B	A
			TH	9.3		A		10.0		A		8.8		A	
			RT	8.2		A		8.5		A		8.6		A	
		WB	LT	18.1	18.0	B	B	20.1	19.4	C	B	16.6	18.8	B	B
			TH	18.2		B		19.4		B		19.0		B	
			RT	13.8		B		17.8		B		16.3		B	
		Intersection		16.3		B		16.9		B		16.5		B	

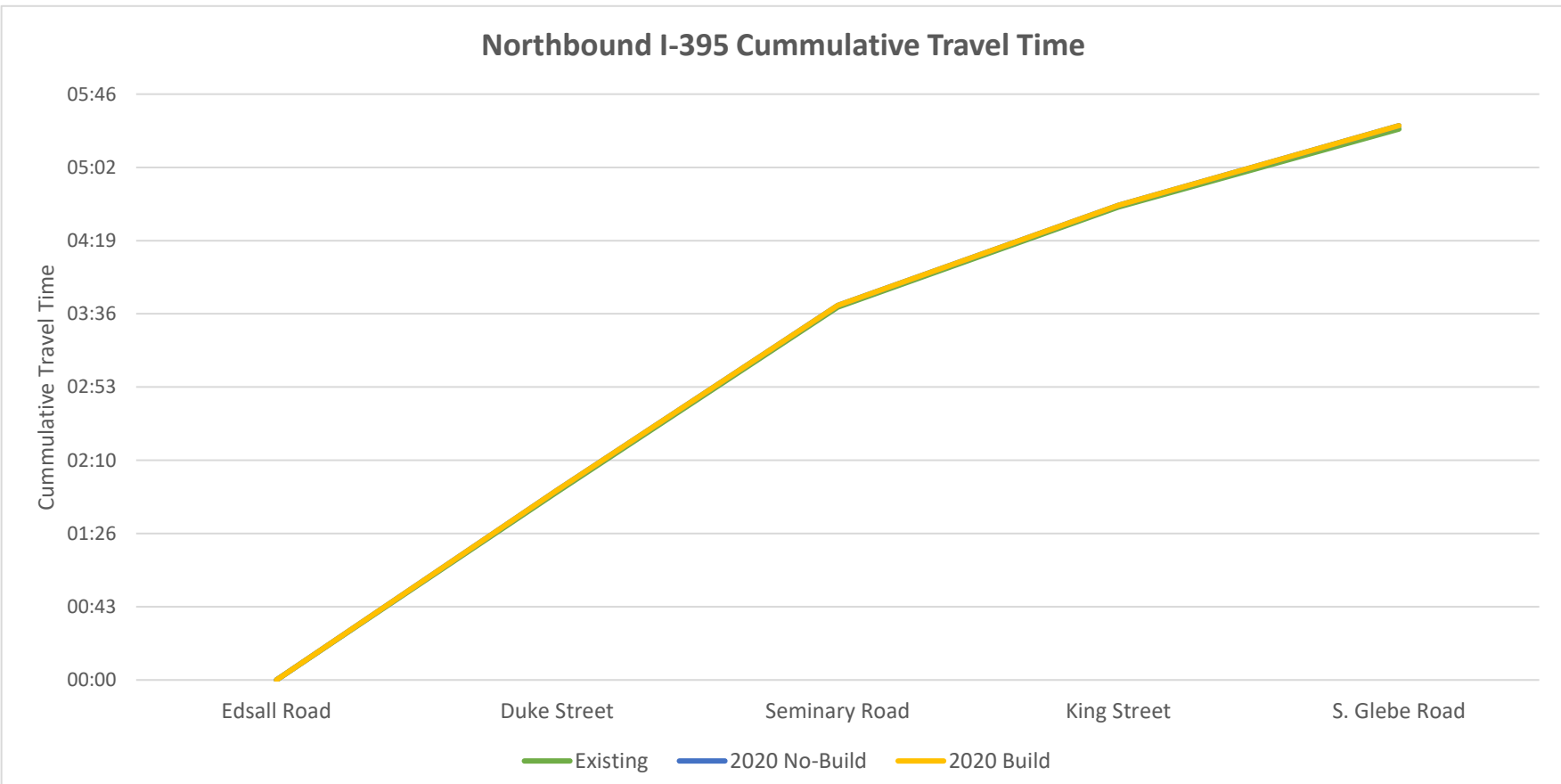
2020 Travel Time Comparison

PM Peak Hour (4:30 PM - 5:30 PM)

Segment ID: Description of Route	PM Peak Hour Travel Time				
	Existing VISSIM (MM:SS)	2020 No-Build VISSIM (MM:SS)	2020 Build VISSIM (MM:SS)	Difference between No-Build and Build (MM:SS)	Percent Difference between No-Build and Build
NB Edsall Road to Seminary Road	03:40	03:41	03:41	00:00	0.0%
NB Seminary Road to S. Glebe Road	01:45	01:46	01:46	00:00	0.0%
NB Total	**05:25**	**05:27**	**05:27**	**00:00**	**0.0%**
5: SB S. Glebe Road to Edsall Road*	22:26	05:59	05:59	00:00	0.0%
SB Total	**22:26**	**05:59**	**05:59**	**00:00**	**0.0%**

** As noted in the Calibration Memo, SB Travel Times in the PM were evaluated along the full corridor.*





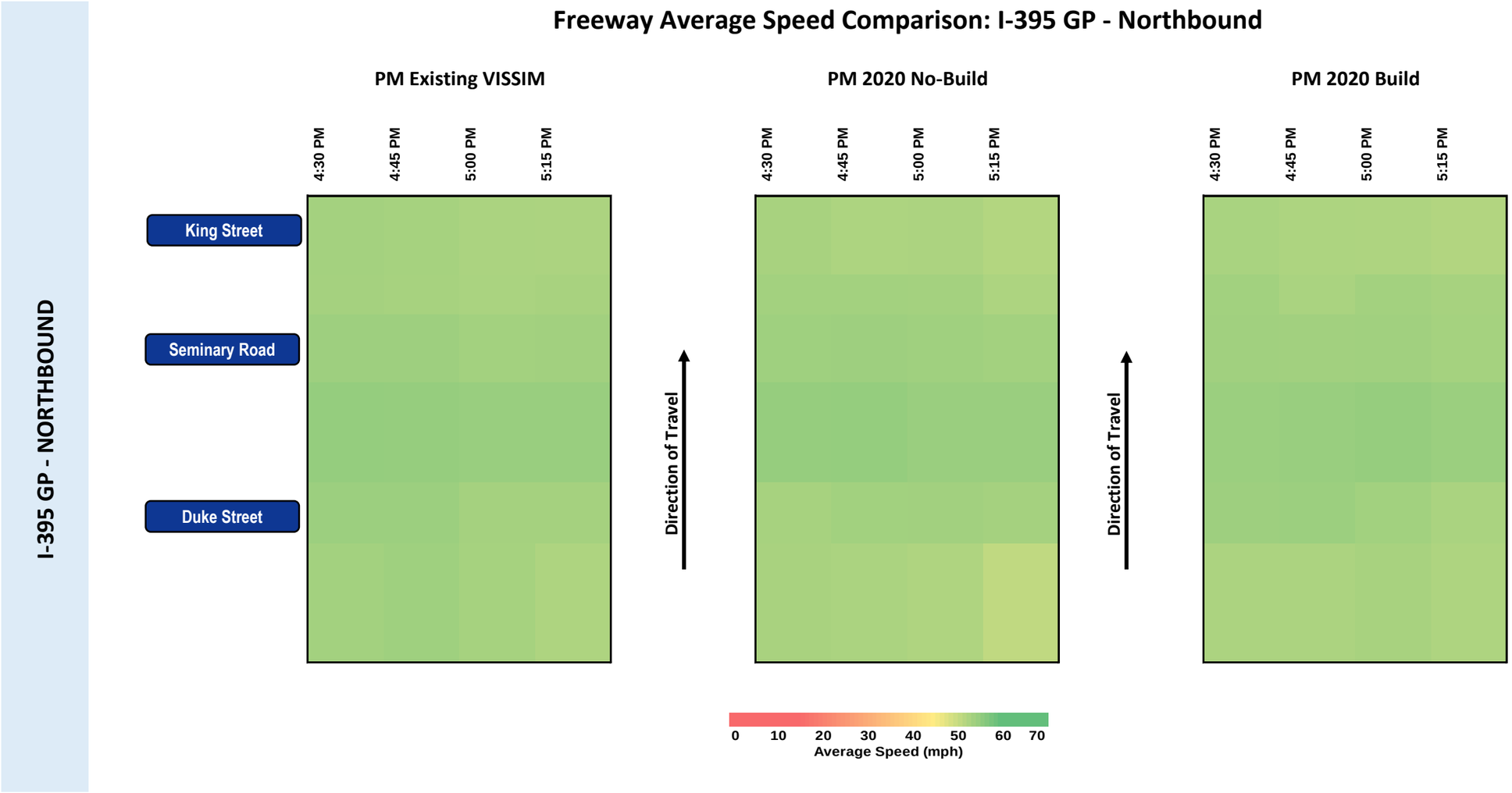
2020 Targeted Queue Location Comparison

PM Peak Hour (4:30 PM - 5:30 PM)

Interchange	Location	Approximate Storage (feet)	PM Vissim Max Queue Length (feet)		
			Existing	2020 No-Build	2020 Build
Duke Street	Ramp from Duke Street westbound to I-395 southbound	2,500	1,423	0	0
Seminary Road	Ramp from Seminary Road westbound to I-395 southbound	1,300	1,361	0	0
	Ramp from Seminary Road to I-395 HOV northbound	1,100	119	227	225
	Ramp from I-395 HOV southbound to Seminary Road	2,600	0	0	0

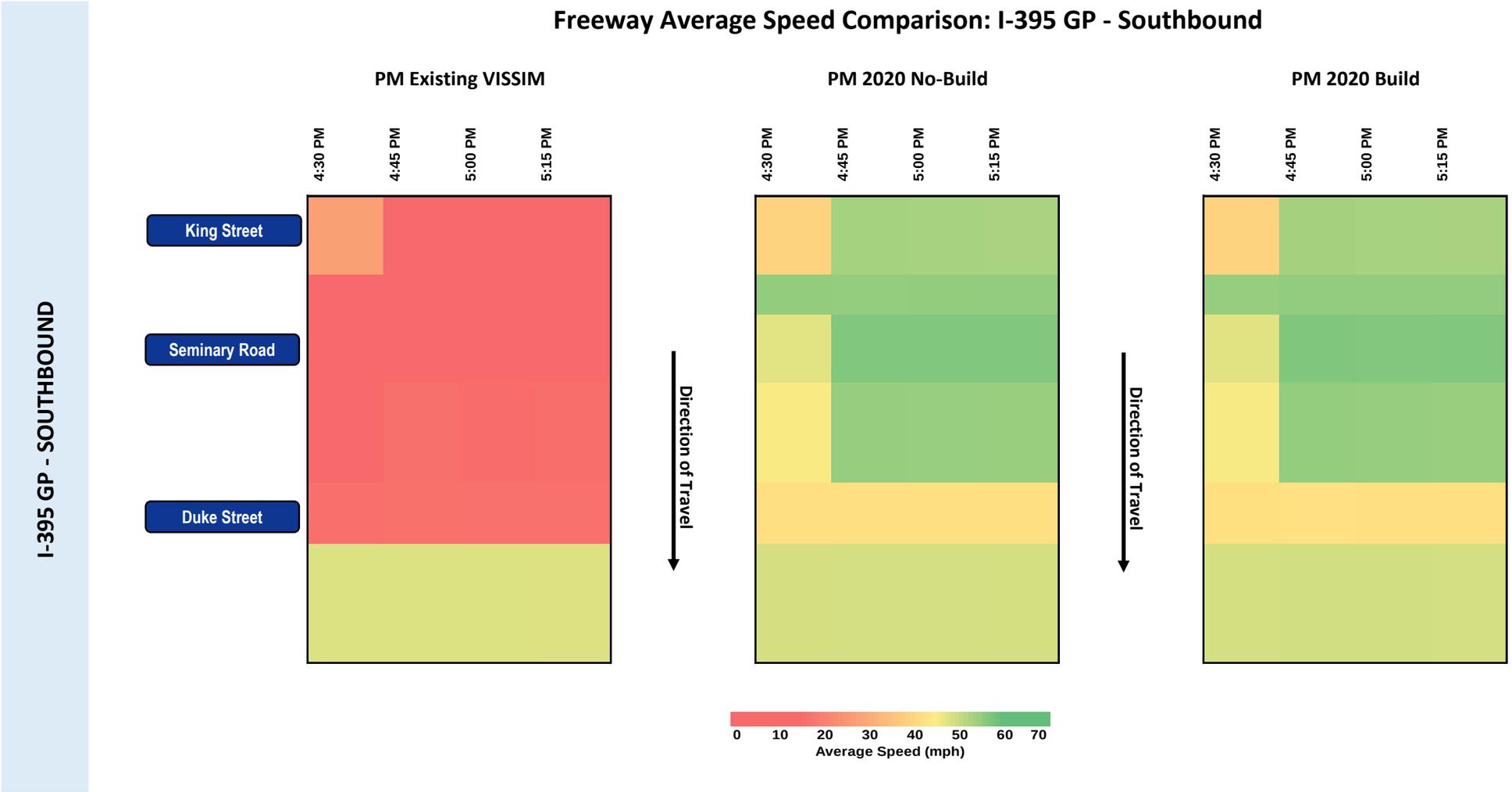
2020 Speed Heat Map Comparison

PM Peak Hour (4:30 PM - 5:30 PM)



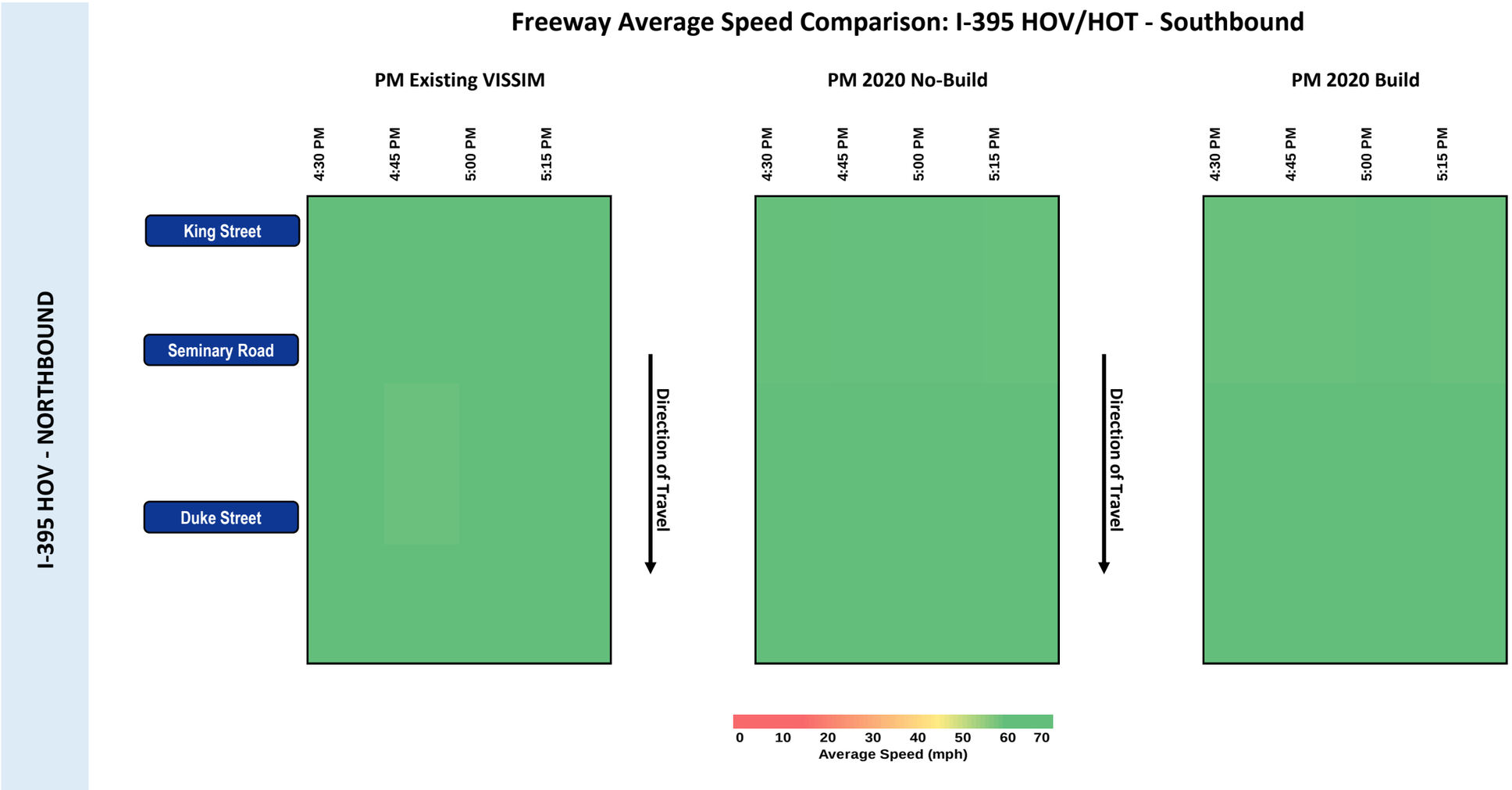
2020 Speed Heat Map Comparison

PM Peak Hour (4:30 PM - 5:30 PM)



2020 Speed Heat Map Comparison

PM Peak Hour (4:30 PM - 5:30 PM)



APPENDIX F: 2040 NO-BUILD AND BUILD AM PEAK PERIOD OPERATIONAL ANALYSIS SUMMARY TABLES

- **Freeway and Ramp Volume and MOEs Comparison**
- **Intersection Volume and MOE Comparison**
- **Travel Time Comparison**
- **Targeted Queue Location Comparison**
- **Speed Heat Maps**

2040 Freeway and Ramp Volume and MOEs Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

Facility	Segment	Type	Existing AM			2040 No-Build AM			2040 Build AM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
NB I-395 GP	Mainline south of Turkeycock	Basic/Diverge	3,704	57	16.3	3,946	17	58.9	4,103	19	55.5
	Between off-ramp to HOV NB and on-ramp from HOT NB at Turkeycock	Basic	3,504	39	38.1	3,793	38	36.6	3,940	43	30.9
	Between on-ramp from HOT NB at Turkeycock and off-ramp to Duke Street EB	Merge/Diverge	4,534	15	99.5	4,386	35	38.3	4,423	47	23.3
	Between off-ramp to Duke Street EB and off-ramp to Duke Street WB	Diverge	4,037	16	68.0	3,837	28	48.9	3,804	46	22.4
	Between off-ramp to Duke Street WB and on-ramp from Duke Street	Basic	3,499	15	79.5	3,154	19	71.4	3,112	47	25.8
	Between on-ramp from Duke Street EB and off-ramp to Seminary Road	Merge/Basic/Diverge	4,472	18	63.6	4,194	22	47.7	4,360	34	38.1
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	3,176	13	84.6	2,828	31	43.7	2,990	18	70.1
	Between on-ramp from Seminary Road and off-ramp to King Street EB	Merge/Diverge	4,458	14	71.6	4,350	23	52.9	4,390	15	67.3
	Between off-ramp to King Street and on-ramp from King Street	Basic	4,180	25	55.7	3,960	26	52.9	3,950	22	59.6
	Between on-ramp from King Street EB and on-ramp from King Street WB	Merge	4,622	30	46.3	4,502	33	41.8	4,527	32	43.9
	Mainline north of King Street	Weave	5,681	36	36.2	5,267	36	33.3	5,285	36	33.4
SB I-395 GP	Mainline north of King Street	Weave	3,822	57	13.4	4,030	57	14.1	4,120	57	14.4
	Between off-ramp to King Street EB & WB and on-ramp from King Street WB	Basic	3,068	57	13.4	3,182	57	13.9	3,241	57	14.2
	Between on-ramp from King Street WB and on-ramp from King Street EB	Merge	3,402	56	14.3	3,534	56	14.9	3,609	56	15.3
	Between on-ramp from King Street EB and off-ramp to Seminary Road	Weave	3,765	56	13.5	3,960	55	14.4	4,062	55	14.8
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	3,153	57	13.7	3,291	57	14.4	3,334	57	14.5
	Between on-ramp from Seminary Road and off-ramp to Duke Street WB	Merge/Basic/Diverge	3,977	57	16.5	4,199	57	17.4	4,252	57	17.6
	Between off-ramp to Duke Street WB and on-ramp from Duke Street WB	Basic	3,583	56	18.1	3,257	57	14.1	3,215	57	13.9
	Between on-ramp from Duke Street WB and off-ramp to Duke Street EB	Weave	4,030	48	20.9	3,843	57	16.2	3,839	57	16.1
	Between off-ramp to Duke Street EB and on-ramp from Duke Street EB	Basic	3,698	56	22.0	3,258	57	16.4	3,215	57	16.3
	Between on-ramp from Duke Street EB and off-ramp to HOT SB at Turkeycock	Merge/Diverge	4,194	55	23.0	3,839	57	16.8	3,835	57	16.8
	Between off-ramp to HOT SB and on-ramp from HOV SB at Turkeycock	Basic	4,196	56	24.9	3,828	57	16.8	3,826	57	16.8
	Mainline south of Turkeycock	Merge/Basic	4,198	57	18.5	4,349	57	15.3	4,441	57	15.6

Facility	Segment	Type	Existing AM			2040 No-Build AM			2040 Build AM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
NB I-395 HOV/HOT	Mainline south of Turkeycock	Basic/Diverge	3,018	40	56.3	3,309	66	15.7	3,408	66	16.2
	Between off-ramp to GP and on-ramp from GP at Turkeycock	Basic	2,048	58	19.7	2,679	67	12.7	2,936	66	14.1
	Between on-ramp from GP at Turkeycock to off-ramp to Seminary Road	Merge/Basic/Diverge	2,273	66	16.6	2,821	68	13.7	3,108	67	15.1
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	2,005	67	15.0	2,625	67	13.0	2,690	67	13.3
	Mainline north of King Street	Merge/Basic	2,140	67	15.7	2,880	67	14.1	2,951	67	14.5

Facility	Segment	Type	Existing AM			2040 No-Build AM			2040 Build AM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
Duke Street Interchange Ramps	I-395 NB to Duke St EB		500	43	11.7	541	43	12.4	616	44	14.1
	I-395 NB to Duke St WB		531	29	18.0	574	17	45.4	672	21	58.3
	Duke St WB to I-395 NB		440	44	10.1	452	25	46.6	531	42	12.8
	Duke St EB to I-395 NB		612	41	14.8	727	21	86.0	876	40	23.0
	I-395 SB to Duke St WB		405	44	7.5	944	29	16.9	1,042	31	18.2
	I-395 SB to Duke St EB		430	30	14.2	404	8	25.1	421	8	26.1
	Duke St WB to I-395 SB		546	29	18.5	586	35	16.6	624	36	17.6
	Duke St EB to I-395 SB		495	44	11.1	520	44	11.6	614	43	14.0
Seminary Road Interchange Ramps	I-395 NB to Seminary Rd		1,290	22	36.2	1,367	4	154.8	1,365	9	108.0
	Seminary Rd to I-395 NB		1,293	33	20.2	1,498	35	23.0	1,515	29	28.3
	I-395 SB to Seminary Rd		646	48	6.7	701	48	7.2	760	48	7.9
	Seminary Rd to I-395 SB		831	40	20.5	907	40	22.5	923	40	22.9
	I-395 HOV/HOT NB to Seminary Rd		284	17	8.3	228	21	5.4	451	21	10.5
	Seminary Rd to I-395 HOV/HOT NB		125	42	2.9	238	42	5.6	245	42	5.8
King Street Interchange Ramps	I-395 NB to King St EB		130	36	3.6	133	36	3.7	139	36	3.9
	I-395 NB to King St WB		151	32	4.7	265	32	8.3	284	32	8.9
	King St WB to I-395 NB		964	37	13.0	683	37	9.2	668	37	8.9
	King St EB to I-395 NB		437	29	15.1	536	29	18.7	578	28	20.3
	I-395 SB to King St WB		584	36	16.2	655	36	18.2	683	36	19.1
	I-395 SB to King St EB		180	35	5.2	192	35	5.5	194	35	5.6
	King St WB to I-395 SB		333	33	9.8	353	33	10.5	370	33	11.0
	King St EB to I-395 SB		391	34	11.5	462	34	13.6	490	34	14.5
Turkeycock Interchange Ramps	I-395 GP NB to I-395 HOV NB		977	20	93.1	632	44	14.2	474	46	10.2
	Seminary Rd to I-395 HOV/HOT NB		224	41	5.5	132	41	3.2	163	41	4.0

2040 Intersection Volume and MOEs Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

#	Intersection	Approach	Movement	Existing AM				2040 No-Build AM				2040 Build AM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
311	Duke St and Oasis Dr and Right-in-Right-out at Shopping Plaza	NB	RT	21.3	21.3	C	C	82.6	82.6	F	F	42.6	42.6	D	D
		SB	RT	0.3	0.3	A	A	0.3	0.3	A	A	0.3	0.3	A	A
		EB	TH	3.8	3.8	A	A	18.7	18.7	B	B	3.0	3.0	A	A
			RT	2.3		A		12.1		B		3.3		A	
		WB	LT	19.2	11.8	B	B	92.3	66.3	F	E	62.8	51.2	E	D
			TH	11.9		B		67.3		E		52.5		D	
			RT	1.9		A		20.1		C		16.5		B	
		Intersection		8.5		A		45.4		D		29.1		C	
312	Duke St and N. Beauregard St	NB	LT	90.7	85.6	F	F	88.9	87.4	F	F	91.8	87.1	F	F
			TH	88.5		F		85.1		F		88.5		F	
			RT	73.1		E		87.6		F		75.1		E	
		SB	LT	71.3	59.8	E	E	100.2	81.0	F	F	74.0	59.9	E	E
			TH	74.0		E		87.5		F		83.5		F	
			RT	10.1		B		24.9		C		15.4		B	
		EB	LT	87.4	42.0	F	D	110.2	68.0	F	E	110.6	53.4	F	D
			TH	28.7		C		52.7		D		33.4		C	
			RT	25.2		C		47.6		D		27.3		C	
		WB	LT	108.2	28.3	F	C	113.5	38.8	F	D	113.0	36.2	F	D
			TH	32.5		C		42.1		D		39.2		D	
			RT	15.0		B		28.1		C		26.1		C	
		Intersection		41.6		D		59.1		E		48.9		D	
321	Duke St and S. Walker St - include the ramp to the mall	NB	LT	51.5	44.4	D	D	99.1	87.6	F	F	71.9	62.7	E	E
			RT	4.5		A		24.3		C		9.9		A	
		SB	LT	68.1	59.4	E	E	67.8	111.8	E	F	63.2	80.8	E	F
			RT	57.1		E		121.8		F		85.3		F	
		EB	TH	19.5	17.0	B	B	24.0	21.4	C	C	24.4	20.9	C	C
			RT	4.7		A		6.8		A		7.0		A	
		WB	LT	68.5	14.7	E	B	71.9	45.4	E	D	74.4	30.7	E	C
			TH	13.0		B		44.6		D		28.9		C	
		Intersection		21.8		C		45.7		D		34.2		C	
300	Duke St and I-395 Southbound Off-Ramp (Signal Added in 2020 and 2040 Scenarios)	SB	LT	Signal not built in Existing Conditions.				38.1	38.1	D	D	37.9	37.9	D	D
		EB	TH					5.4	5.4	A	A	4.2	4.2	A	A
		WB	TH					77.5	77.5	E	E	44.6	44.6	D	D
		Intersection						54.9		D		34.7		C	

#	Intersection	Approach	Movement	Existing AM				2040 No-Build AM				2040 Build AM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
401	Seminary Rd and I-395 Northbound Off-Ramp	NB	TH	53.6	46.9	D	D	60.5	53.4	E	D	60.2	53.1	E	D
			RT	13.3		B		17.2		B		16.0		B	
		EB	LT	8.0	6.7	A	A	8.9	7.5	A	A	9.4	7.8	A	A
			TH	2.3		A		3.1		A		3.8		A	
		Intersection		31.2		C		34.4		C		34.0		C	
402	Seminary Rd and I-395 Northbound On-Ramp	NB	LT	1.3	1.2	A	A	1.4	1.3	A	A	1.8	1.7	A	A
			TH	1.0		A		1.0		A		1.3		A	
		WB	TH	76.3	24.6	E	C	88.3	28.8	F	C	88.5	26.6	F	C
			RT	0.6		A		1.4		A		1.3		A	
		Intersection		9.8		A		12.1		B		11.6		B	
403	Seminary Rd and I-395 Southbound Off-Ramp	SB	TH	74.6	27.8	E	C	77.8	32.1	E	C	76.7	36.1	E	D
			RT	5.0		A		4.8		A		9.4		A	
		WB	LT	2.2	1.2	A	A	2.5	1.2	A	A	2.3	2.3	A	A
			TH	0.9		A		0.9		A		2.3		A	
		Intersection		9.3		A		11.1		B		14.0		B	
404	Seminary Rd and I-395 Southbound On-Ramp	SB	LT	1.4	1.4	A	A	1.8	2.0	A	A	2.4	2.3	A	A
			TH	1.4		A		2.1		A		2.3		A	
		EB	TH	65.6	35.5	E	D	69.3	38.7	E	D	70.7	37.4	E	D
			RT	0.5		A		0.8		A		0.8		A	
		Intersection		25.8		C		27.9		C		27.1		C	
405	Seminary Rd and I-395 Northbound HOV Off-Ramp	NB	LT	25.8	25.5	C	C	17.5	17.8	B	B	16.5	16.9	B	B
			RT	25.0		C		18.4		B		17.8		B	
		EB	TH	5.3	5.3	A	A	5.4	5.4	A	A	8.4	8.4	A	A
		WB	TH	7.1	7.1	A	A	5.8	5.8	A	A	8.5	8.5	A	A
		Intersection		9.7		A		8.0		A		11.4		B	
411	Seminary Rd and Mark Center Ave	NB	LT	60.1	38.8	E	D	60.8	39.1	E	D	63.8	39.1	E	D
			TH	63.3		E		66.2		E		61.3		E	
			RT	32.0		C		32.2		C		32.2		C	
		SB	LT	54.4	43.7	D	D	51.3	42.7	D	D	50.6	45.0	D	D
			TH	54.4		D		54.7		D		52.9		D	
			RT	11.7		B		15.6		B		26.9		C	
		EB	LT	83.3	22.5	F	C	69.2	36.9	E	D	69.8	38.3	E	D
			TH	19.8		B		35.6		D		37.2		D	
			RT	17.1		B		32.5		C		32.7		C	
		WB	LT	60.4	30.8	E	C	59.7	29.2	E	C	59.3	38.2	E	D
			TH	27.1		C		24.6		C		35.7		D	
			RT	13.6		B		10.3		B		12.1		B	
		Intersection		29.5		C		33.8		C		39.0		D	
412	Seminary Rd and N. Beauregard St	NB	LT	69.4	36.0	E	D	Signal replaced with Ellipse in 2040							
			TH	51.2		D									
			RT	1.8		A									
		SB	LT	139.1	83.8	F	F								
			TH	58.8		E									
			RT	39.2		D									
		EB	LT	118.6	38.0	F	D								
			TH	41.7		D									
			RT	10.4		B									
		WB	LT	61.4	32.0	E	C								
			TH	15.0		B									
			RT	4.9		A									
		Intersection		38.4		D									
413	Seminary Road and N. Beauregard Street - Ellipse Intersection furthest West on Seminary	SB	LT	Signal not built in Existing Conditions.				21.8	7.0	C	A	22.3	6.5	C	A
			TH					4.9		A		4.6		A	
			RT					23.9		C		23.5		C	
		EB	TH					41.3	32.4	D	C	41.9	32.5	D	C
			RT					8.9		A		8.1		A	
		WB	TH					5.8	5.8	A	A	6.8	6.8	A	A
		Intersection						14.5		B		14.5		B	
414	Seminary Road and N. Beauregard Street - Ellipse Intersection south on Beauregard	NB	LT	Signal not built in Existing Conditions.				17.9	14.2	B	B	18.2	14.4	B	B
			TH					11.8		B		12.3		B	
			RT					12.7		B		12.6		B	
		EB	LT					46.6	46.6	D	D	46.2	46.2	D	D
		Intersection						15.1		B		15.3		B	

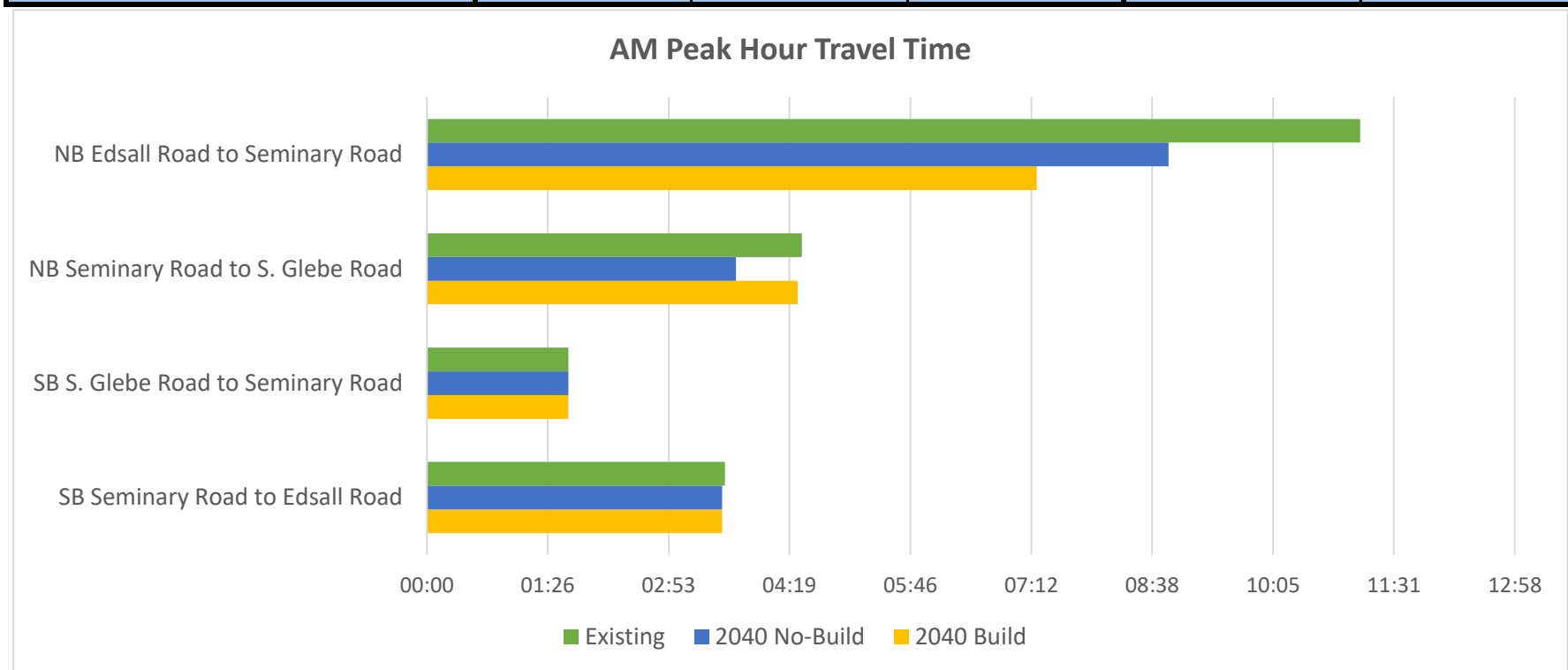
#	Intersection	Approach	Movement	Existing AM				2040 No-Build AM				2040 Build AM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
415	Seminary Road and N. Beauregard Street - Ellipse Intersection furthest East on Seminary	NB	LT	Signal not built in Existing Conditions.				33.1	22.5	C	C	33.4	22.6	C	C
			TH					41.2		D		40.9		D	
			RT					1.0		A		1.1		A	
		EB	TH					1.3	1.3	A	A	1.3	1.3	A	A
		WB	LT					21.3	34.0	C	C	23.6	37.7	C	D
			TH					46.1		D		51.2		D	
			RT					20.0		B		22.0		C	
		Intersection						22.9		C		25.1		C	
416	Seminary Road and N. Beauregard Street - Ellipse Intersection northeast on Beauregard	NB	LT	Signal not built in Existing Conditions.				5.8	1.8	A	A	9.4	1.8	A	A
			TH					1.4		A		1.5		A	
			RT					2.6		A		2.4		A	
		EB	LT					74.0	44.1	E	D	71.1	42.1	E	D
			TH					33.2		C		31.1		C	
		WB	TH					64.9	63.6	E	E	63.6	62.2	E	E
			RT					60.9		E		59.6		E	
		Intersection						19.5		B		18.3		B	
417	Seminary Road and N. Beauregard Street - Ellipse Intersection northwest on Beauregard	NB	U	Signal not built in Existing Conditions.				29.6	29.6	C	C	32.9	32.9	C	C
		SB	LT					23.0	49.6	C	D	23.1	49.9	C	D
			TH					51.4		D		51.6		D	
		EB	TH					37.6	37.6	D	D	37.7	37.7	D	D
		WB	LT					48.0	46.3	D	D	48.0	46.3	D	D
			TH					19.4		B		13.7		B	
		Intersection						37.0		D		38.6		D	
421	Seminary Rd and Kenmore Ave-Library Lane	NB	LT	65.9	65.7	E	E	63.8	64.4	E	E	63.1	63.2	E	E
			TH	64.7		E		64.3		E		61.4		E	
			RT	65.8		E		65.6		E		64.6		E	
		SB	LT	64.2	62.9	E	E	74.0	72.4	E	E	75.6	74.0	E	E
			TH	63.2		E		68.7		E		71.0		E	
			RT	61.6		E		71.5		E		73.1		E	
		EB	LT	18.5	10.7	B	B	19.3	11.9	B	B	21.4	12.2	C	B
			TH	9.1		A		10.1		B		10.1		B	
			RT	16.6		B		14.1		B		19.1		B	
		WB	LT	8.1	4.5	A	A	7.0	5.4	A	A	7.4	5.6	A	A
			TH	4.5		A		5.3		A		5.5		A	
			RT	4.7		A		5.8		A		6.1		A	
		Intersection		10.6		B		12.7		B		12.9		B	
422	Seminary Rd and Seminary Rd - The Encore entrance	NB	LT	54.8	48.8	D	D	51.5	46.8	D	D	51.7	47.1	D	D
			RT	37.2		D		38.4		D		38.6		D	
		SB	LT	53.2	14.0	D	B	49.5	14.5	D	B	46.9	12.8	D	B
			RT	6.9		A		6.7		A		6.4		A	
		EB	LT	21.5	6.5	C	A	28.7	6.9	C	A	24.7	6.5	C	A
			TH	6.4		A		6.6		A		6.3		A	
		WB	TH	5.5	5.5	A	A	5.7	5.7	A	A	5.7	5.7	A	A
			RT	4.8		A		5.5		A		5.3		A	
		Intersection		8.3		A		8.7		A		8.5		A	
423	Seminary Rd and N. Pickett St	NB	LT	59.8	40.0	E	D	60.5	40.3	E	D	60.6	40.5	E	D
			RT	19.6		B		21.2		C		21.4		C	
		EB	TH	9.0	8.8	A	A	9.6	9.4	A	A	10.5	10.1	B	B
			RT	7.6		A		8.2		A		8.1		A	
		WB	LT	15.6	7.6	B	A	14.7	8.0	B	A	15.5	8.8	B	A
			TH	7.1		A		7.5		A		8.3		A	
		Intersection		10.8		B		11.4		B		12.1		B	
424	Seminary Rd and N. Jordan St	NB	LT	49.6	44.2	D	D	48.1	42.2	D	D	48.2	42.1	D	D
			RT	14.8		B		13.4		B		13.0		B	
		EB	TH	9.1	8.8	A	A	8.9	8.4	A	A	8.2	7.9	A	A
			RT	7.2		A		5.9		A		6.2		A	
		WB	LT	19.6	7.6	B	A	18.5	7.8	B	A	18.0	7.5	B	A
			TH	7.4		A		7.5		A		7.3		A	
		Intersection		15.1		B		15.1		B		14.6		B	

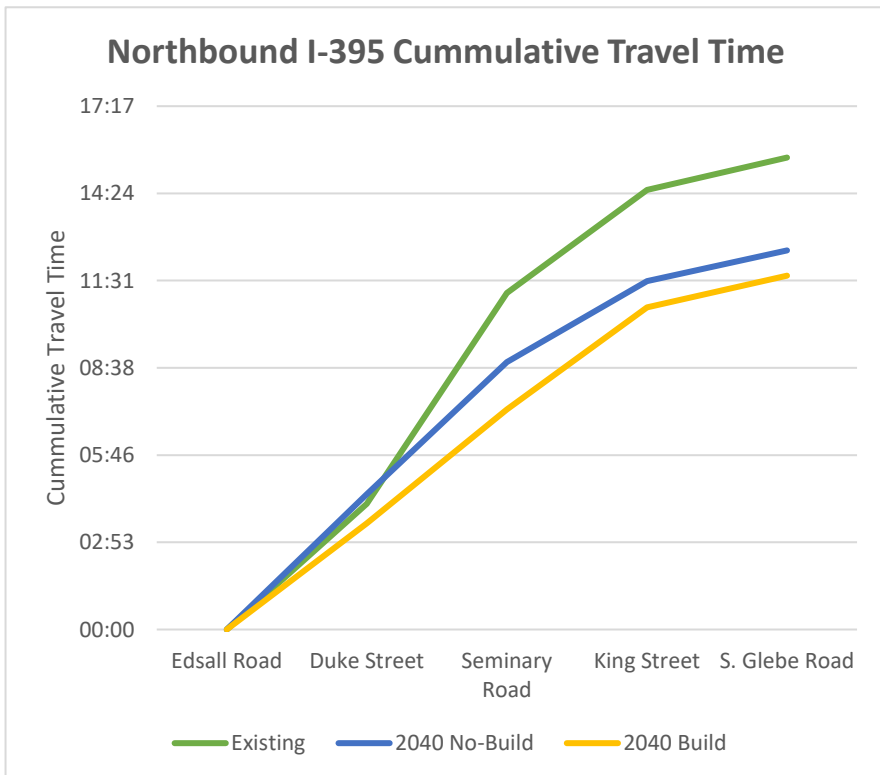
#	Intersection	Approach	Movement	Existing AM				2040 No-Build AM				2040 Build AM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
425	Seminary Rd and N. Howard St	NB	LT	38.8	49.2	D	D	39.4	49.4	D	D	37.8	49.4	D	D
			TH	56.1		E		55.4		E		56.9		E	
			RT	45.6		D		46.5		D		45.0		D	
		SB	LT	42.0	39.3	D	D	39.3	36.2	D	D	39.6	36.4	D	D
			TH	52.9		D		48.4		D		48.8		D	
			RT	19.7		B		15.0		B		15.0		B	
		EB	LT	42.1	33.1	D	C	47.6	37.3	D	D	48.6	37.8	D	D
			TH	33.3		C		37.5		D		37.6		D	
			RT	19.0		B		22.0		C		22.6		C	
		WB	LT	17.0	24.6	B	C	17.1	25.1	B	C	18.1	26.2	B	C
			TH	24.6		C		25.5		C		26.6		C	
			RT	26.5		C		26.3		C		27.6		C	
		Intersection		33.0		C		34.3		C		34.9		C	
426	Seminary Rd and St. Stephens Rd	NB	LT	21.7	20.2	C	C	22.1	20.7	C	C	22.7	21.1	C	C
			RT	14.3		B		16.0		B		15.6		B	
		EB	TH	6.4	6.0	A	A	6.5	6.1	A	A	6.4	6.1	A	A
			RT	4.4		A		4.8		A		5.0		A	
		WB	LT	14.6	9.0	B	A	15.2	9.2	B	A	15.7	9.4	B	A
			TH	8.4		A		8.5		A		8.6		A	
		Intersection		9.4		A		9.6		A		9.8		A	
427	Seminary Rd and Fort Williams Pkwy	NB	LT	5.2	4.5	A	A	5.8	4.8	A	A	5.7	4.6	A	A
			RT	2.4		A		2.6		A		2.5		A	
		EB	TH	0.3	0.3	A	A	0.4	0.4	A	A	0.4	0.4	A	A
			RT	0.7		A		0.8		A		0.8		A	
		WB	LT	3.7	0.7	A	A	3.7	0.7	A	A	4.5	0.7	A	A
			TH	0.6		A		0.6		A		0.6		A	
		Intersection		0.9		A		1.0		A		1.0		A	
428	Seminary Rd and N. Quaker Lane	NB	LT	77.8	50.3	E	D	50.4	38.5	D	D	57.1	40.7	E	D
			TH	29.3		C		27.6		C		27.7		C	
			RT	25.9		C		22.1		C		23.2		C	
		SB	LT	45.1	34.0	D	C	30.9	31.4	C	C	37.0	33.1	D	C
			TH	31.6		C		33.2		C		33.1		C	
			RT	25.7		C		25.7		C		26.4		C	
		EB	LT	26.5	31.8	C	C	21.7	27.7	C	C	23.9	28.8	C	C
			TH	36.3		D		31.0		C		32.4		C	
			RT	27.9		C		25.3		C		25.5		C	
		WB	LT	25.0	27.6	C	C	21.5	25.2	C	C	25.7	27.2	C	C
			TH	32.3		C		29.0		C		31.2		C	
			RT	19.7		B		18.0		B		20.4		C	
		Intersection		39.7		D		32.2		C		34.3		C	
511	King St -Rt 7- and Park Center Dr	NB	LT	53.3	25.2	D	C	56.0	34.8	E	C	56.3	36.8	E	D
			RT	20.0		B		30.6		C		33.0		C	
		EB	TH	11.4	11.4	B	B	16.5	16.4	B	B	17.4	17.3	B	B
			RT	10.2		B		13.6		B		16.2		B	
		WB	LT	15.9	6.2	B	A	24.5	9.3	C	A	23.9	9.5	C	A
			TH	5.1		A		7.4		A		7.7		A	
		Intersection		11.2		B		15.9		B		16.6		B	
521	King St -Rt 7- and Menokin Dr	NB	LT	31.5	31.4	C	C	37.3	37.2	D	D	37.0	37.0	D	D
			RT	29.2		C		33.7		C		35.5		D	
		EB	TH	20.5	19.9	C	B	10.8	10.5	B	B	10.3	10.0	B	B
			RT	15.3		B		8.3		A		7.7		A	
		WB	LT	19.6	16.7	B	B	13.6	9.0	B	A	11.6	9.1	B	A
			TH	16.6		B		8.9		A		9.1		A	
		Intersection		21.6		C		13.3		B		13.1		B	
522	King St -Rt 7- and N. Dearing St	NB	LT	37.9	37.9	D	D	40.6	40.5	D	D	40.8	40.6	D	D
			TH	37.7		D		40.0		D		39.6		D	
			RT	39.3		D		39.9		D		39.8		D	
		SB	LT	45.9	31.8	D	C	43.5	27.9	D	C	43.0	27.4	D	C
			TH	53.8		D		52.6		D		51.5		D	
			RT	26.2		C		23.3		C		22.8		C	
		EB	LT	14.6	11.8	B	B	15.6	9.5	B	A	15.1	9.2	B	A
			TH	11.5		B		8.8		A		8.4		A	
			RT	11.9		B		8.8		A		9.0		A	
		WB	LT	11.6	13.3	B	B	13.5	14.1	B	B	14.3	14.1	B	B
			TH	13.4		B		14.2		B		14.2		B	
			RT	11.5		B		11.9		B		10.6		B	
		Intersection		16.9		B		16.0		B		16.0		B	

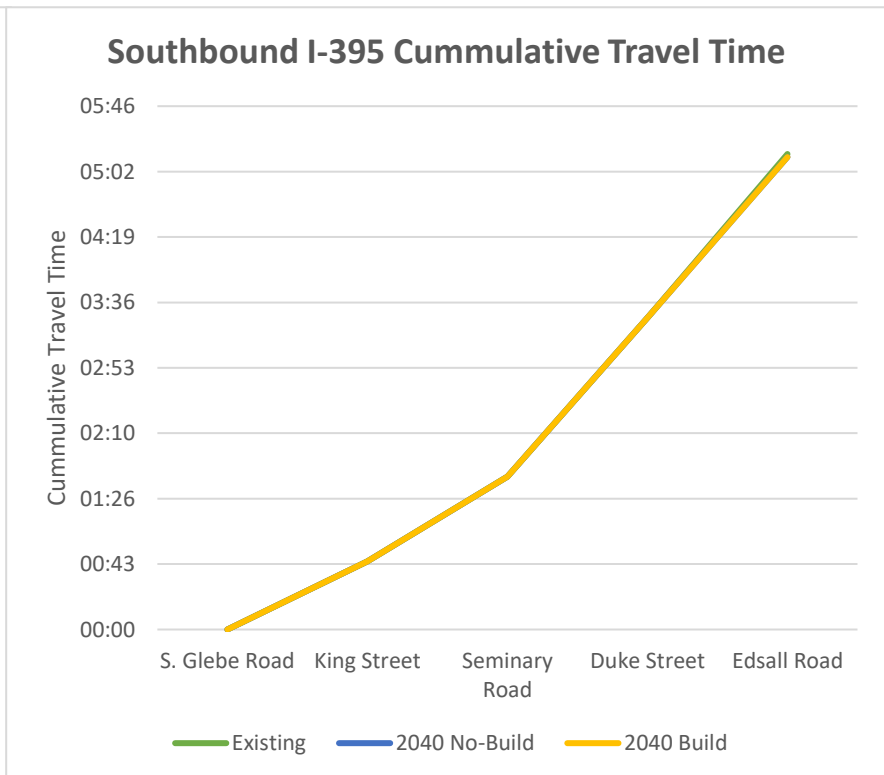
2040 Travel Time Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

Segment ID: Description of Route	AM Peak Hour Travel Time				
	Existing VISSIM (MM:SS)	2040 No-Build VISSIM (MM:SS)	2040 Build VISSIM (MM:SS)	Difference between No-Build and Build (MM:SS)	Percent Difference between No-Build and Build
NB Edsall Road to Seminary Road	11:07	08:50	07:16	- 01:34	- 19.5%
NB Seminary Road to S. Glebe Road	04:28	03:41	04:25	00:44	18.1%
NB Total	**15:35**	**12:31**	**11:41**	**- 00:50**	**- 6.9%**
SB S. Glebe Road to Seminary Road	01:41	01:41	01:41	00:00	0.0%
SB Seminary Road to Edsall Road	03:33	03:31	03:31	00:00	0.0%
SB Total	**05:14**	**05:12**	**05:12**	**00:00**	**0.0%**







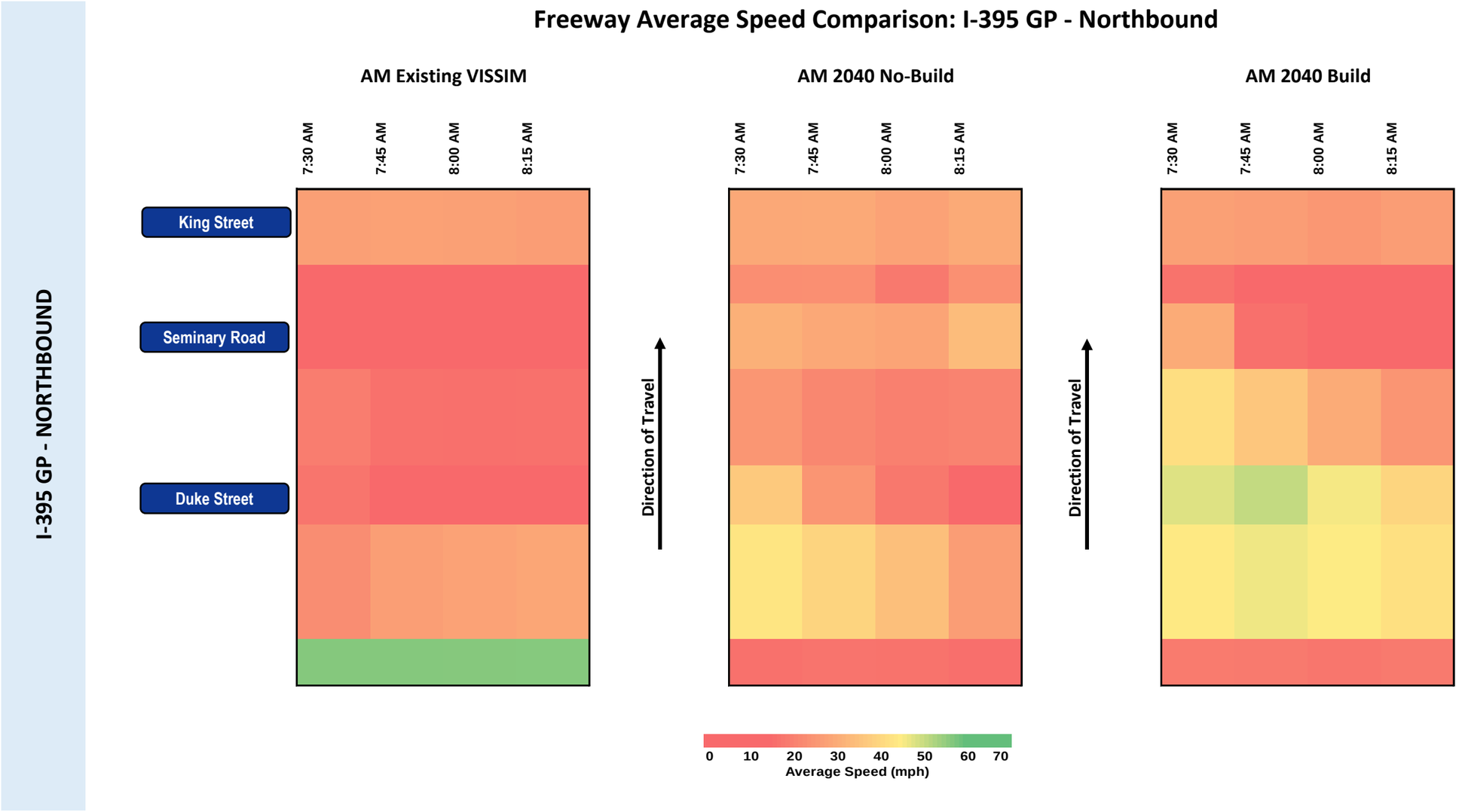
2040 Targeted Queue Location Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

Interchange	Location	Approximate Storage (feet)	AM Vissim Max Queue Length (feet)		
			Existing	2040 No-Build	2040 Build
Duke Street	Ramp from Duke Street westbound to I-395 southbound	2,500	0	0	0
Seminary Road	Ramp from Seminary Road westbound to I-395 southbound	1,300	0	0	0
	Ramp from I-395 HOV northbound to Seminary Road	1,100	140	100	176
	Ramp from Seminary Road to I-395 HOV northbound	2,600	0	0	0

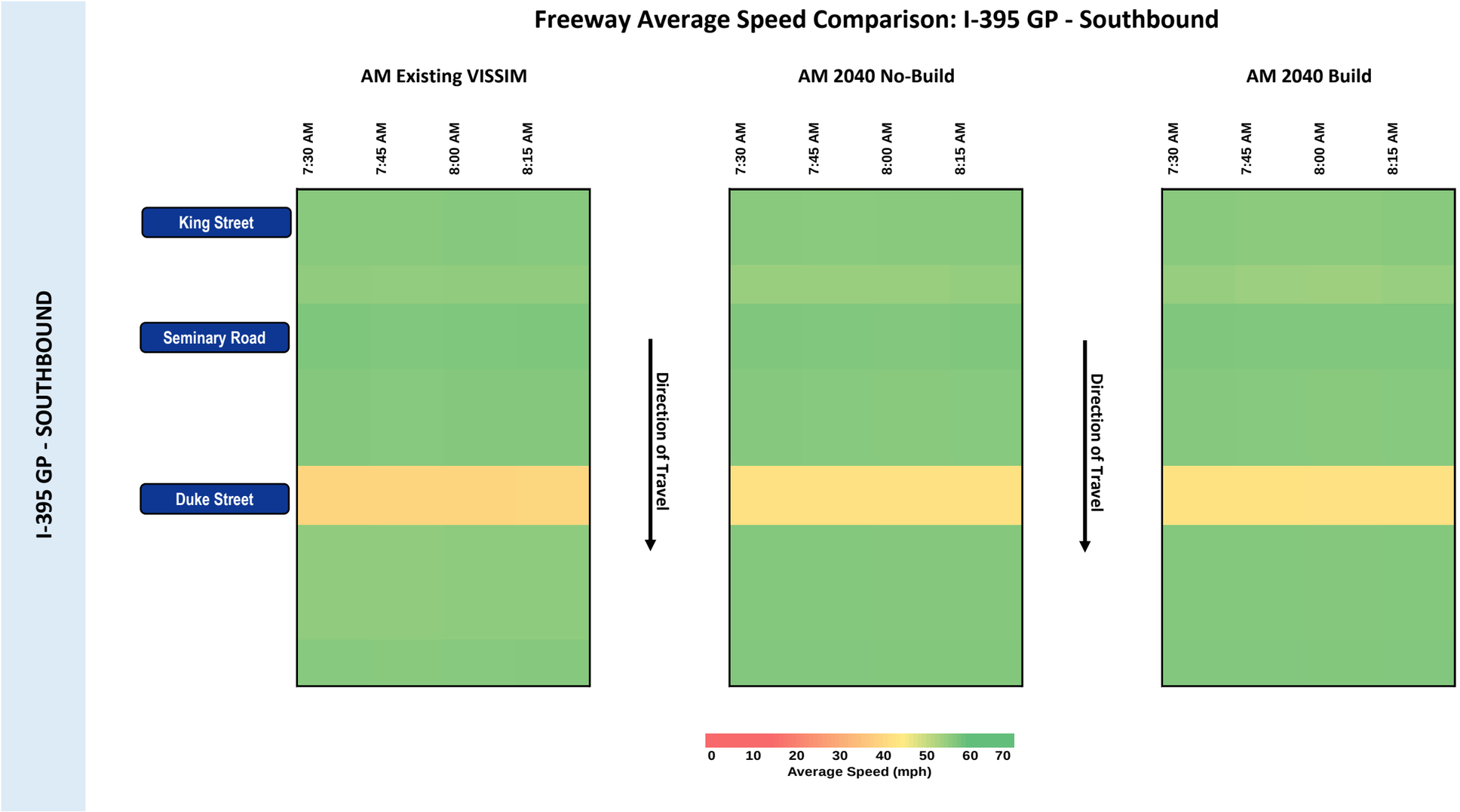
2040 Speed Heat Map Comparison

AM Peak Hour (7:30 AM - 8:30 AM)



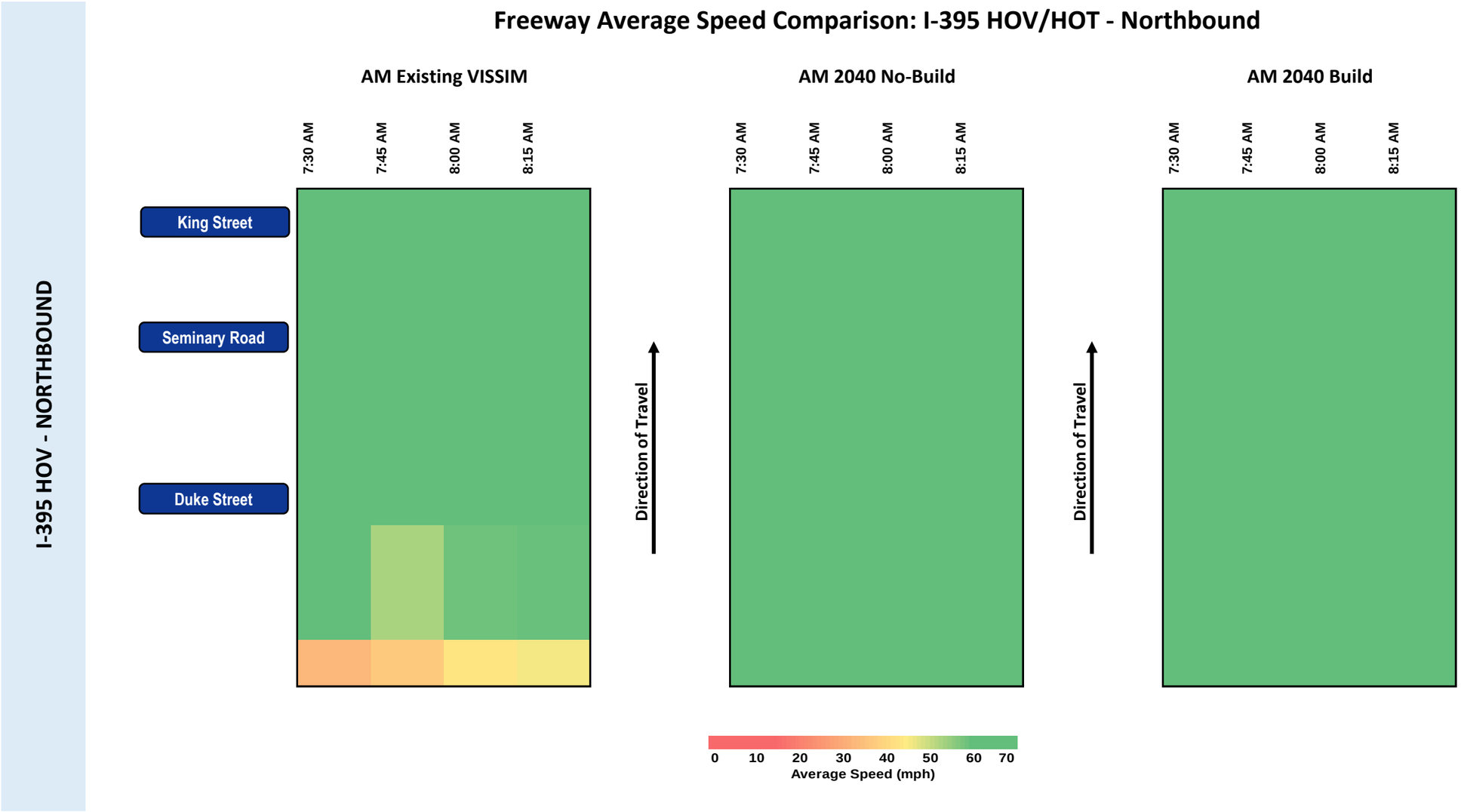
2040 Speed Heat Map Comparison

AM Peak Hour (7:30 AM - 8:30 AM)



2040 Speed Heat Map Comparison

AM Peak Hour (7:30 AM - 8:30 AM)



APPENDIX G: 2040 NO-BUILD AND BUILD PM PEAK PERIOD OPERATIONAL ANALYSIS SUMMARY TABLES

- **Freeway and Ramp Volume and MOEs Comparison**
- **Intersection Volume and MOE Comparison**
- **Travel Time Comparison**
- **Targeted Queue Location Comparison**
- **Speed Heat Maps**

2040 Freeway and Ramp Volume and MOEs Comparison

PM Peak Hour (4:30 PM - 5:30 PM)

Facility	Segment	Type	Existing PM			2040 No-Build PM			2040 Build PM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
NB I-395 GP	Mainline south of Turkeycock	Basic/Diverge	5,783	55	26.3	6,049	53	29.5	6,057	53	30.0
	Between off-ramp to HOV NB and on-ramp from HOT NB at Turkeycock	Basic	5,777	55	35.2	6,005	52	41.4	6,030	52	41.4
	Between on-ramp from HOT NB at Turkeycock and off-ramp to Duke Street EB	Merge/Diverge	5,775	53	26.3	5,968	47	34.5	6,005	47	33.9
	Between off-ramp to Duke Street EB and off-ramp to Duke Street WB	Diverge	5,191	53	24.4	5,395	50	26.9	5,425	52	26.2
	Between off-ramp to Duke Street WB and on-ramp from Duke Street	Basic	4,755	55	28.7	4,810	55	29.1	4,818	55	29.2
	Between on-ramp from Duke Street EB and off-ramp to Seminary Road	Merge/Basic/Diverge	5,756	55	25.7	5,881	55	26.4	5,923	55	26.6
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	4,982	54	30.6	5,085	54	31.5	5,111	54	31.6
	Between on-ramp from Seminary Road and off-ramp to King Street EB	Merge/Diverge	5,934	53	25.0	6,178	53	26.3	6,213	53	26.4
	Between off-ramp to King Street and on-ramp from King Street	Basic	5,213	55	31.7	5,317	54	32.5	5,306	54	32.4
	Between on-ramp from King Street EB and on-ramp from King Street WB	Merge	5,823	52	33.5	6,122	50	36.9	6,209	49	38.6
	Mainline north of King Street	Weave	5,991	56	26.8	6,221	56	27.9	6,253	56	28.0
SB I-395 GP	Mainline north of King Street	Weave	5,421	41	38.5	5,356	53	25.5	5,407	52	26.2
	Between off-ramp to King Street EB & WB and on-ramp from King Street WB	Basic	3,887	15	73.9	3,940	49	21.9	3,948	49	22.1
	Between on-ramp from King Street WB and on-ramp from King Street EB	Merge	4,011	14	77.2	4,133	51	19.3	4,130	51	19.2
	Between on-ramp from King Street EB and off-ramp to Seminary Road	Weave	4,143	9	104.4	4,514	55	16.4	4,516	55	16.4
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	3,491	6	148.9	3,807	55	17.5	3,803	55	17.6
	Between on-ramp from Seminary Road and off-ramp to Duke Street WB	Merge/Basic/Diverge	4,196	14	87.9	5,061	52	23.8	4,849	52	22.5
	Between off-ramp to Duke Street WB and on-ramp from Duke Street WB	Basic	3,925	17	67.7	4,024	57	17.6	3,729	57	16.2
	Between on-ramp from Duke Street WB and off-ramp to Duke Street EB	Weave	4,469	13	88.4	4,816	51	22.8	4,509	52	21.2
	Between off-ramp to Duke Street EB and on-ramp from Duke Street EB	Basic	4,312	38	37.7	4,027	51	23.0	3,720	52	21.3
	Between on-ramp from Duke Street EB and off-ramp to HOT SB at Turkeycock	Merge/Diverge	4,869	49	30.6	4,819	50	23.9	4,509	51	22.3
	Between off-ramp to HOT SB and on-ramp from HOV SB at Turkeycock	Basic	4,061	48	28.2	4,386	48	22.9	4,264	48	22.2
	Mainline south of Turkeycock	Merge/Basic	4,771	47	25.3	5,641	48	23.5	5,581	48	23.3

Facility	Segment	Type	Existing PM			2040 No-Build PM			2040 Build PM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
SB I-395 HOV/HOT	Mainline south of Turkeycock	Basic/Diverge	2,983	65	22.4	3,924	59	21.5	3,939	59	21.6
	Between off-ramp to GP and on-ramp from GP at Turkeycock	Basic	2,736	66	20.8	3,499	59	19.7	3,497	59	19.7
	Between on-ramp from GP at Turkeycock to off-ramp to Seminary Road	Merge/Basic/Diverge	2,965	61	24.4	3,719	66	18.2	3,929	66	19.3
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	2,233	63	17.0	3,033	67	15.0	3,207	67	15.9
	Mainline north of King Street	Merge/Basic	3,038	67	14.8	3,475	67	16.5	3,455	67	16.4

Facility	Segment	Type	Existing PM			2040 No-Build PM			2040 Build PM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
Duke Street Interchange Ramps	I-395 NB to Duke St EB		578	40	14.4	558	24	58.8	571	31	42.5
	I-395 NB to Duke St WB		428	26	16.4	582	22	31.6	601	21	34.3
	Duke St WB to I-395 NB		625	40	15.5	622	40	15.4	630	40	15.6
	Duke St EB to I-395 NB		400	38	10.4	461	38	12.0	487	38	12.7
	I-395 SB to Duke St WB		475	40	9.7	1,026	28	23.1	1,107	21	38.0
	I-395 SB to Duke St EB		268	27	10.0	310	8	20.4	296	8	18.5
	Duke St WB to I-395 SB		612	23	29.2	779	33	23.8	787	33	24.1
	Duke St EB to I-395 SB		559	41	13.3	568	42	13.5	605	41	14.5
Seminary Road Interchange Ramps	I-395 NB to Seminary Rd		771	43	8.9	796	43	9.2	808	43	9.4
	Seminary Rd to I-395 NB		956	42	11.4	1,092	42	13.1	1,109	42	13.3
	I-395 SB to Seminary Rd		624	44	7.0	741	46	8.1	748	46	8.1
	Seminary Rd to I-395 SB		905	9	117.3	1,218	39	30.7	1,000	40	24.8
	I-395 HOV/HOT SB to Seminary Rd		228	40	6.7	221	36	11.8	435	35	12.3
	Seminary Rd to I-395 HOV/HOT SB		241	39	2.9	415	40	2.8	422	39	5.5
King Street Interchange Ramps	I-395 NB to King St EB		311	32	9.6	316	32	9.8	348	32	10.7
	I-395 NB to King St WB		399	29	13.9	539	28	18.9	548	28	19.2
	King St WB to I-395 NB		185	34	2.7	91	34	1.3	48	34	0.7
	King St EB to I-395 NB		617	26	23.6	807	26	31.1	917	25	38.6
	I-395 SB to King St WB		794	34	23.5	1,029	33	30.7	1,089	33	32.5
	I-395 SB to King St EB		728	31	23.6	565	31	18.1	556	31	17.9
	King St WB to I-395 SB		156	30	5.1	194	30	6.4	182	30	6.0
	King St EB to I-395 SB		301	29	10.5	424	31	13.6	433	31	14.0
Turkeycock Interchange Ramps	I-395 GP NB to I-395 HOV SB		716	39	18.1	674	39	17.5	706	38	18.3
	Seminary Rd to I-395 HOV/HOT SB		807	42	19.3	445	42	10.5	249	42	5.9

2040 Intersection Volume and MOEs Comparison

PM Peak Hour (4:30 PM - 5:30 PM)

#	Intersection	Approach	Movement	Existing PM				2040 No-Build PM				2040 Build PM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
311	Duke St and Oasis Dr and Right-in-Right-out at Shopping Plaza	NB	RT	23.4	23.4	C	C	45.4	45.4	D	D	38.9	38.9	D	D
		SB	RT	14.8	14.8	B	B	111.5	111.5	F	F	127.6	127.6	F	F
		EB	TH	4.1	4.1	A	A	7.6	7.6	A	A	5.2	5.2	A	A
			RT	3.5		A		7.4		A		5.5		A	
		WB	LT	24.3	14.4	C	B	80.2	47.9	F	D	76.8	49.3	E	D
			TH	15.1		B		49.8		D		51.5		D	
			RT	3.5		A		15.3		B		17.2		B	
		Intersection		10.3		B		31.4		C		31.1		C	
312	Duke St and N. Beauregard St	NB	LT	147.8	129.4	F	F	167.3	151.7	F	F	149.4	133.1	F	F
			TH	146.5		F		166.1		F		143.9		F	
			RT	85.2		F		109.0		F		95.8		F	
		SB	LT	65.5	57.4	E	E	88.7	81.7	F	F	101.1	100.0	F	F
			TH	72.6		E		84.8		F		117.6		F	
			RT	9.2		A		47.6		D		88.6		F	
		EB	LT	96.3	48.5	F	D	153.8	66.7	F	E	156.8	65.4	F	E
			TH	36.1		D		42.5		D		39.9		D	
			RT	33.2		C		26.4		C		32.9		C	
		WB	LT	126.5	38.6	F	D	136.1	42.0	F	D	137.0	43.7	F	D
			TH	38.5		D		40.6		D		42.0		D	
			RT	23.0		C		32.3		C		34.8		C	
		Intersection		53.4		D		65.8		E		68.6		E	
321	Duke St and S. Walker St - include the ramp to the mall	NB	LT	53.5	45.4	D	D	67.0	58.6	E	E	66.6	58.3	E	E
			RT	4.3		A		5.7		A		5.9		A	
		SB	LT	77.3	156.0	E	F	70.2	197.8	E	F	68.4	195.9	E	F
			RT	193.5		F		223.1		F		223.2		F	
		EB	TH	28.1	22.1	C	C	45.3	40.8	D	D	40.0	34.4	D	C
			RT	7.5		A		30.8		C		21.9		C	
		WB	LT	79.4	20.7	E	C	81.1	30.3	F	C	85.1	32.8	F	C
			TH	14.5		B		25.9		C		28.0		C	
		Intersection		27.7		C		46.4		D		44.8		D	
300	Duke St and I-395 Southbound Off-Ramp (Signal Added in 2020 and 2040 Scenarios)	SB	LT	Signal not built in Existing Conditions.				54.4	54.4	D	D	48.6	48.6	D	D
		EB	TH					37.3	37.3	D	D	27.6	27.6	C	C
		WB	TH					43.9	43.9	D	D	47.3	47.3	D	D
		Intersection						42.4		D		40.1		D	

#	Intersection	Approach	Movement	Existing PM				2040 No-Build PM				2040 Build PM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
401	Seminary Rd and I-395 Northbound Off-Ramp	NB	TH	53.2	41.2	D	D	56.1	42.7	E	D	57.5	43.8	E	D
			RT	8.1		A		11.7		B		11.4		B	
		EB	LT	5.6	5.3	A	A	6.7	7.1	A	A	5.8	6.6	A	A
			TH	4.9		A		7.6		A		7.4		A	
		Intersection		21.6		C		21.8		C		22.4		C	
402	Seminary Rd and I-395 Northbound On-Ramp	NB	LT	1.5	0.9	A	A	1.9	1.1	A	A	2.2	1.3	A	A
			TH	0.4		A		0.4		A		0.4		A	
		WB	TH	76.8	26.6	E	C	84.4	37.9	F	D	89.3	37.0	F	D
			RT	0.2		A		1.6		A		1.4		A	
		Intersection		10.0		A		17.0		B		17.7		B	
403	Seminary Rd and I-395 Southbound Off-Ramp	SB	TH	77.2	43.5	E	D	84.1	50.4	F	D	79.9	45.9	E	D
			RT	10.8		B		1.1		A		1.1		A	
		WB	LT	7.1	5.5	A	A	9.3	7.5	A	A	9.3	7.5	A	A
			TH	4.5		A		6.3		A		6.3		A	
		Intersection		19.3		B		21.9		C		20.5		C	
404	Seminary Rd and I-395 Southbound On-Ramp	SB	LT	4.0	4.3	A	A	5.6	3.4	A	A	5.4	3.4	A	A
			TH	4.7		A		0.6		A		0.8		A	
		EB	TH	60.4	28.7	E	C	65.6	28.5	E	C	64.8	31.4	E	C
			RT	0.6		A		0.5		A		0.4		A	
		Intersection		19.8		B		18.4		B		18.6		B	
405	Seminary Rd and I-395 Northbound HOV Off-Ramp	NB	LT	-	-	-	-	-	-	-	-	-	-	-	-
			RT	-		-		-		-		-		-	
		EB	TH	1.4	1.5	A	A	2.3	2.4	A	A	3.5	3.7	A	A
		WB	TH	31.7	29.5	C	C	0.0	0.7	A	A	0.0	1.2	A	A
		Intersection		10.5		B		1.8		A		2.9		A	
411	Seminary Rd and Mark Center Ave	NB	LT	68.0	38.7	E	D	51.2	32.3	D	C	52.0	33.1	D	C
			TH	66.2		E		51.1		D		47.1		D	
			RT	34.8		C		29.5		C		30.1		C	
		SB	LT	53.1	40.4	D	D	55.4	37.7	E	D	56.5	37.6	E	D
			TH	51.6		D		56.7		E		59.1		E	
			RT	18.0		B		7.3		A		7.1		A	
		EB	LT	89.8	16.3	F	B	69.0	29.2	E	C	71.8	28.5	E	C
			TH	14.2		B		28.1		C		26.9		C	
			RT	10.5		B		20.9		C		21.7		C	
		WB	LT	65.0	62.1	E	E	67.6	28.3	E	C	66.2	27.7	E	C
			TH	63.9		E		28.7		C		28.1		C	
			RT	38.5		D		10.6		B		10.2		B	
		Intersection		38.7		D		30.3		C		30.1		C	
412	Seminary Rd and N. Beauregard St	NB	LT	70.1	36.2	E	D	Signal replaced with Ellipse in 2040							
			TH	48.3		D									
			RT	1.1		A									
		SB	LT	87.5	59.9	F	E								
			TH	52.0		D									
			RT	46.5		D									
		EB	LT	119.3	30.2	F	C								
			TH	36.4		D									
			RT	11.3		B									
		WB	LT	142.8	56.2	F	E								
			TH	18.8		B									
			RT	3.6		A									
		Intersection		44.1		D									
413	Seminary Road and N. Beauregard Street - Ellipse Intersection furthest West on Seminary	SB	LT	Signal not built in Existing Conditions.				30.3	13.0	C	B	31.3	13.4	C	B
			TH					11.7		B		12.4		B	
			RT					24.4		C		25.0		C	
		EB	TH					35.6	24.5	D	C	35.6	23.3	D	C
			RT					10.0		A		7.3		A	
		WB	TH					0.4	0.4	A	A	2.9	2.9	A	A
		Intersection						13.8		B		14.0		B	
414	Seminary Road and N. Beauregard Street - Ellipse Intersection south on Beauregard	NB	LT	Signal not built in Existing Conditions.				18.2	16.9	B	B	17.6	16.5	B	B
			TH					15.1		B		15.4		B	
			RT					16.9		B		16.4		B	
		EB	LT					37.7	37.7	D	D	39.7	39.7	D	D
		Intersection						17.8		B		17.6		B	

#	Intersection	Approach	Movement	Existing PM				2040 No-Build PM				2040 Build PM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
415	Seminary Road and N. Beauregard Street - Ellipse Intersection furthest East on Seminary	NB	LT	Signal not built in Existing Conditions.				32.8	25.9	C	C	32.5	26.1	C	C
			TH					48.7		D		48.3		D	
			RT					1.2		A		1.0		A	
		EB	TH					1.4	1.4	A	A	1.3	1.3	A	A
		WB	LT					22.0	27.8	C	C	20.8	28.1	C	C
			TH					32.5		C		33.4		C	
			RT					21.9		C		22.2		C	
		Intersection						20.2		C		20.6		C	
416	Seminary Road and N. Beauregard Street - Ellipse Intersection northeast on Beauregard	NB	LT	Signal not built in Existing Conditions.				15.5	16.0	B	B	16.7	16.5	B	B
			TH					15.6		B		16.4		B	
			RT					16.8		B		16.8		B	
		EB	LT					26.1	13.5	C	B	23.8	12.6	C	B
			TH					13.1		B		12.2		B	
		WB	TH					25.1	24.8	C	C	27.6	26.8	C	C
			RT					24.0		C		24.0		C	
		Intersection						17.4		B		18.0		B	
417	Seminary Road and N. Beauregard Street - Ellipse Intersection northwest on Beauregard	NB	U	Signal not built in Existing Conditions.				61.4	61.4	E	E	54.5	54.5	D	D
		SB	LT					39.6	48.2	D	D	39.8	48.1	D	D
			TH					52.1		D		51.8		D	
		EB	TH					15.5	15.5	B	B	15.4	15.4	B	B
		WB	LT					16.9	16.2	B	B	16.6	16.0	B	B
			TH					2.7		A		3.5		A	
		Intersection						48.8		D		45.9		D	
421	Seminary Rd and Kenmore Ave-Library Lane	NB	LT	44.1	43.9	D	D	46.7	45.4	D	D	46.1	45.8	D	D
			TH	41.6		D		37.1		D		42.0		D	
			RT	45.3		D		43.2		D		45.6		D	
		SB	LT	54.9	54.0	D	D	59.5	59.4	E	E	73.9	73.7	E	E
			TH	49.3		D		59.5		E		76.4		E	
			RT	53.5		D		59.4		E		73.0		E	
		EB	LT	16.6	16.6	B	B	14.1	15.8	B	B	13.4	13.0	B	B
			TH	16.7		B		16.0		B		13.0		B	
			RT	10.2		B		13.2		B		10.5		B	
		WB	LT	12.8	9.2	B	A	11.2	7.0	B	A	10.2	6.9	B	A
			TH	9.1		A		6.8		A		6.8		A	
			RT	9.2		A		7.9		A		6.7		A	
		Intersection		17.0		B		17.4		B		17.7		B	
422	Seminary Rd and Seminary Rd - The Encore entrance	NB	RT	53.3	53.3	D	D	35.8	35.8	D	D	29.9	29.9	C	C
		SB	LT	56.7	25.3	E	C	47.4	22.6	D	C	46.7	22.2	D	C
			RT	7.9		A		8.8		A		8.9		A	
		EB	LT	22.0	22.5	C	C	24.1	18.4	C	B	23.0	15.1	C	B
			TH	22.5		C		18.3		B		15.0		B	
		WB	TH	1.3	1.3	A	A	1.2	1.2	A	A	1.1	1.1	A	A
			RT	1.2		A		1.5		A		1.3		A	
		Intersection		14.2		B		11.5		B		9.3		A	
423	Seminary Rd and N. Pickett St	NB	LT	51.8	38.0	D	D	52.0	37.0	D	D	52.5	38.2	D	D
			RT	12.4		B		12.6		B		13.4		B	
		EB	TH	19.1	19.0	B	B	17.5	17.2	B	B	16.7	16.4	B	B
			RT	18.3		B		15.5		B		14.7		B	
		WB	LT	17.6	5.6	B	A	18.2	6.0	B	A	17.0	5.5	B	A
			TH	4.3		A		4.5		A		4.2		A	
		Intersection		14.4		B		13.4		B		12.7		B	
424	Seminary Rd and N. Jordan St	NB	LT	46.7	42.7	D	D	46.9	43.6	D	D	46.1	42.6	D	D
			RT	7.0		A		6.7		A		8.0		A	
		EB	TH	14.2	13.2	B	B	15.2	14.3	B	B	13.3	12.5	B	B
			RT	10.9		B		12.2		B		10.8		B	
		WB	LT	30.3	7.3	C	A	30.6	8.9	C	A	28.4	8.8	C	A
			TH	5.0		A		6.5		A		6.9		A	
		Intersection		13.6		B		14.8		B		13.9		B	

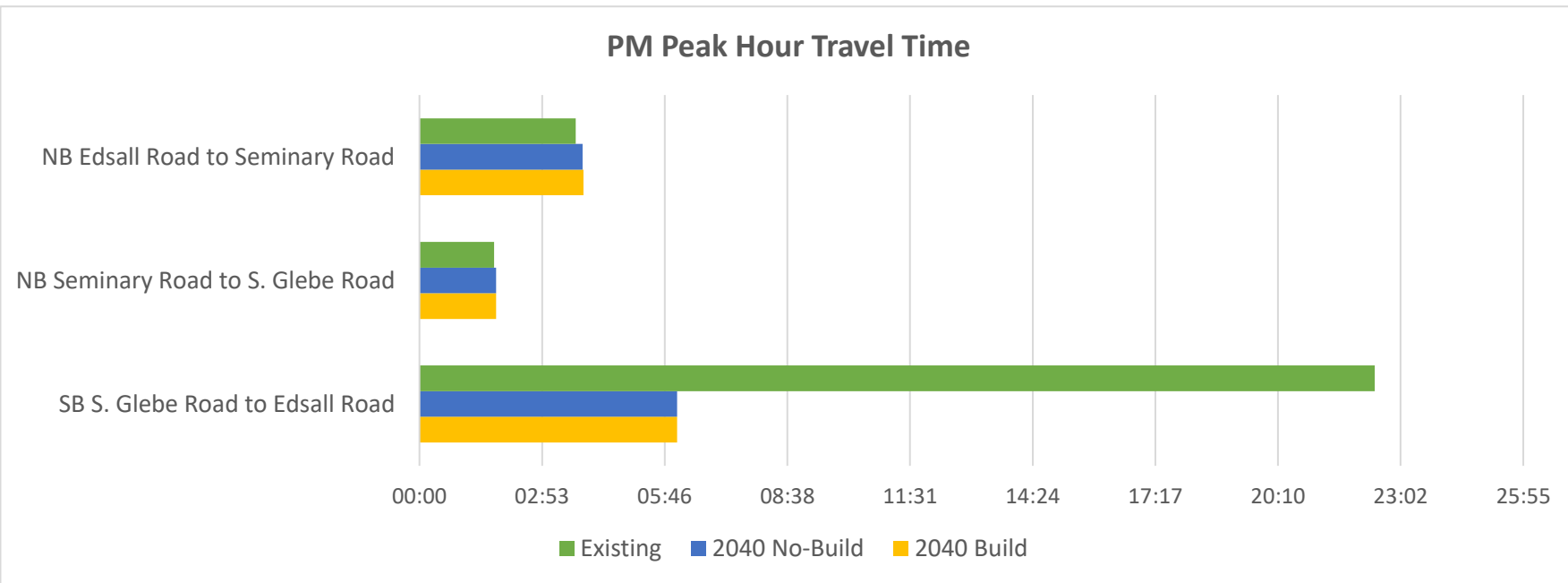
#	Intersection	Approach	Movement	Existing PM				2040 No-Build PM				2040 Build PM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
425	Seminary Rd and N. Howard St	NB	LT	33.7	34.2	C	C	34.5	33.1	C	C	33.8	33.5	C	C
			TH	41.6		D		39.9		D		41.0		D	
			RT	24.2		C		23.7		C		23.8		C	
		SB	LT	38.8	71.5	D	E	73.4	93.0	E	F	70.9	87.7	E	F
			TH	98.6		F		109.9		F		103.3		F	
			RT	62.0		E		82.7		F		77.7		E	
		EB	LT	17.9	16.5	B	B	19.6	17.9	B	B	21.2	18.1	C	B
			TH	17.1		B		18.5		B		18.7		B	
			RT	11.8		B		13.6		B		12.8		B	
		WB	LT	18.4	14.6	B	B	22.7	16.1	C	B	21.2	16.9	C	B
			TH	14.3		B		15.2		B		16.1		B	
			RT	14.2		B		15.4		B		18.1		B	
		Intersection		30.6		C		37.2		D		36.4		D	
426	Seminary Rd and St. Stephens Rd	NB	LT	28.3	23.4	C	C	29.1	24.6	C	C	29.5	24.7	C	C
			RT	15.4		B		15.7		B		16.2		B	
		EB	TH	11.9	11.7	B	B	12.7	12.4	B	B	12.6	12.4	B	B
			RT	9.8		A		9.5		A		10.3		B	
		WB	LT	8.4	4.5	A	A	10.5	5.5	B	A	10.4	5.3	B	A
			TH	4.2		A		5.1		A		4.9		A	
		Intersection		10.1		B		10.9		B		10.8		B	
427	Seminary Rd and Fort Williams Pkwy	NB	LT	6.2	3.8	A	A	8.5	5.1	A	A	7.7	5.0	A	A
			RT	1.4		A		2.1		A		2.5		A	
		EB	TH	0.7	0.8	A	A	0.7	0.9	A	A	0.7	0.9	A	A
			RT	1.6		A		1.7		A		1.7		A	
		WB	LT	8.1	1.1	A	A	7.6	1.1	A	A	7.8	1.1	A	A
			TH	0.3		A		0.4		A		0.4		A	
		Intersection		1.0		A		1.1		A		1.1		A	
428	Seminary Rd and N. Quaker Lane	NB	LT	42.7	32.0	D	C	35.0	29.1	D	C	43.3	32.0	D	C
			TH	27.8		C		26.5		C		26.7		C	
			RT	23.6		C		23.9		C		23.2		C	
		SB	LT	69.2	45.2	E	D	50.1	38.5	D	D	60.1	42.9	E	D
			TH	36.6		D		34.7		C		36.8		D	
			RT	31.3		C		30.0		C		31.5		C	
		EB	LT	24.7	36.5	C	D	20.8	30.3	C	C	23.9	32.2	C	C
			TH	39.8		D		32.9		C		35.3		D	
			RT	35.2		D		29.1		C		29.7		C	
		WB	LT	26.7	24.0	C	C	23.0	24.2	C	C	27.2	26.6	C	C
			TH	29.7		C		28.5		C		30.8		C	
			RT	15.9		B		17.7		B		20.0		B	
		Intersection		36.1		D		31.4		C		34.5		C	
511	King St -Rt 7- and Park Center Dr	NB	LT	50.5	22.6	D	C	51.3	28.2	D	C	53.2	29.3	D	C
			RT	13.9		B		20.2		C		21.3		C	
		EB	TH	11.6	11.5	B	B	18.2	18.1	B	B	21.0	21.0	C	C
			RT	10.4		B		17.5		B		20.8		C	
		WB	LT	20.5	6.6	C	A	35.9	12.1	D	B	41.6	13.9	D	B
			TH	4.1		A		8.0		A		8.9		A	
		Intersection		9.8		A		15.7		B		17.8		B	
521	King St -Rt 7- and Menokin Dr	NB	LT	50.9	47.4	D	D	56.6	56.6	E	E	51.4	51.4	D	D
			RT	32.9		C		-		-		-		-	
		EB	TH	9.8	10.9	A	B	2.5	3.0	A	A	3.7	4.1	A	A
			RT	12.8		B		4.1		A		4.8		A	
		WB	LT	28.5	8.9	C	A	9.5	1.8	A	A	10.6	2.9	B	A
			TH	6.5		A		1.1		A		2.2		A	
		Intersection		12.2		B		2.6		A		4.0		A	
522	King St -Rt 7- and N. Dearing St	NB	LT	31.4	31.0	C	C	29.7	30.1	C	C	30.1	30.7	C	C
			TH	29.1		C		32.9		C		31.1		C	
			RT	30.2		C		28.4		C		35.4		D	
		SB	LT	58.1	40.6	E	D	58.9	39.6	E	D	55.6	41.4	E	D
			TH	66.7		E		61.4		E		62.3		E	
			RT	28.4		C		29.4		C		30.4		C	
		EB	LT	14.9	9.7	B	A	17.1	15.0	B	B	16.1	15.1	B	B
			TH	9.3		A		15.0		B		15.2		B	
			RT	8.2		A		13.3		B		13.9		B	
		WB	LT	18.1	18.0	B	B	19.5	23.3	B	C	17.9	21.7	B	C
			TH	18.2		B		23.6		C		22.1		C	
			RT	13.8		B		20.9		C		18.4		B	
		Intersection		16.3		B		21.7		C		21.4		C	

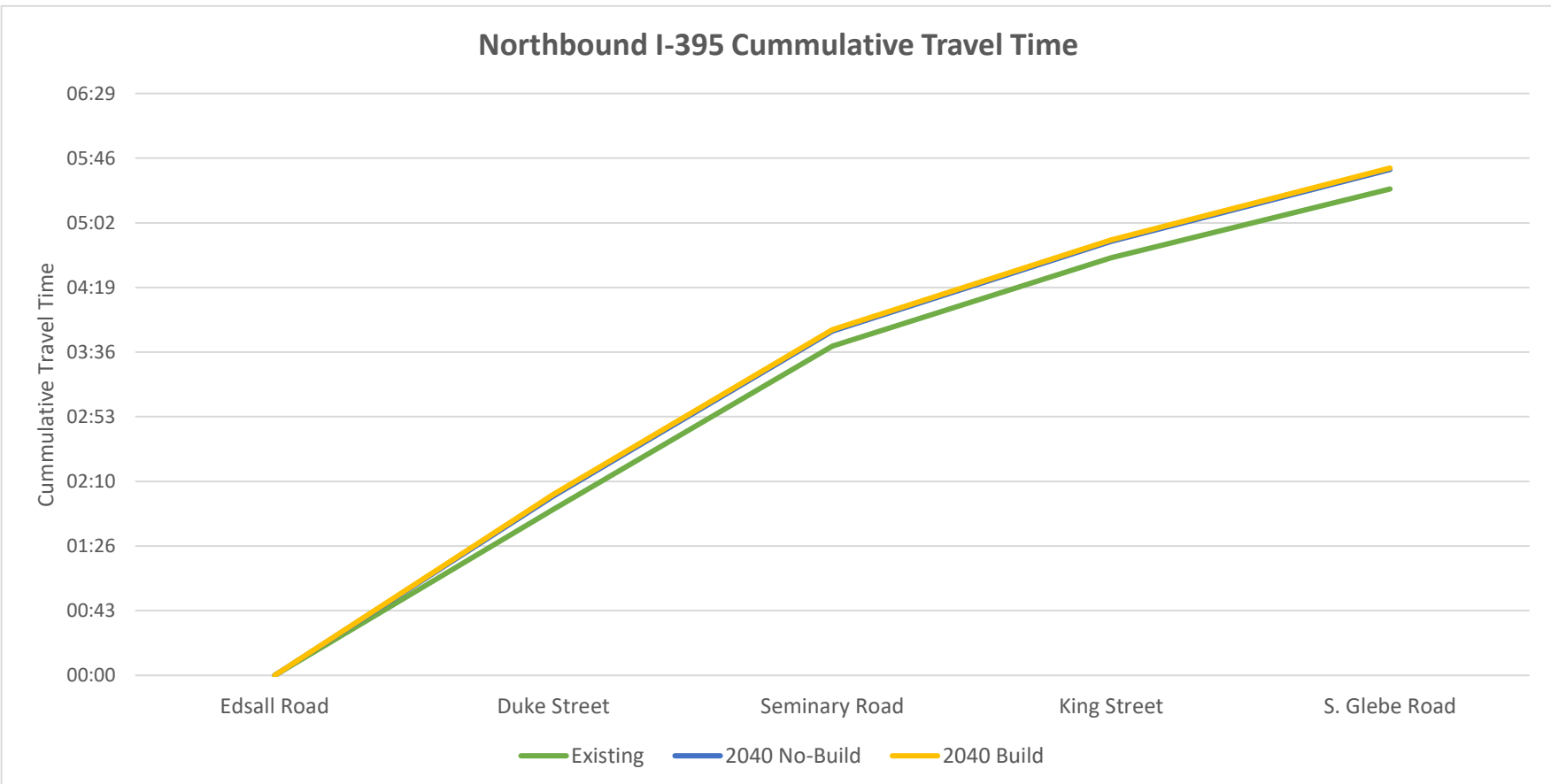
2040 Travel Time Comparison

PM Peak Hour (4:30 PM - 5:30 PM)

Segment ID: Description of Route	PM Peak Hour Travel Time				
	Existing VISSIM (MM:SS)	2040 No-Build VISSIM (MM:SS)	2040 Build VISSIM (MM:SS)	Difference between No-Build and Build (MM:SS)	Percent Difference between No-Build and Build
NB Edsall Road to Seminary Road	03:40	03:50	03:51	00:01	0.4%
NB Seminary Road to S. Glebe Road	01:45	01:48	01:48	00:00	0.0%
NB Total	**05:25**	**05:38**	**05:39**	**00:01**	**0.3%**
5: SB S. Glebe Road to Edsall Road*	22:26	06:03	06:03	00:00	0.0%
SB Total	**22:26**	**06:03**	**06:03**	**00:00**	**0.0%**

** As noted in the Calibration Memo, SB Travel Times in the PM were evaluated along the full corridor.*





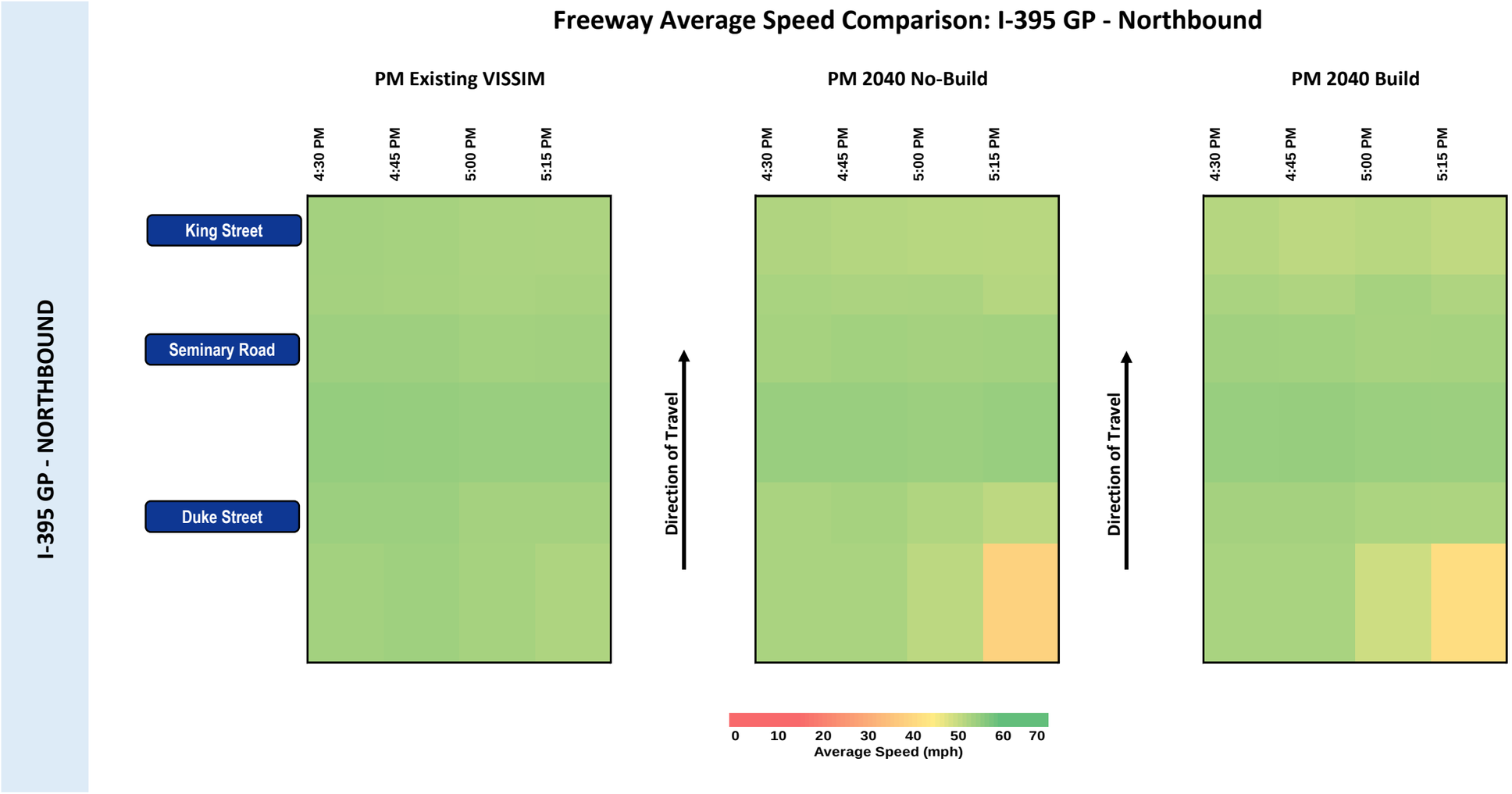
2040 Targeted Queue Location Comparison

PM Peak Hour (4:30 PM - 5:30 PM)

Interchange	Location	Approximate Storage (feet)	PM Vissim Max Queue Length (feet)		
			Existing	2040 No-Build	2040 Build
Duke Street	Ramp from Duke Street westbound to I-395 southbound	2,500	1,423	0	0
Seminary Road	Ramp from Seminary Road westbound to I-395 southbound	1,300	1,361	0	0
	Ramp from Seminary Road to I-395 HOV northbound	1,100	119	239	284
	Ramp from I-395 HOV southbound to Seminary Road	2,600	0	0	0

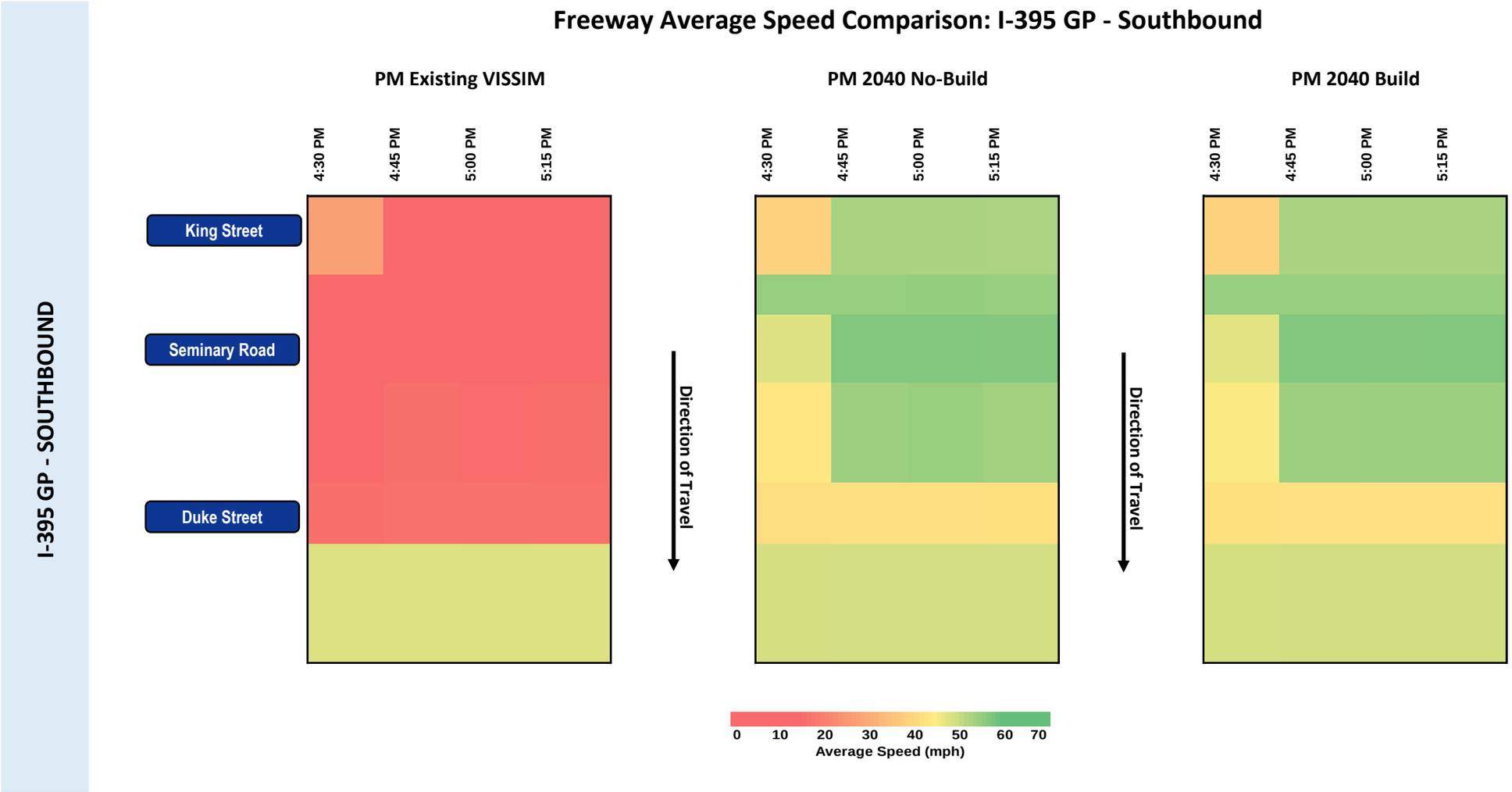
2040 Speed Heat Map Comparison

PM Peak Hour (4:30 PM - 5:30 PM)



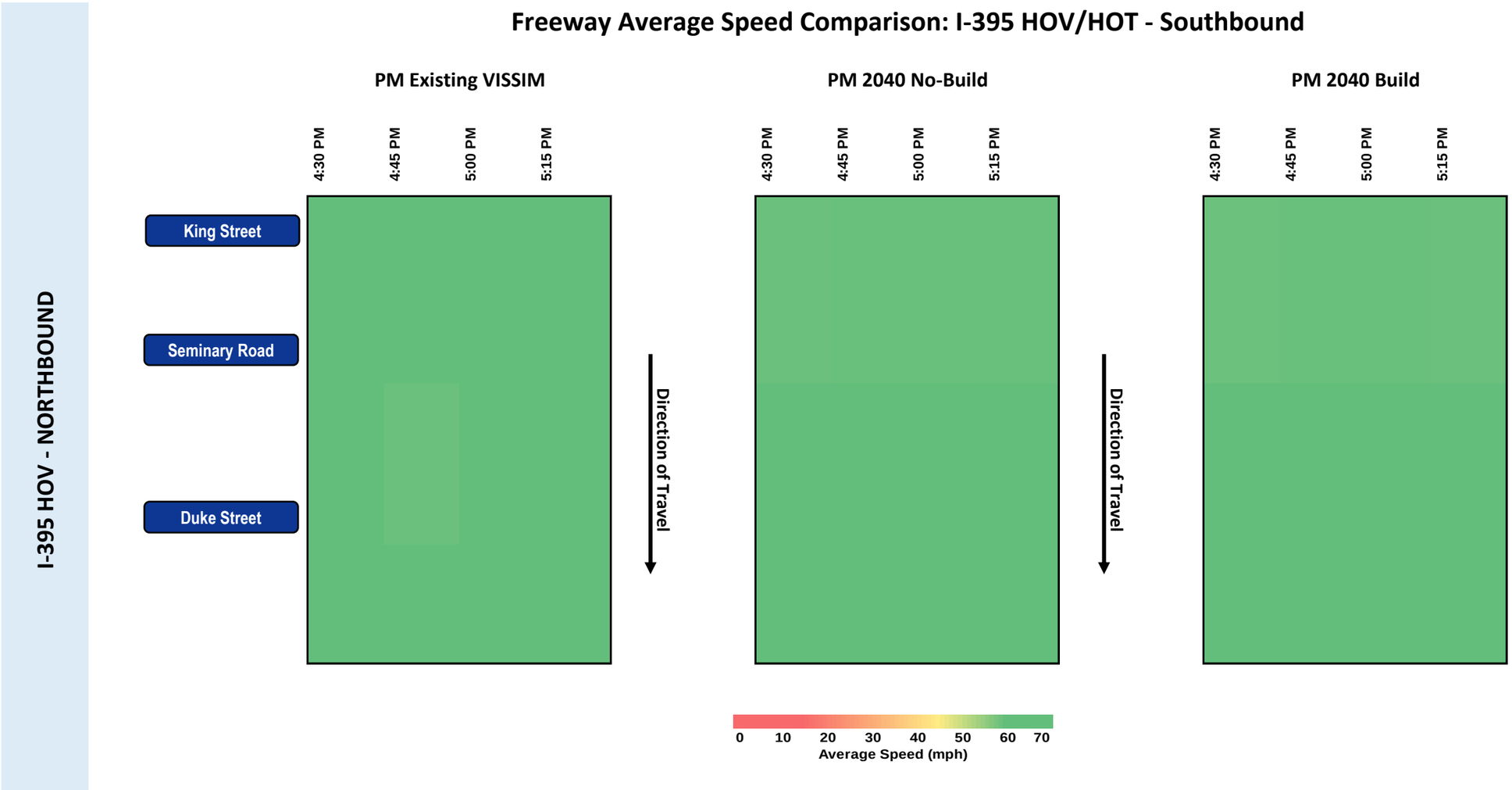
2040 Speed Heat Map Comparison

PM Peak Hour (4:30 PM - 5:30 PM)



2040 Speed Heat Map Comparison

PM Peak Hour (4:30 PM - 5:30 PM)



APPENDIX H: ANCILLARY SAFETY DATA

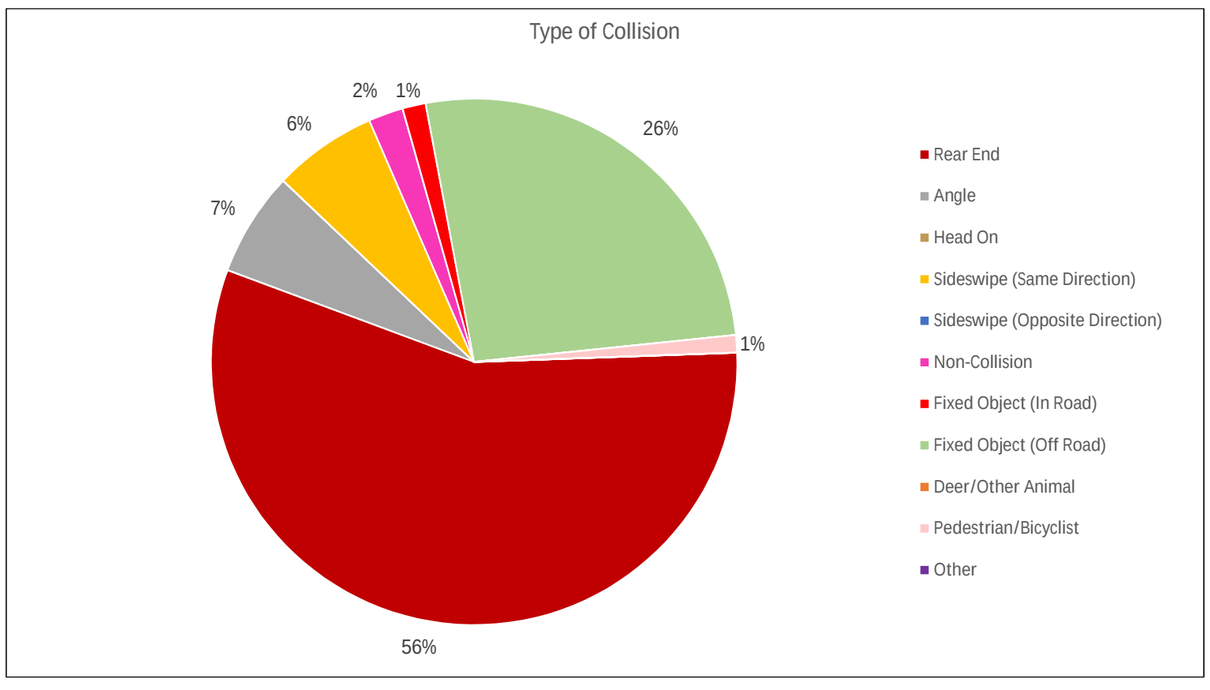
I-395 All Study Ramps - Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

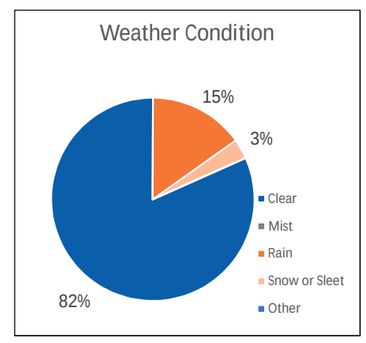
Total Comparison

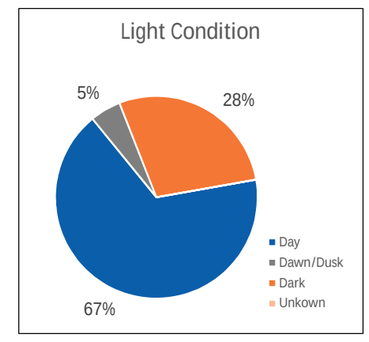
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION												TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	12	38	8	3	8	4	5	22	6	13	31	31	0	19	0	40	0	6	4	0	24	5	2	6	0	1	1	11	0	0	0	0	50
2015	0	16	51	6	11	7	5	16	22	8	21	38	45	5	17	0	60	0	6	1	0	44	3	0	4	0	2	0	13	0	1	0	0	67
2016	1	17	40	5	12	7	11	6	17	12	22	24	43	4	11	0	49	0	7	2	0	39	4	0	3	0	2	0	10	0	0	0	0	58
2017	0	8	34	2	2	8	3	11	16	11	14	17	32	2	8	0	30	0	10	2	0	18	4	0	1	0	0	2	15	0	1	0	1	42
2018	0	21	46	7	7	9	9	15	20	12	17	38	39	3	25	0	53	0	14	0	0	33	2	0	4	0	1	1	25	0	1	0	0	67
TOTAL	1	74	209	28	35	39	32	53	97	49	87	148	190	14	80	0	232	0	43	9	0	158	18	2	18	0	6	4	74	0	3	0	1	284

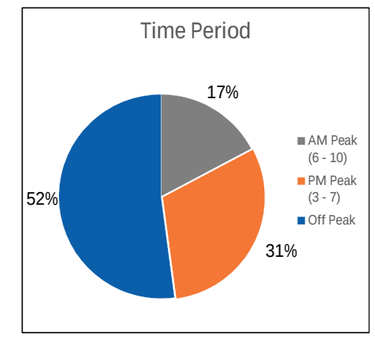
Percentage Comparison

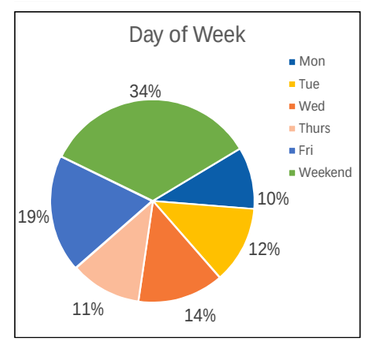
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION												TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	24%	76%	16%	6%	16%	8%	10%	44%	12%	26%	62%	62%	0%	38%	0%	80%	0%	12%	8%	0%	48%	10%	4%	12%	0%	2%	2%	22%	0%	0%	0%	0%	18%
2015	0%	24%	76%	9%	16%	10%	7%	24%	33%	12%	31%	57%	67%	7%	25%	0%	90%	0%	9%	1%	0%	66%	4%	0%	6%	0%	3%	0%	19%	0%	1%	0%	0%	24%
2016	2%	29%	69%	9%	21%	12%	19%	10%	29%	21%	38%	41%	74%	7%	19%	0%	84%	0%	12%	3%	0%	67%	7%	0%	5%	0%	3%	0%	17%	0%	0%	0%	0%	20%
2017	0%	19%	81%	5%	5%	19%	7%	26%	38%	26%	33%	40%	76%	5%	19%	0%	71%	0%	24%	5%	0%	43%	10%	0%	2%	0%	0%	5%	36%	0%	2%	0%	2%	15%
2018	0%	31%	69%	10%	10%	13%	13%	22%	30%	18%	25%	57%	58%	4%	37%	0%	79%	0%	21%	0%	0%	49%	3%	0%	6%	0%	1%	1%	37%	0%	1%	0%	0%	24%
TOTAL	<1%	26%	74%	10%	12%	14%	11%	19%	34%	17%	31%	52%	67%	5%	28%	0%	82%	0%	15%	3%	0%	56%	6%	<1%	6%	0%	2%	1%	26%	0%	1%	0%	<1%	100%

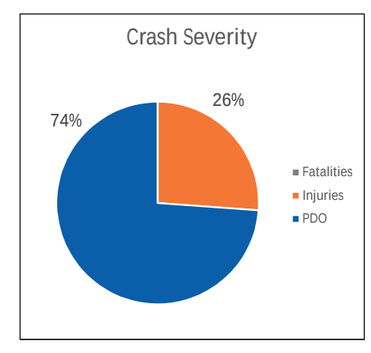












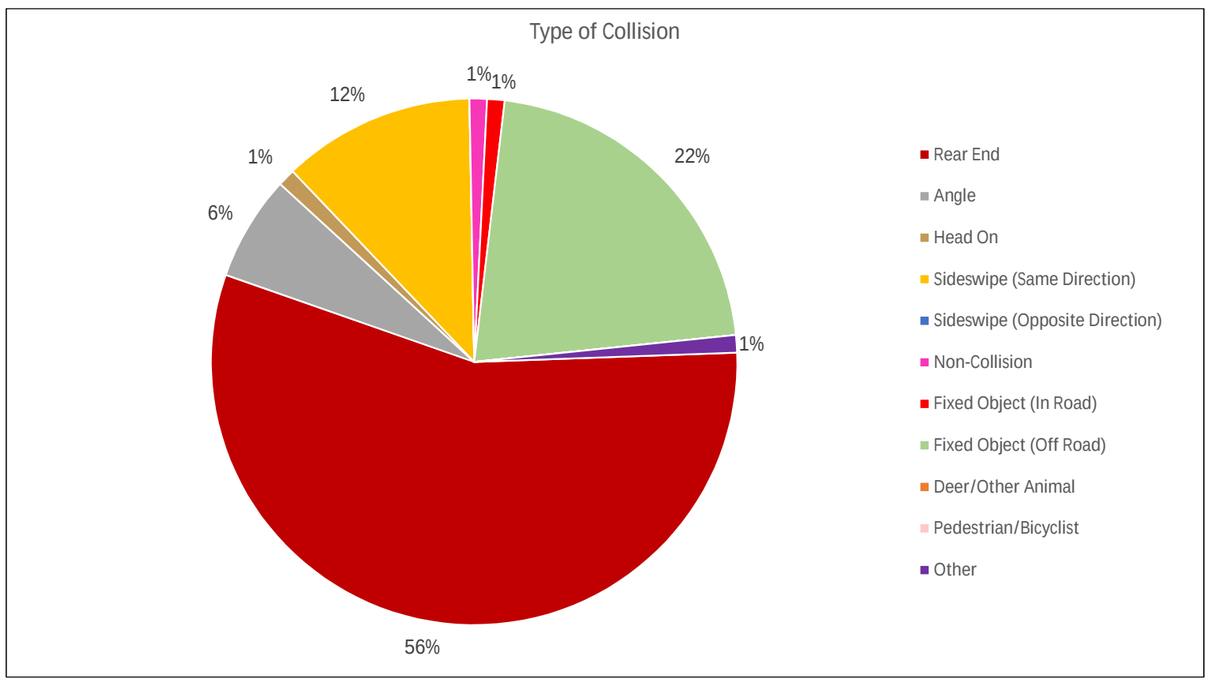
I-395 HOV Mainline - Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

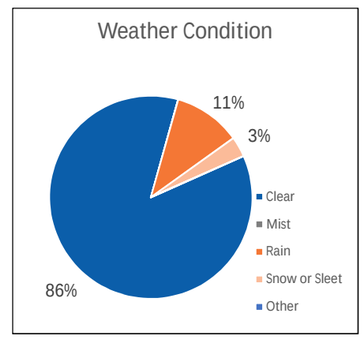
Total Comparison

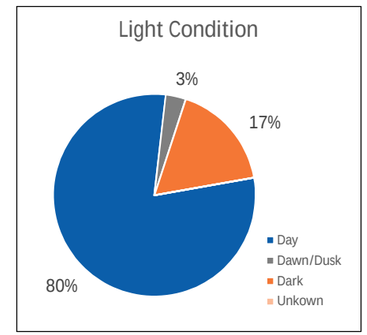
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	3	15	1	1	4	2	4	6	7	3	8	15	1	2	0	14	0	3	1	0	10	2	0	2	0	0	0	4	0	0	0	0	18
2015	1	4	8	0	3	1	2	5	2	3	1	9	9	0	4	0	10	0	3	0	0	7	0	1	2	0	1	0	2	0	0	0	0	13
2016	0	2	11	0	2	2	3	5	1	4	3	6	10	0	3	0	12	0	0	1	0	7	1	0	1	0	0	0	4	0	0	0	0	13
2017	0	7	10	1	4	3	4	4	1	2	10	5	13	1	3	0	16	0	0	1	0	8	0	0	1	0	0	1	6	0	0	0	1	17
2018	0	7	25	1	4	7	6	9	5	9	13	10	27	1	4	0	28	0	4	0	0	20	3	0	5	0	0	0	4	0	0	0	0	32
TOTAL	1	23	69	3	14	17	17	27	15	25	30	38	74	3	16	0	80	0	10	3	0	52	6	1	11	0	1	1	20	0	0	0	1	93

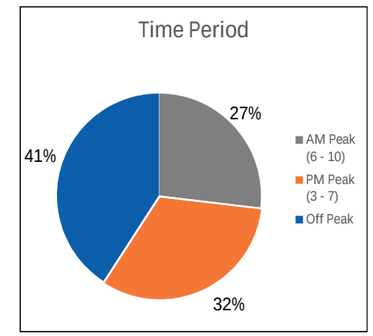
Percentage Comparison

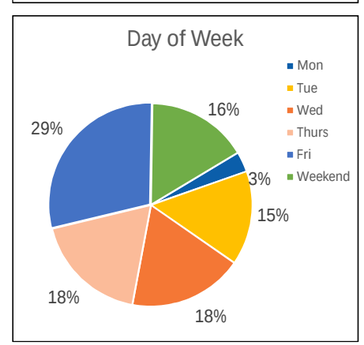
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	17%	83%	6%	6%	22%	11%	22%	33%	39%	17%	44%	83%	6%	11%	0%	78%	0%	17%	6%	0%	56%	11%	0%	11%	0%	0%	0%	22%	0%	0%	0%	0%	19%
2015	8%	31%	62%	0%	23%	8%	15%	38%	15%	23%	8%	69%	69%	0%	31%	0%	77%	0%	23%	0%	0%	54%	0%	8%	15%	0%	8%	0%	15%	0%	0%	0%	0%	14%
2016	0%	15%	85%	0%	15%	15%	23%	38%	8%	31%	23%	46%	77%	0%	23%	0%	92%	0%	0%	8%	0%	54%	8%	0%	8%	0%	0%	0%	31%	0%	0%	0%	0%	14%
2017	0%	41%	59%	6%	24%	18%	24%	24%	6%	12%	59%	29%	76%	6%	18%	0%	94%	0%	0%	6%	0%	47%	0%	0%	6%	0%	0%	6%	35%	0%	0%	0%	6%	18%
2018	0%	22%	78%	3%	13%	22%	19%	28%	16%	28%	41%	31%	84%	3%	13%	0%	88%	0%	13%	0%	0%	63%	9%	0%	16%	0%	0%	0%	13%	0%	0%	0%	0%	34%
TOTAL	1%	25%	74%	3%	15%	18%	18%	29%	16%	27%	32%	41%	80%	3%	17%	0%	86%	0%	11%	3%	0%	56%	6%	1%	12%	0%	1%	1%	22%	0%	0%	0%	1%	100%

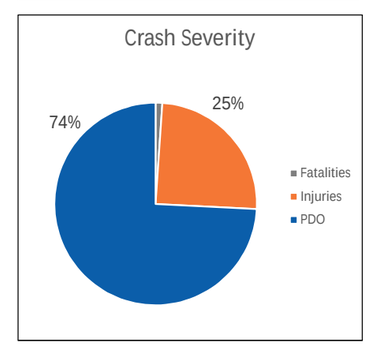












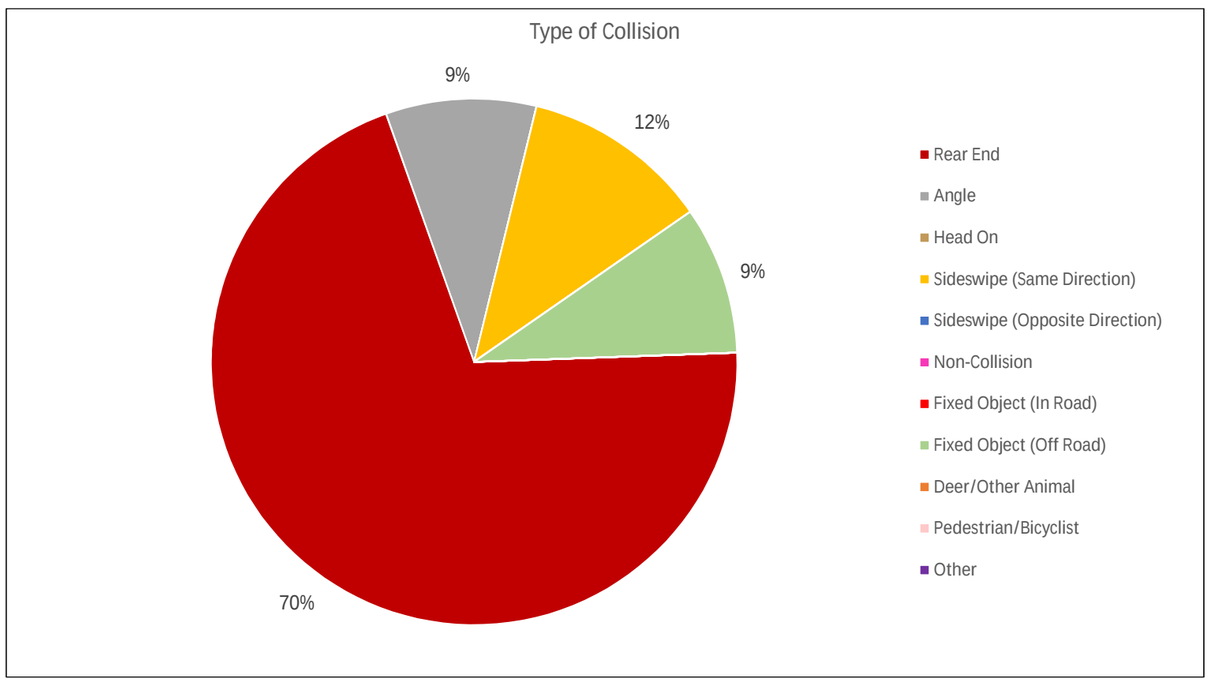
I-395 Northbound Mainline - Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

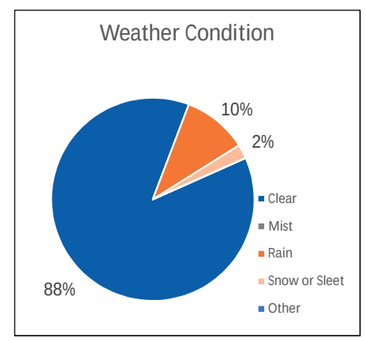
Total Comparison

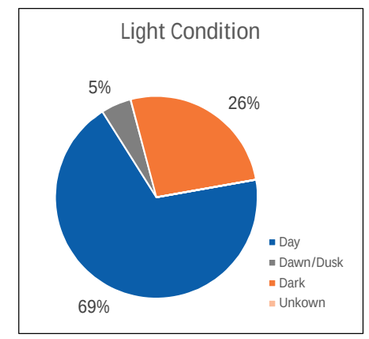
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	27	102	14	16	21	14	27	37	39	36	54	93	7	29	0	106	0	16	7	0	82	14	1	18	0	0	0	12	1	0	0	1	129
2015	0	40	115	10	24	14	31	30	46	53	39	63	109	6	40	0	142	0	10	3	0	100	17	0	19	0	0	2	14	1	1	0	1	155
2016	0	33	94	6	17	15	19	27	43	50	24	53	89	5	33	0	114	0	12	1	0	84	18	0	16	0	1	0	6	1	0	0	1	127
2017	0	29	87	7	13	21	24	16	35	48	27	41	73	8	35	0	104	1	10	1	0	83	7	0	11	0	0	0	14	1	0	0	0	116
2018	0	56	135	9	29	30	36	37	50	62	38	91	130	9	52	0	161	0	26	4	0	144	9	1	17	0	0	0	18	0	0	0	2	191
TOTAL	0	185	533	46	99	101	124	137	211	252	164	302	494	35	189	0	627	1	74	16	0	493	65	2	81	0	1	2	64	4	1	0	5	718

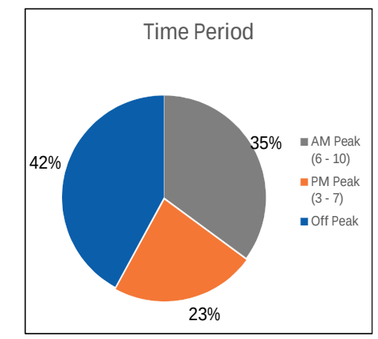
Percentage Comparison

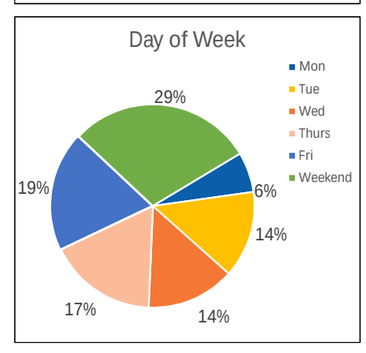
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	21%	79%	11%	12%	16%	11%	21%	29%	30%	28%	42%	72%	5%	22%	0%	82%	0%	12%	5%	0%	64%	11%	<1%	14%	0%	0%	0%	9%	<1%	0%	0%	<1%	18%
2015	0%	26%	74%	6%	15%	9%	20%	19%	30%	34%	25%	41%	70%	4%	26%	0%	92%	0%	6%	2%	0%	65%	11%	0%	12%	0%	0%	1%	9%	<1%	<1%	0%	<1%	22%
2016	0%	26%	74%	5%	13%	12%	15%	21%	34%	39%	19%	42%	70%	4%	26%	0%	90%	0%	9%	<1%	0%	66%	14%	0%	13%	0%	<1%	0%	5%	<1%	0%	0%	<1%	18%
2017	0%	25%	75%	6%	11%	18%	21%	14%	30%	41%	23%	35%	63%	7%	30%	0%	90%	<1%	9%	<1%	0%	72%	6%	0%	9%	0%	0%	0%	12%	<1%	0%	0%	0%	16%
2018	0%	29%	71%	5%	15%	16%	19%	19%	26%	32%	20%	48%	68%	5%	27%	0%	84%	0%	14%	2%	0%	75%	5%	<1%	9%	0%	0%	0%	9%	0%	0%	0%	1%	27%
TOTAL	0%	26%	74%	6%	14%	14%	17%	19%	29%	35%	23%	42%	69%	5%	26%	0%	87%	<1%	10%	2%	0%	69%	9%	<1%	11%	0%	<1%	<1%	9%	<1%	<1%	0%	<1%	100%

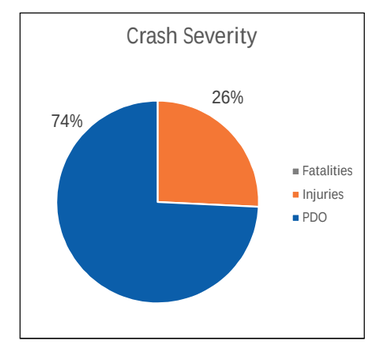












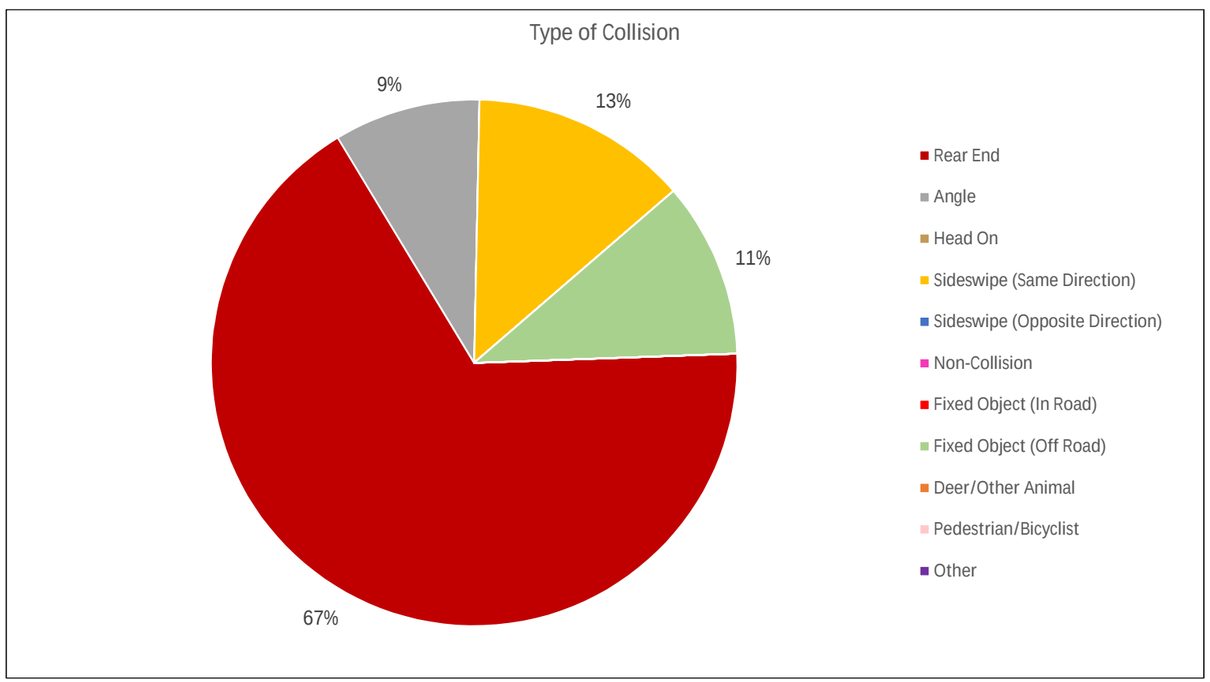
I-395 Southbound Mainline - Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

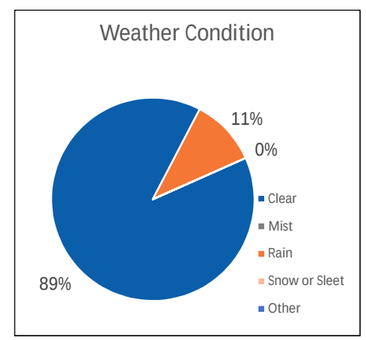
Total Comparison

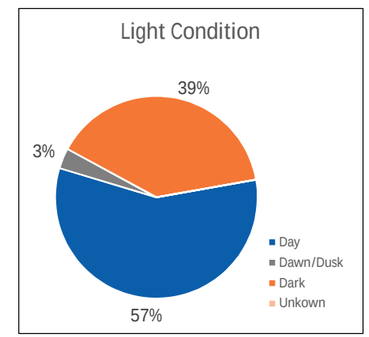
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	29	97	11	16	14	27	20	38	11	39	76	64	7	55	0	110	0	13	3	0	70	12	1	18	0	0	1	20	1	0	1	2	126
2015	0	31	115	5	18	24	21	30	48	7	70	69	78	7	61	0	135	0	11	0	0	87	16	0	23	0	1	2	12	4	0	0	1	146
2016	0	38	92	7	18	30	17	28	30	4	66	60	78	1	51	0	119	0	11	0	0	100	5	0	14	0	0	1	9	0	0	0	1	130
2017	0	34	105	13	18	27	24	26	31	9	66	64	94	3	42	0	124	0	15	0	0	100	11	1	13	1	1	0	8	1	0	1	2	139
2018	0	63	157	23	24	38	33	47	55	22	79	119	123	7	90	0	189	0	31	0	0	134	22	1	30	0	0	2	30	0	0	0	1	220
TOTAL	0	195	566	59	94	133	122	151	202	53	320	388	437	25	299	0	677	0	81	3	0	491	66	3	98	1	2	6	79	6	0	2	7	761

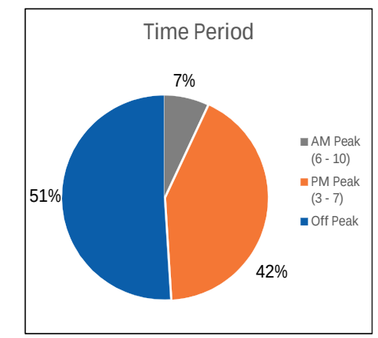
Percentage Comparison

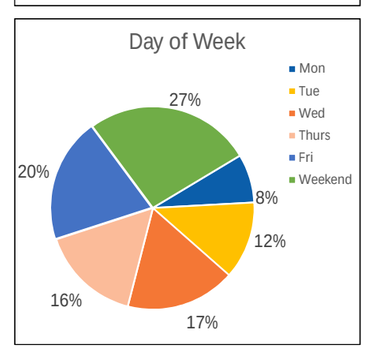
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	23%	77%	9%	13%	11%	21%	16%	30%	9%	31%	60%	51%	6%	44%	0%	87%	0%	10%	2%	0%	56%	10%	<1%	14%	0%	0%	<1%	16%	<1%	0%	<1%	2%	17%
2015	0%	21%	79%	3%	12%	16%	14%	21%	33%	5%	48%	47%	53%	5%	42%	0%	92%	0%	8%	0%	0%	60%	11%	0%	16%	0%	<1%	1%	8%	3%	0%	0%	<1%	19%
2016	0%	29%	71%	5%	14%	23%	13%	22%	23%	3%	51%	46%	60%	<1%	39%	0%	92%	0%	8%	0%	0%	77%	4%	0%	11%	0%	0%	<1%	7%	0%	0%	0%	<1%	17%
2017	0%	24%	76%	9%	13%	19%	17%	19%	22%	6%	47%	46%	68%	2%	30%	0%	89%	0%	11%	0%	0%	72%	8%	<1%	9%	<1%	<1%	0%	6%	<1%	0%	<1%	1%	18%
2018	0%	29%	71%	10%	11%	17%	15%	21%	25%	10%	36%	54%	56%	3%	41%	0%	86%	0%	14%	0%	0%	61%	10%	<1%	14%	0%	0%	<1%	14%	0%	0%	0%	<1%	29%
TOTAL	0%	26%	74%	8%	12%	17%	16%	20%	27%	7%	42%	51%	57%	3%	39%	0%	89%	0%	11%	<1%	0%	65%	9%	<1%	13%	<1%	<1%	<1%	10%	<1%	0%	<1%	<1%	100%

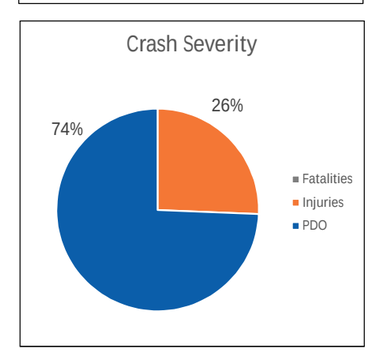












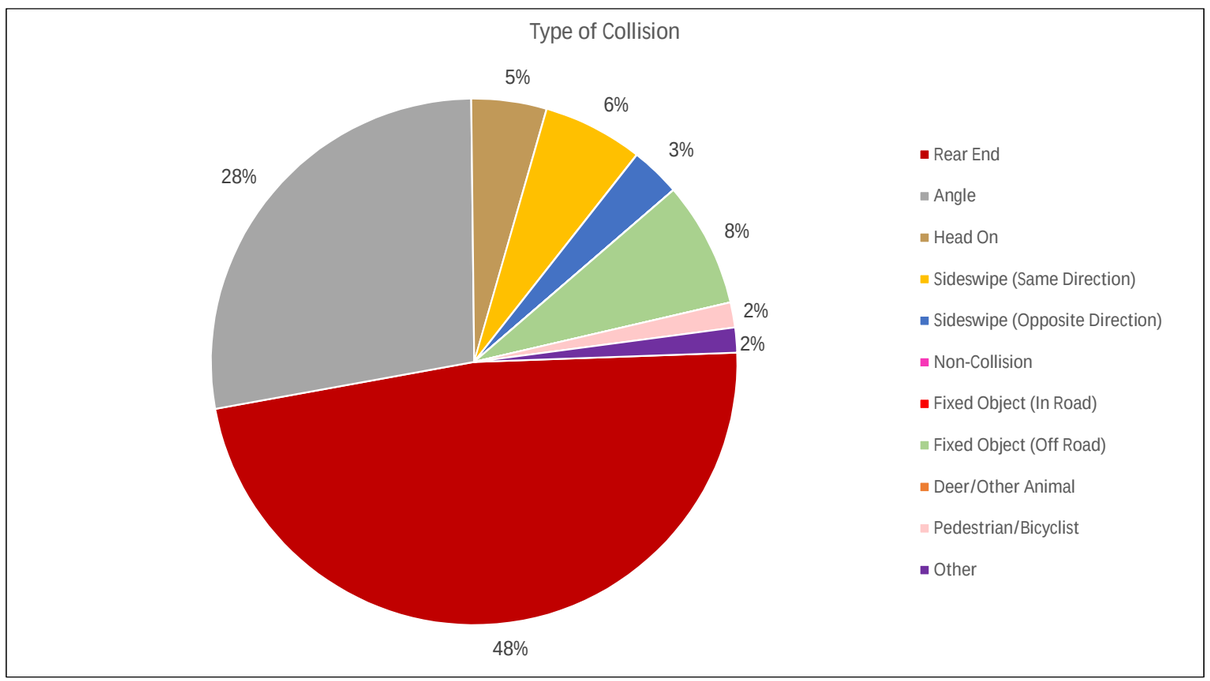
Seminary Road and Beauregard Street - Intersection Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

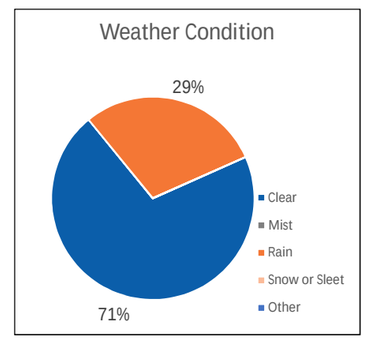
Total Comparison

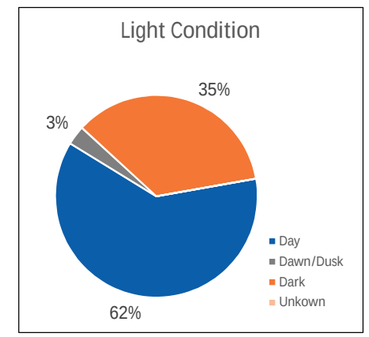
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION												TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	5	8	1	4	0	2	2	4	1	1	11	5	1	7	0	9	0	4	0	0	7	2	1	1	1	0	0	0	0	1	0	0	13
2015	0	1	10	3	2	1	2	1	2	3	2	6	8	1	2	0	7	0	4	0	0	6	2	0	1	0	0	0	2	0	0	0	0	11
2016	0	3	7	3	2	2	0	0	3	2	2	6	5	0	5	0	8	0	2	0	0	4	3	1	1	0	0	0	1	0	0	0	0	10
2017	0	3	13	2	6	1	2	2	3	3	6	7	11	0	5	0	11	0	5	0	0	8	6	1	0	0	0	0	0	0	0	0	1	16
2018	0	6	9	5	1	1	1	3	4	0	6	9	11	0	4	0	11	0	4	0	0	6	5	0	1	1	0	0	2	0	0	0	0	15
TOTAL	0	18	47	14	15	5	7	8	16	9	17	39	40	2	23	0	46	0	19	0	0	31	18	3	4	2	0	0	5	0	1	0	1	65

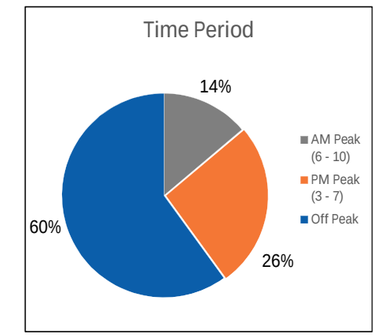
Percentage Comparison

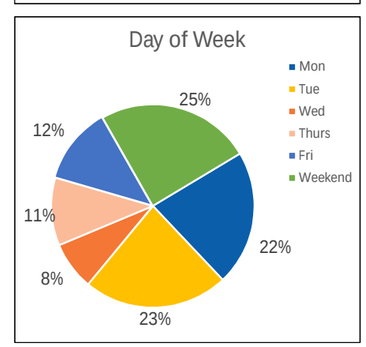
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION												TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	38%	62%	8%	31%	0%	15%	15%	31%	8%	8%	85%	38%	8%	54%	0%	69%	0%	31%	0%	0%	54%	15%	8%	8%	8%	0%	0%	0%	0%	8%	0%	0%	20%
2015	0%	9%	91%	27%	18%	9%	18%	9%	18%	27%	18%	55%	73%	9%	18%	0%	64%	0%	36%	0%	0%	55%	18%	0%	9%	0%	0%	0%	18%	0%	0%	0%	0%	17%
2016	0%	30%	70%	30%	20%	20%	0%	0%	30%	20%	20%	60%	50%	0%	50%	0%	80%	0%	20%	0%	0%	40%	30%	10%	10%	0%	0%	0%	10%	0%	0%	0%	0%	15%
2017	0%	19%	81%	13%	38%	6%	13%	13%	19%	19%	38%	44%	69%	0%	31%	0%	69%	0%	31%	0%	0%	50%	38%	6%	0%	0%	0%	0%	0%	0%	0%	0%	6%	25%
2018	0%	40%	60%	33%	7%	7%	7%	20%	27%	0%	40%	60%	73%	0%	27%	0%	73%	0%	27%	0%	0%	40%	33%	0%	7%	7%	0%	0%	13%	0%	0%	0%	0%	23%
TOTAL	0%	28%	72%	22%	23%	8%	11%	12%	25%	14%	26%	60%	62%	3%	35%	0%	71%	0%	29%	0%	0%	48%	28%	5%	6%	3%	0%	0%	8%	0%	2%	0%	2%	100%

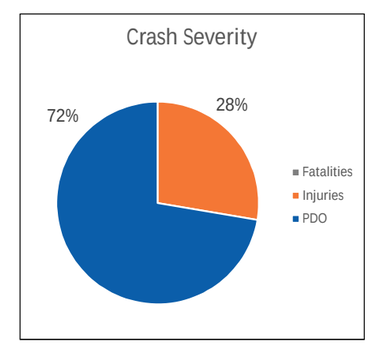












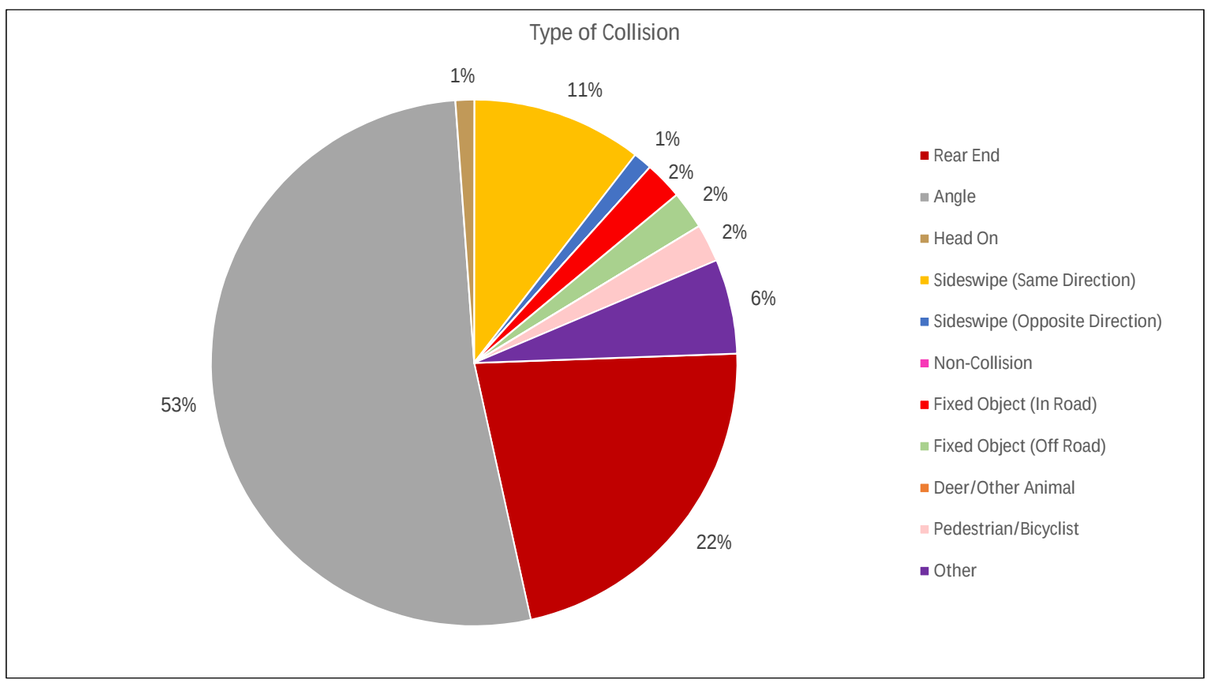
Seminary Road and Mark Center Avenue - Intersection Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

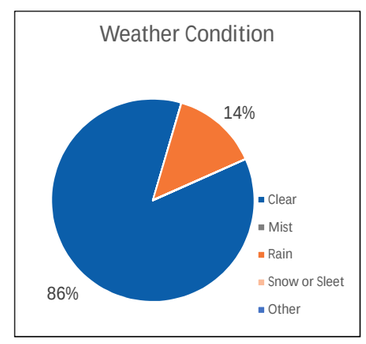
Total Comparison

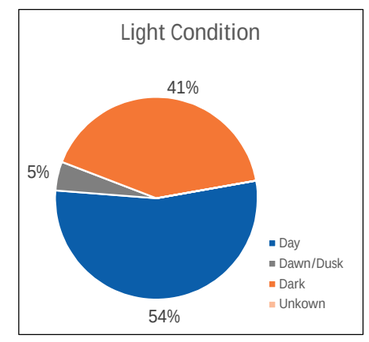
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	5	9	2	1	2	2	0	7	4	5	5	11	0	3	0	13	0	1	0	0	4	4	0	1	0	0	0	1	0	1	0	3	14
2015	0	4	21	2	4	2	5	4	8	3	7	15	13	0	12	0	22	0	3	0	0	5	13	0	3	1	0	1	0	0	0	1	1	25
2016	0	6	12	2	1	2	6	3	4	7	1	10	10	2	6	0	16	0	2	0	0	2	13	1	1	0	0	0	1	0	0	0	0	18
2017	0	0	18	0	2	2	5	2	7	6	2	10	10	1	7	0	16	0	2	0	0	4	9	0	4	0	0	1	0	0	0	0	0	18
2018	0	5	7	2	1	2	2	2	3	1	4	7	3	1	8	0	8	0	4	0	0	4	6	0	0	0	0	0	0	0	1	0	1	12
TOTAL	0	20	67	8	9	10	20	11	29	21	19	47	47	4	36	0	75	0	12	0	0	19	45	1	9	1	0	2	2	0	2	1	5	87

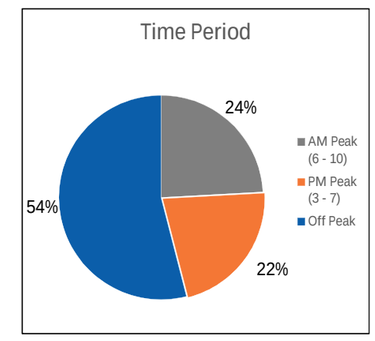
Percentage Comparison

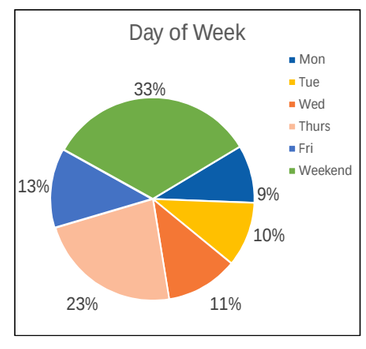
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	36%	64%	14%	7%	14%	14%	0%	50%	29%	36%	36%	79%	0%	21%	0%	93%	0%	7%	0%	0%	29%	29%	0%	7%	0%	0%	0%	7%	0%	7%	0%	21%	16%
2015	0%	16%	84%	8%	16%	8%	20%	16%	32%	12%	28%	60%	52%	0%	48%	0%	88%	0%	12%	0%	0%	20%	52%	0%	12%	4%	0%	4%	0%	0%	0%	4%	4%	29%
2016	0%	33%	67%	11%	6%	11%	33%	17%	22%	39%	6%	56%	56%	11%	33%	0%	89%	0%	11%	0%	0%	11%	72%	6%	6%	0%	0%	0%	6%	0%	0%	0%	0%	21%
2017	0%	0%	100%	0%	11%	11%	28%	11%	39%	33%	11%	56%	56%	6%	39%	0%	89%	0%	11%	0%	0%	22%	50%	0%	22%	0%	0%	6%	0%	0%	0%	0%	0%	21%
2018	0%	42%	58%	17%	8%	17%	17%	17%	25%	8%	33%	58%	25%	8%	67%	0%	67%	0%	33%	0%	0%	33%	50%	0%	0%	0%	0%	0%	0%	0%	8%	0%	8%	14%
TOTAL	0%	23%	77%	9%	10%	11%	23%	13%	33%	24%	22%	54%	54%	5%	41%	0%	86%	0%	14%	0%	0%	22%	52%	1%	10%	1%	0%	2%	2%	0%	2%	1%	6%	100%

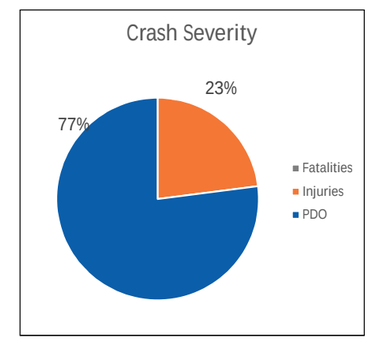












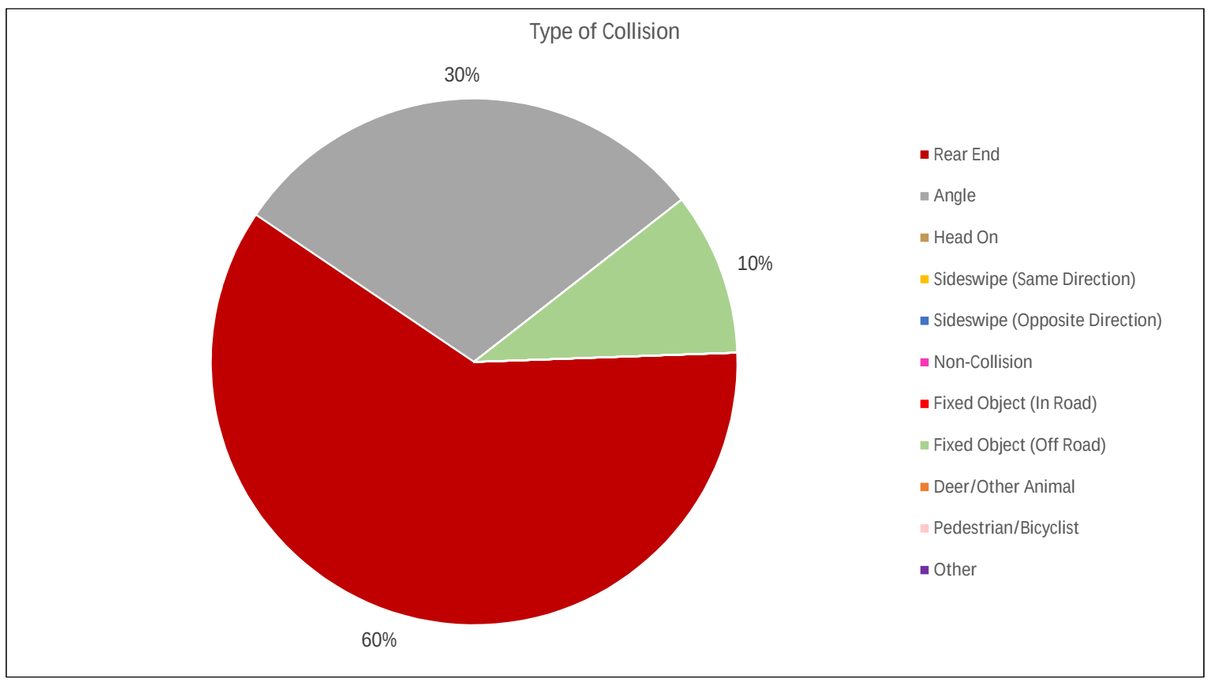
Seminary Road and Seminary Road - Intersection Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

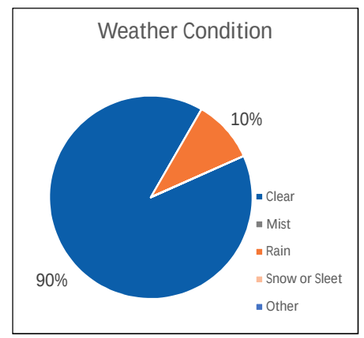
Total Comparison

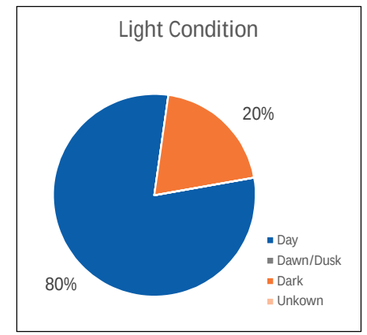
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	1	2	0	1	0	0	1	1	1	2	0	2	0	1	0	3	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	3
2015	0	1	3	0	0	2	0	1	1	2	1	1	3	0	1	0	3	0	1	0	0	2	2	0	0	0	0	0	0	0	0	0	0	4
2016	0	2	0	0	0	0	1	0	1	0	2	0	2	0	0	0	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
2017	0	0	1	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2018	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
TOTAL	0	4	6	0	1	2	1	3	3	3	6	1	8	0	2	0	9	0	1	0	0	6	3	0	0	0	0	0	1	0	0	0	0	10

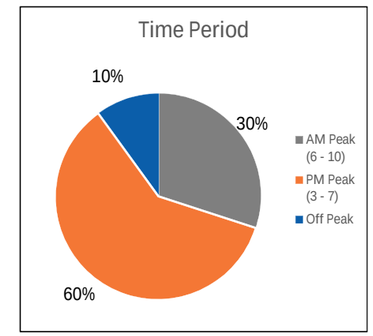
Percentage Comparison

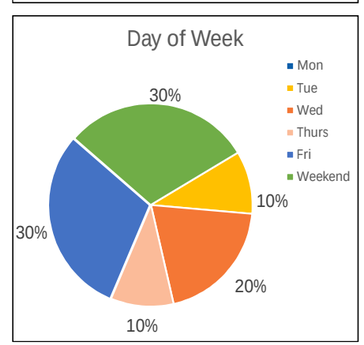
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	33%	67%	0%	33%	0%	0%	33%	33%	33%	67%	0%	67%	0%	33%	0%	100%	0%	0%	0%	0%	67%	0%	0%	0%	0%	0%	0%	33%	0%	0%	0%	0%	30%
2015	0%	25%	75%	0%	0%	50%	0%	25%	25%	50%	25%	25%	75%	0%	25%	0%	75%	0%	25%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%
2016	0%	100%	0%	0%	0%	0%	50%	0%	50%	0%	100%	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%
2017	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	100%	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%
2018	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%
TOTAL	0%	40%	60%	0%	10%	20%	10%	30%	30%	30%	60%	10%	80%	0%	20%	0%	90%	0%	10%	0%	0%	60%	30%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%	100%

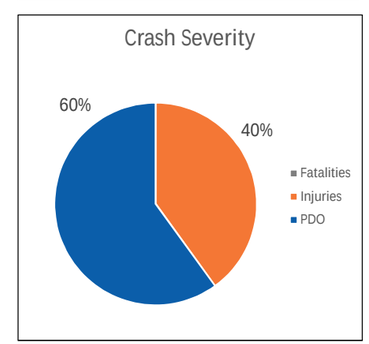












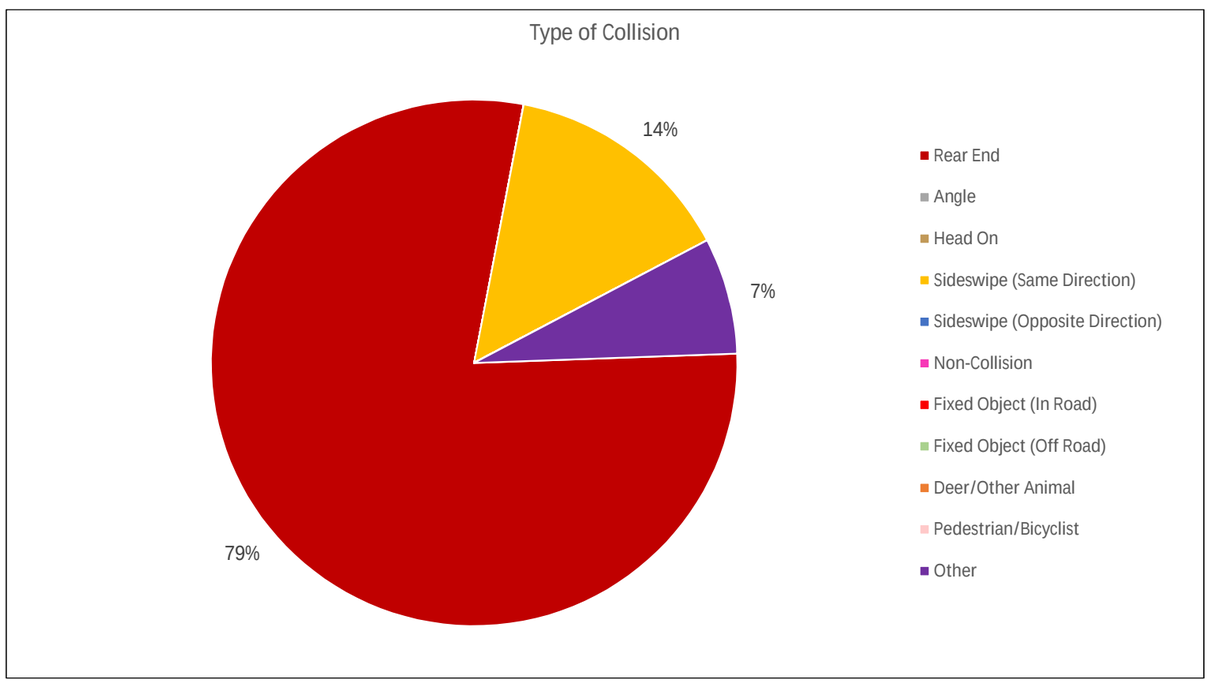
Seminary Road and Pickett Street - Intersection Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

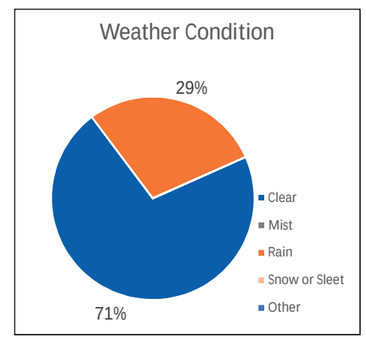
Total Comparison

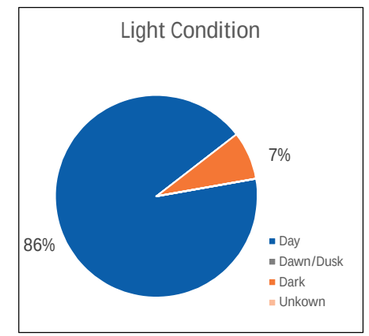
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION												TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	0	6	0	2	0	2	1	1	1	3	2	6	0	0	0	4	0	2	0	0	5	0	0	0	0	0	0	0	0	0	0	1	6
2015	0	0	2	0	0	0	0	2	0	0	0	2	0	0	1	0	1	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
2016	0	1	3	0	2	0	2	0	0	1	3	0	4	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
2017	0	0	2	0	0	0	1	0	1	1	0	1	2	0	0	0	1	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
2018	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
TOTAL	0	1	13	0	4	0	5	3	2	3	6	5	12	0	1	0	10	0	4	0	0	11	0	0	2	0	0	0	0	0	0	0	1	14

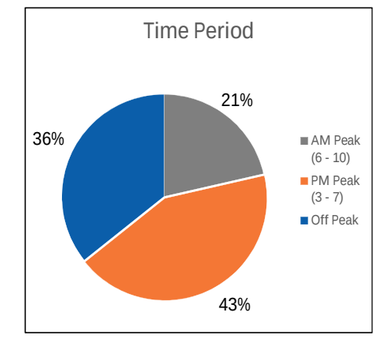
Percentage Comparison

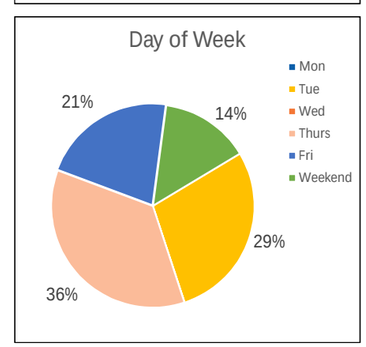
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION												TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	0%	100%	0%	33%	0%	33%	17%	17%	17%	50%	33%	100%	0%	0%	0%	67%	0%	33%	0%	0%	83%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	43%
2015	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	50%	0%	50%	0%	50%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	14%
2016	0%	25%	75%	0%	50%	0%	50%	0%	0%	25%	75%	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	29%
2017	0%	0%	100%	0%	0%	0%	50%	0%	50%	50%	0%	50%	100%	0%	0%	0%	50%	0%	50%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%
2018	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0%
TOTAL	0%	7%	93%	0%	29%	0%	36%	21%	14%	21%	43%	36%	86%	0%	7%	0%	71%	0%	29%	0%	0%	79%	0%	0%	14%	0%	0%	0%	0%	0%	0%	0%	7%	100%

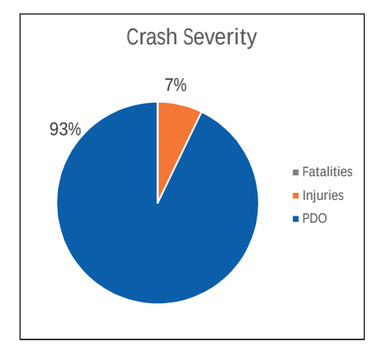












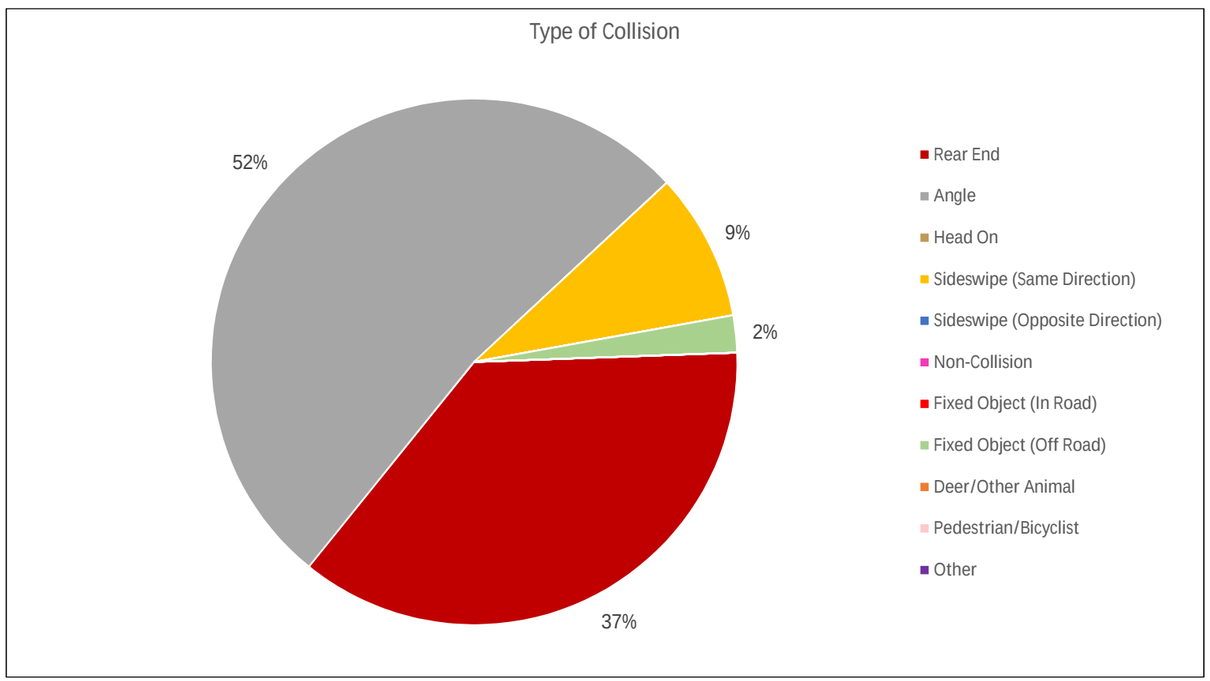
King Street and Park Center Drive - Intersection Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

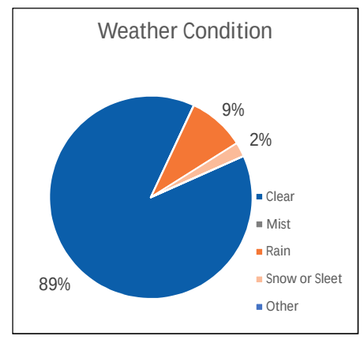
Total Comparison

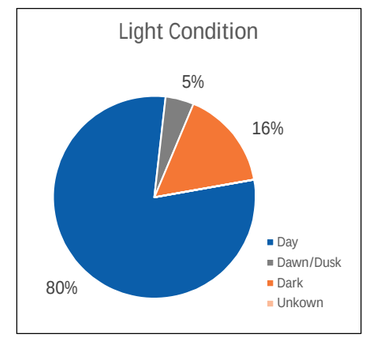
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	3	7	0	4	1	0	2	3	5	2	3	10	0	0	0	9	0	1	0	0	4	5	0	1	0	0	0	0	0	0	0	0	10
2015	0	2	9	1	1	1	0	5	3	2	4	5	9	0	2	0	10	0	1	0	0	5	6	0	0	0	0	0	0	0	0	0	0	11
2016	0	2	4	1	0	0	1	2	2	1	0	5	3	0	3	0	5	0	1	0	0	1	5	0	0	0	0	0	0	0	0	0	0	6
2017	0	3	8	3	2	1	2	1	2	5	3	3	8	2	1	0	9	0	1	1	0	4	4	0	3	0	0	0	0	0	0	0	0	11
2018	0	1	5	2	1	0	0	2	1	3	1	2	5	0	1	0	6	0	0	0	0	2	3	0	0	0	0	0	1	0	0	0	0	6
TOTAL	0	11	33	7	8	3	3	12	11	16	10	18	35	2	7	0	39	0	4	1	0	16	23	0	4	0	0	0	1	0	0	0	0	44

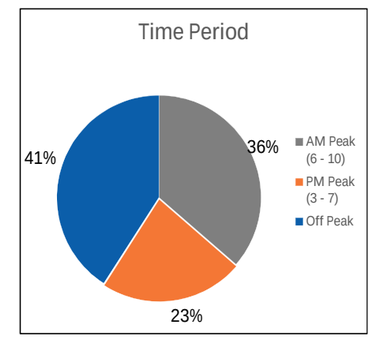
Percentage Comparison

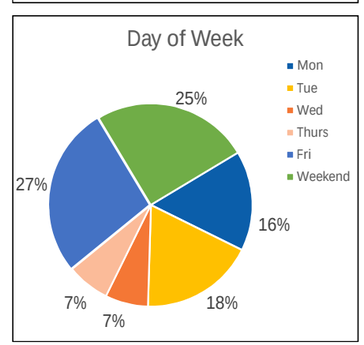
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	30%	70%	0%	40%	10%	0%	20%	30%	50%	20%	30%	100%	0%	0%	0%	90%	0%	10%	0%	0%	40%	50%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	23%
2015	0%	18%	82%	9%	9%	9%	0%	45%	27%	18%	36%	45%	82%	0%	18%	0%	91%	0%	9%	0%	0%	45%	55%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%
2016	0%	33%	67%	17%	0%	0%	17%	33%	33%	17%	0%	83%	50%	0%	50%	0%	83%	0%	17%	0%	0%	17%	83%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%
2017	0%	27%	73%	27%	18%	9%	18%	9%	18%	45%	27%	27%	73%	18%	9%	0%	82%	0%	9%	9%	0%	36%	36%	0%	27%	0%	0%	0%	0%	0%	0%	0%	0%	25%
2018	0%	17%	83%	33%	17%	0%	0%	33%	17%	50%	17%	33%	83%	0%	17%	0%	100%	0%	0%	0%	0%	33%	50%	0%	0%	0%	0%	0%	17%	0%	0%	0%	0%	14%
TOTAL	0%	25%	75%	16%	18%	7%	7%	27%	25%	36%	23%	41%	80%	5%	16%	0%	89%	0%	9%	2%	0%	36%	52%	0%	9%	0%	0%	0%	2%	0%	0%	0%	0%	100%

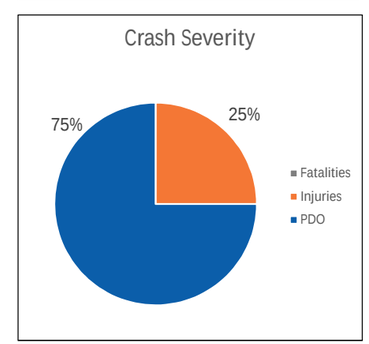












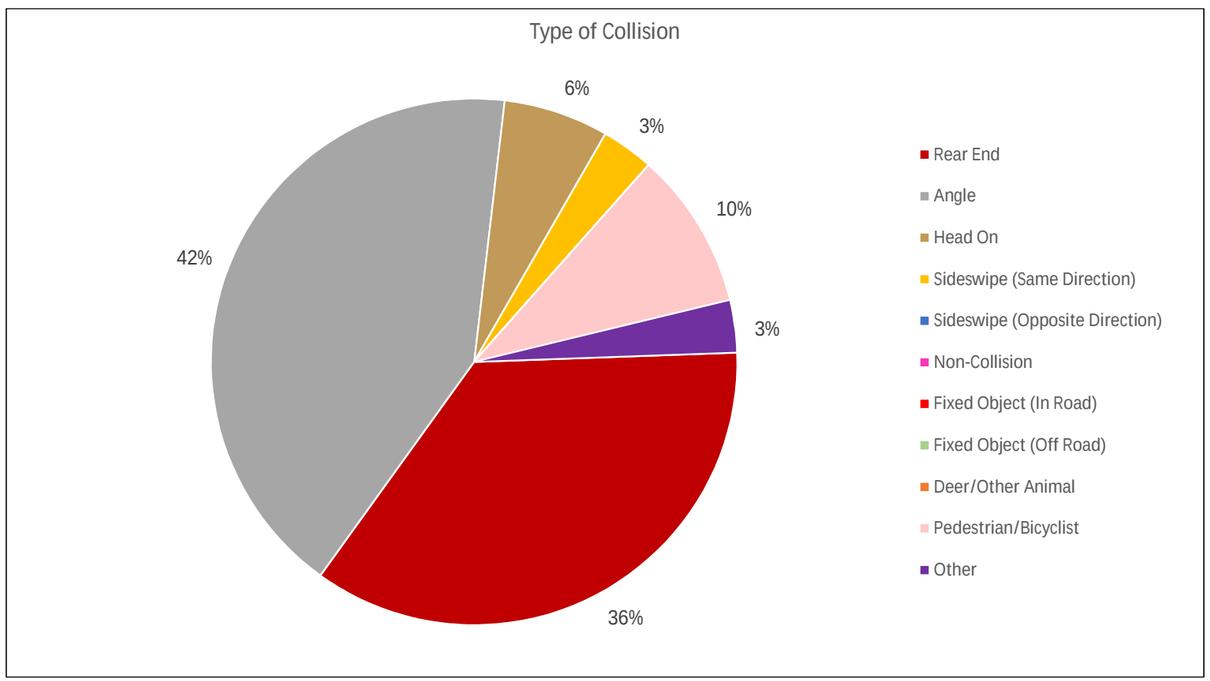
Seminary Road and Library Lane/Kenmore Avenue - Intersection Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

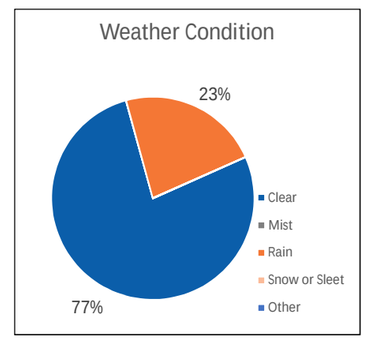
Total Comparison

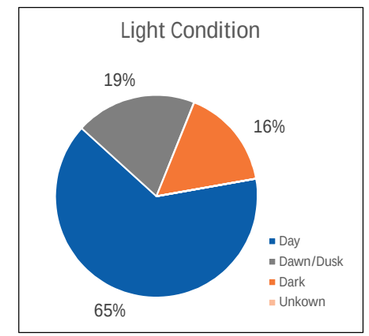
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	1	1	0	1	0	0	0	1	0	2	0	1	1	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
2015	0	4	6	1	4	3	0	0	2	7	1	2	8	1	1	0	8	0	2	0	0	6	3	0	0	0	0	0	0	0	1	0	0	10
2016	0	2	1	0	0	0	0	2	1	1	1	1	2	1	0	0	2	0	1	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
2017	0	2	5	0	2	1	2	2	0	1	1	5	3	1	3	0	6	0	1	0	0	2	2	1	1	0	0	0	0	0	1	0	0	7
2018	0	2	7	1	4	0	2	0	2	1	0	8	6	2	1	0	7	0	2	0	0	3	5	1	0	0	0	0	0	0	0	0	0	9
TOTAL	0	11	20	2	11	4	4	4	6	10	5	16	20	6	5	0	24	0	7	0	0	11	13	2	1	0	0	0	0	0	3	0	1	31

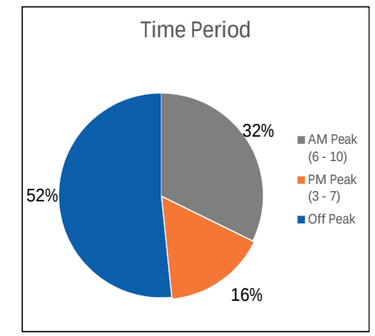
Percentage Comparison

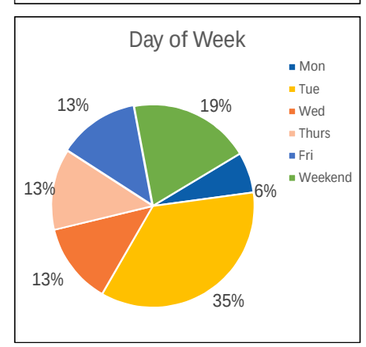
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	50%	50%	0%	50%	0%	0%	0%	50%	0%	100%	0%	50%	50%	0%	0%	50%	0%	50%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	6%
2015	0%	40%	60%	10%	40%	30%	0%	0%	20%	70%	10%	20%	80%	10%	10%	0%	80%	0%	20%	0%	0%	60%	30%	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	32%
2016	0%	67%	33%	0%	0%	0%	0%	67%	33%	33%	33%	33%	67%	33%	0%	0%	67%	0%	33%	0%	0%	0%	67%	0%	0%	0%	0%	0%	0%	0%	33%	0%	0%	10%
2017	0%	29%	71%	0%	29%	14%	29%	29%	0%	14%	14%	71%	43%	14%	43%	0%	86%	0%	14%	0%	0%	29%	29%	14%	14%	0%	0%	0%	0%	0%	14%	0%	0%	23%
2018	0%	22%	78%	11%	44%	0%	22%	0%	22%	11%	0%	89%	67%	22%	11%	0%	78%	0%	22%	0%	0%	33%	56%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	29%
TOTAL	0%	35%	65%	6%	35%	13%	13%	13%	19%	32%	16%	52%	65%	19%	16%	0%	77%	0%	23%	0%	0%	35%	42%	6%	3%	0%	0%	0%	0%	0%	0%	10%	0%	3%	100%

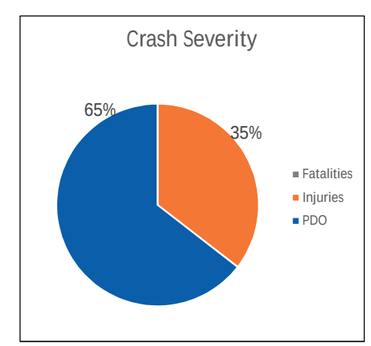












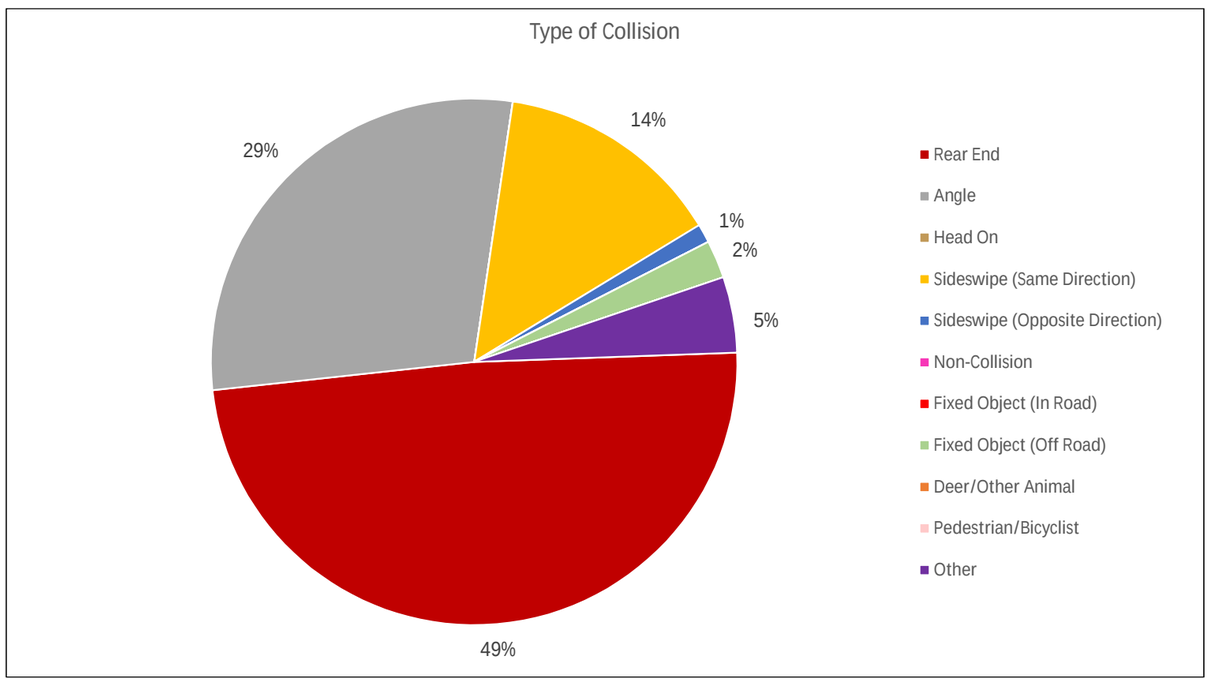
Duke Street and Walker Street - Intersection Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

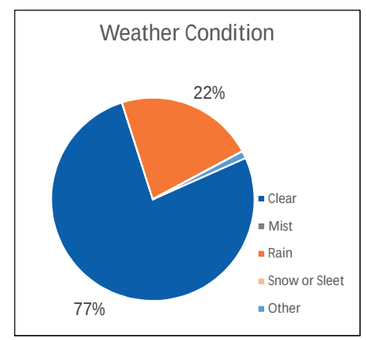
Total Comparison

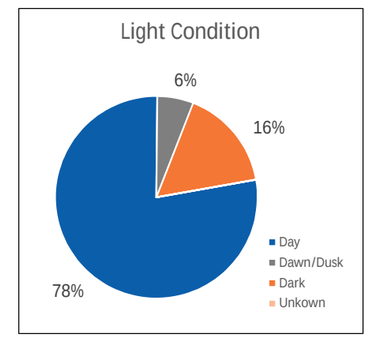
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION												TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	5	16	2	4	1	5	2	7	4	3	14	16	0	5	0	15	0	5	0	1	12	5	0	3	0	0	0	0	0	0	0	1	21
2015	0	6	14	2	2	2	2	2	10	4	7	9	15	3	2	0	15	0	5	0	0	6	8	0	4	0	0	0	2	0	0	0	0	20
2016	0	3	16	0	2	3	5	3	6	6	4	9	15	2	2	0	15	0	4	0	0	12	3	0	3	0	0	0	0	0	0	0	1	19
2017	0	5	11	3	2	2	3	3	3	3	8	5	12	0	4	0	13	0	3	0	0	7	6	0	1	0	0	0	0	0	0	0	2	16
2018	0	2	8	1	0	3	0	2	4	2	2	6	9	0	1	0	8	0	2	0	0	5	3	0	1	1	0	0	0	0	0	0	0	10
TOTAL	0	21	65	8	10	11	15	12	30	19	24	43	67	5	14	0	66	0	19	0	1	42	25	0	12	1	0	0	2	0	0	0	4	86

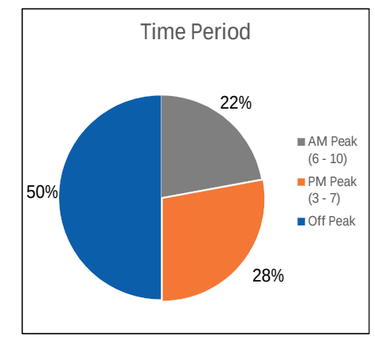
Percentage Comparison

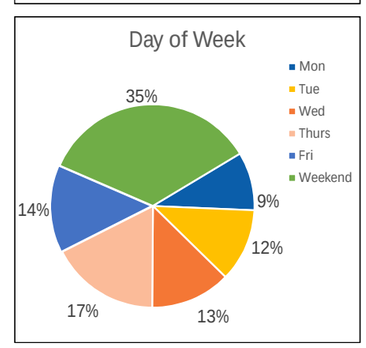
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION												TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	24%	76%	10%	19%	5%	24%	10%	33%	19%	14%	67%	76%	0%	24%	0%	71%	0%	24%	0%	5%	57%	24%	0%	14%	0%	0%	0%	0%	0%	0%	0%	5%	24%
2015	0%	30%	70%	10%	10%	10%	10%	10%	50%	20%	35%	45%	75%	15%	10%	0%	75%	0%	25%	0%	0%	30%	40%	0%	20%	0%	0%	0%	10%	0%	0%	0%	0%	23%
2016	0%	16%	84%	0%	11%	16%	26%	16%	32%	32%	21%	47%	79%	11%	11%	0%	79%	0%	21%	0%	0%	63%	16%	0%	16%	0%	0%	0%	0%	0%	0%	0%	5%	22%
2017	0%	31%	69%	19%	13%	13%	19%	19%	19%	19%	50%	31%	75%	0%	25%	0%	81%	0%	19%	0%	0%	44%	38%	0%	6%	0%	0%	0%	0%	0%	0%	0%	13%	19%
2018	0%	20%	80%	10%	0%	30%	0%	20%	40%	20%	20%	60%	90%	0%	10%	0%	80%	0%	20%	0%	0%	50%	30%	0%	10%	10%	0%	0%	0%	0%	0%	0%	0%	12%
TOTAL	0%	24%	76%	9%	12%	13%	17%	14%	35%	22%	28%	50%	78%	6%	16%	0%	77%	0%	22%	0%	1%	49%	29%	0%	14%	1%	0%	0%	2%	0%	0%	0%	5%	100%

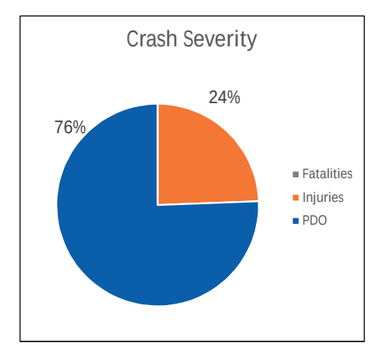












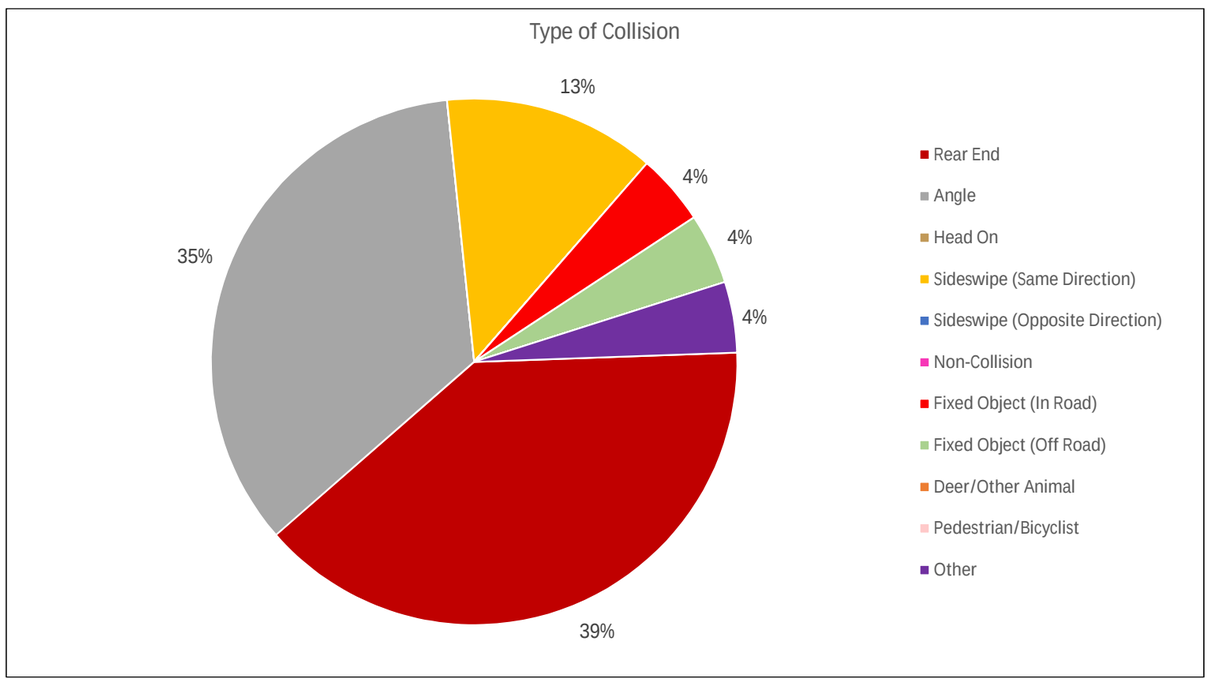
King Street and Menokin Drive - Intersection Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

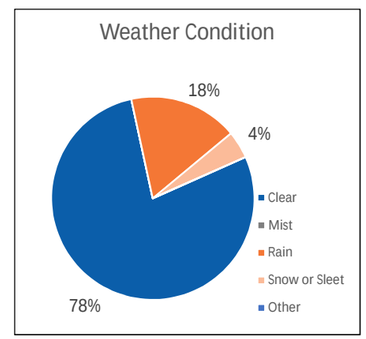
Total Comparison

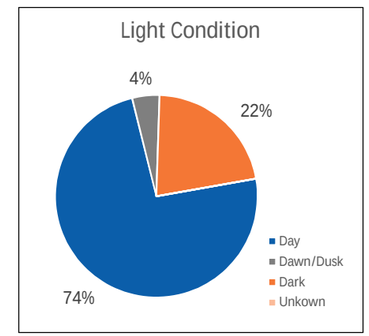
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	0	3	0	0	1	0	0	2	0	3	0	3	0	0	0	3	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3
2015	0	2	3	1	0	1	0	0	3	0	4	1	3	1	1	0	4	0	1	0	0	2	1	0	1	0	0	0	0	0	0	0	5
2016	0	2	5	2	1	1	2	1	0	3	2	2	5	0	2	0	5	0	1	1	0	2	2	0	1	0	0	1	1	0	0	0	7
2017	0	2	4	1	1	1	2	0	1	3	0	3	5	0	1	0	6	0	0	0	0	2	3	0	1	0	0	0	0	0	0	0	6
2018	0	1	1	0	0	0	0	1	1	1	0	1	1	0	1	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
TOTAL	0	7	16	4	2	4	4	2	7	7	9	7	17	1	5	0	18	0	4	1	0	9	8	0	3	0	0	1	1	0	0	0	1	23

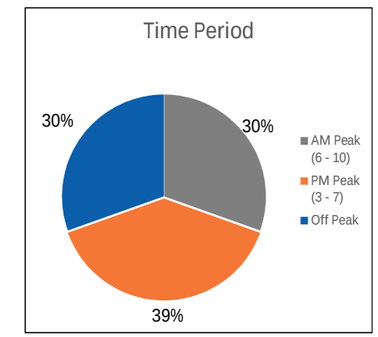
Percentage Comparison

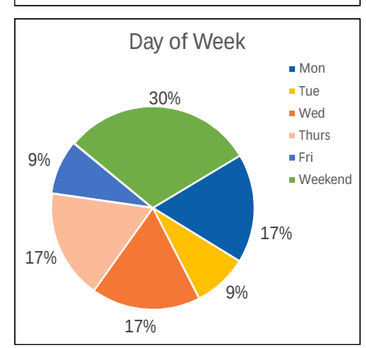
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	0%	100%	0%	0%	33%	0%	0%	67%	0%	100%	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	33%	67%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%
2015	0%	40%	60%	20%	0%	20%	0%	0%	60%	0%	80%	20%	60%	20%	20%	0%	80%	0%	20%	0%	0%	40%	20%	0%	20%	0%	0%	0%	0%	0%	0%	0%	22%
2016	0%	29%	71%	29%	14%	14%	29%	14%	0%	43%	29%	29%	71%	0%	29%	0%	71%	0%	14%	14%	0%	29%	29%	0%	14%	0%	0%	14%	14%	0%	0%	0%	30%
2017	0%	33%	67%	17%	17%	17%	33%	0%	17%	50%	0%	50%	83%	0%	17%	0%	100%	0%	0%	0%	0%	33%	50%	0%	17%	0%	0%	0%	0%	0%	0%	0%	26%
2018	0%	50%	50%	0%	0%	0%	0%	50%	50%	50%	0%	50%	50%	0%	50%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%
TOTAL	0%	30%	70%	17%	9%	17%	17%	9%	30%	30%	39%	30%	74%	4%	22%	0%	78%	0%	17%	4%	0%	39%	35%	0%	13%	0%	0%	4%	4%	0%	0%	0%	4%	100%

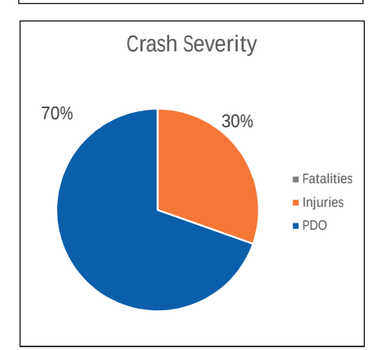












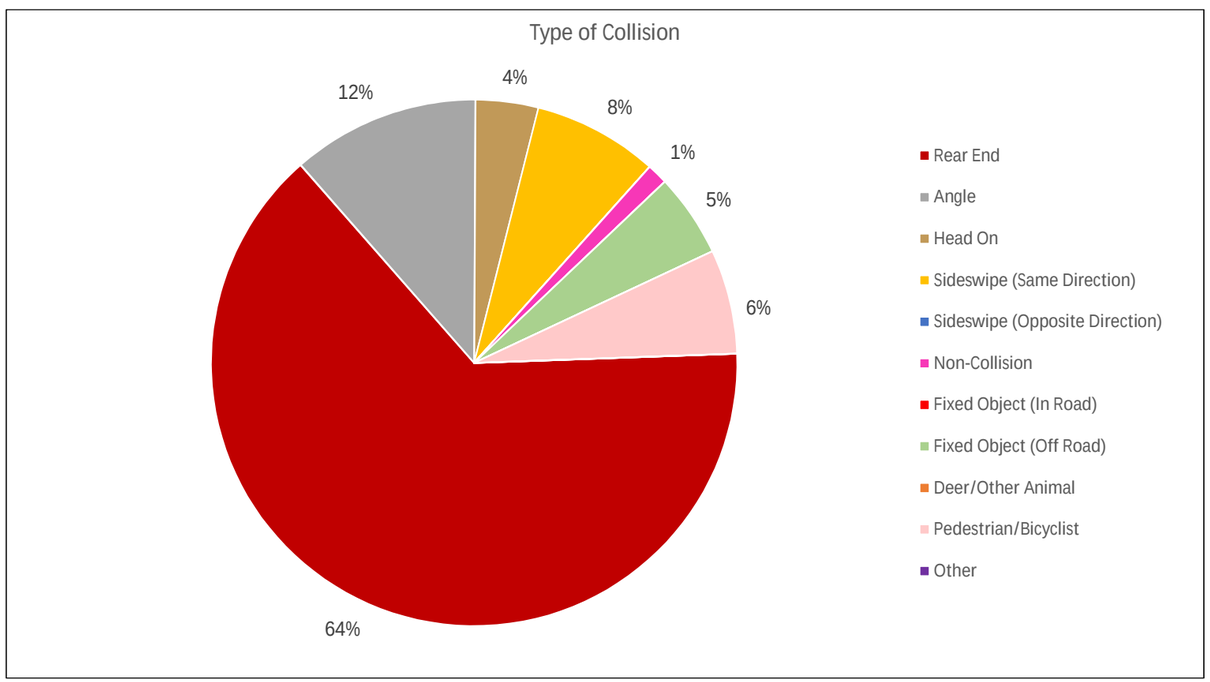
Little River Turnpike and Beauregard Street - Intersection Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

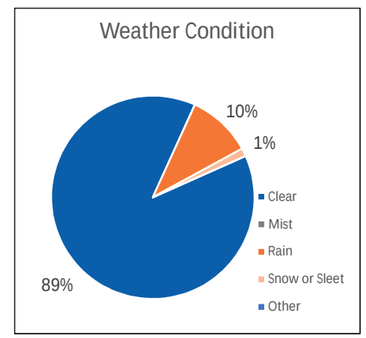
Total Comparison

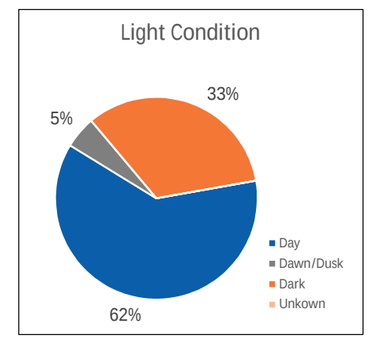
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION												TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	7	7	1	2	1	1	1	8	1	5	8	10	0	4	0	13	0	1	0	0	8	1	1	1	0	0	0	2	0	1	0	0	14
2015	0	13	7	2	2	1	7	3	5	4	5	11	11	1	8	0	16	0	4	0	0	15	0	1	0	0	1	0	0	0	3	0	0	20
2016	0	9	7	1	1	3	3	1	7	1	5	10	11	1	4	0	16	0	0	0	0	11	1	0	3	0	0	0	1	0	0	0	0	16
2017	0	9	9	3	4	2	3	2	4	4	2	12	9	2	7	0	16	0	2	0	0	11	4	0	1	0	0	0	1	0	1	0	0	18
2018	0	3	7	2	2	1	0	1	4	2	6	2	7	0	3	0	8	0	1	1	0	5	3	1	1	0	0	0	0	0	0	0	0	10
TOTAL	0	41	37	9	11	8	14	8	28	12	23	43	48	4	26	0	69	0	8	1	0	50	9	3	6	0	1	0	4	0	5	0	0	78

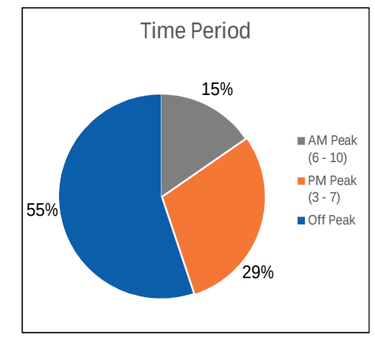
Percentage Comparison

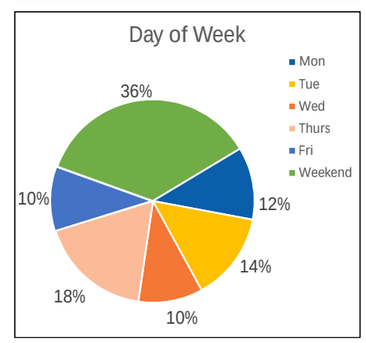
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION												TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	50%	50%	7%	14%	7%	7%	7%	57%	7%	36%	57%	71%	0%	29%	0%	93%	0%	7%	0%	0%	57%	7%	7%	7%	0%	0%	0%	14%	0%	7%	0%	0%	18%
2015	0%	65%	35%	10%	10%	5%	35%	15%	25%	20%	25%	55%	55%	5%	40%	0%	80%	0%	20%	0%	0%	75%	0%	5%	0%	0%	5%	0%	0%	0%	15%	0%	0%	26%
2016	0%	56%	44%	6%	6%	19%	19%	6%	44%	6%	31%	63%	69%	6%	25%	0%	100%	0%	0%	0%	0%	69%	6%	0%	19%	0%	0%	0%	6%	0%	0%	0%	0%	21%
2017	0%	50%	50%	17%	22%	11%	17%	11%	22%	22%	11%	67%	50%	11%	39%	0%	89%	0%	11%	0%	0%	61%	22%	0%	6%	0%	0%	0%	6%	0%	6%	0%	0%	23%
2018	0%	30%	70%	20%	20%	10%	0%	10%	40%	20%	60%	20%	70%	0%	30%	0%	80%	0%	10%	10%	0%	50%	30%	10%	10%	0%	0%	0%	0%	0%	0%	0%	0%	13%
TOTAL	0%	53%	47%	12%	14%	10%	18%	10%	36%	15%	29%	55%	62%	5%	33%	0%	88%	0%	10%	1%	0%	64%	12%	4%	8%	0%	1%	0%	5%	0%	6%	0%	0%	100%

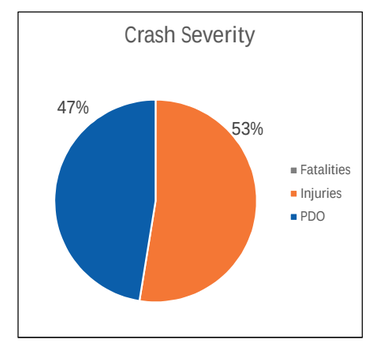












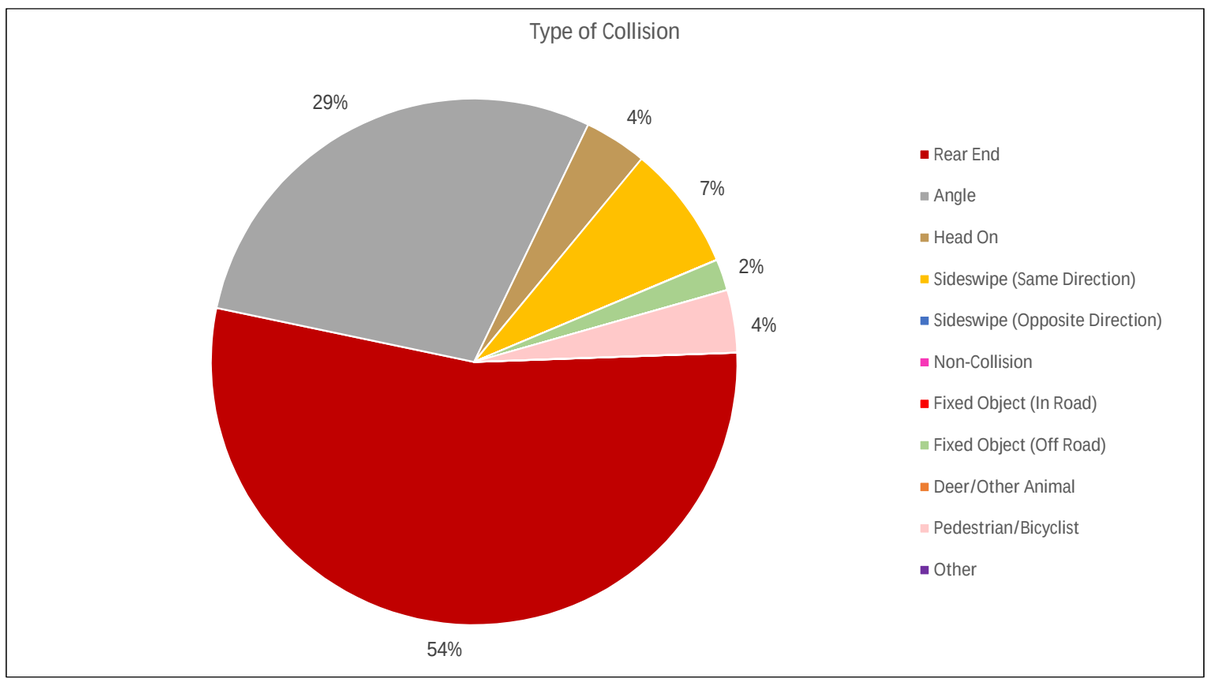
Little River Turnpike and Oasis Drive - Intersection Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

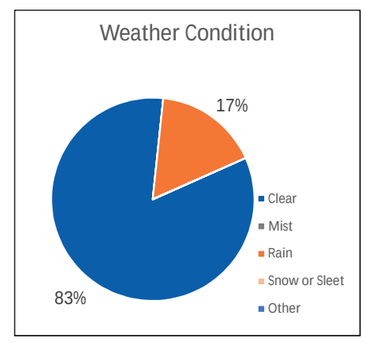
Total Comparison

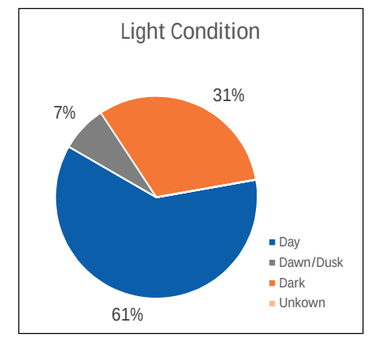
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION												TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	2	9	2	0	2	1	2	4	1	2	8	7	0	4	0	9	0	2	0	0	4	4	1	2	0	0	0	0	0	0	0	0	11
2015	0	7	6	0	2	1	2	3	5	2	1	10	7	1	5	0	11	0	2	0	0	9	3	0	1	0	0	0	0	0	0	0	0	13
2016	0	3	10	3	0	1	3	2	4	4	2	7	10	1	2	0	11	0	2	0	0	9	1	0	1	0	0	0	0	0	0	2	0	13
2017	0	3	3	0	0	1	2	2	1	2	0	4	3	1	2	0	5	0	1	0	0	2	3	0	0	0	0	0	0	0	1	0	0	6
2018	0	2	9	0	2	5	0	0	4	0	3	8	6	1	4	0	9	0	2	0	0	4	4	1	0	0	0	0	1	0	1	0	0	11
TOTAL	0	17	37	5	4	10	8	9	18	9	8	37	33	4	17	0	45	0	9	0	0	28	15	2	4	0	0	0	1	0	2	2	0	54

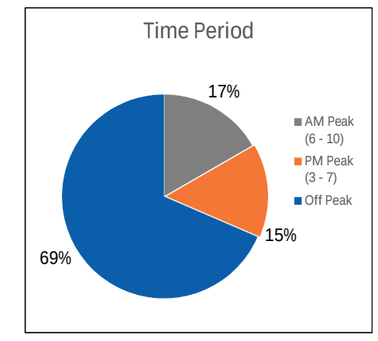
Percentage Comparison

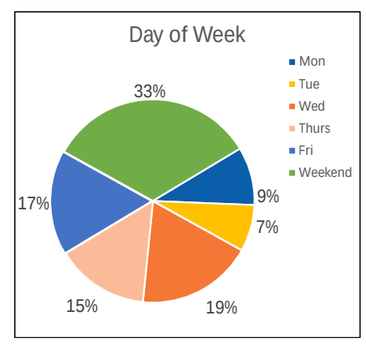
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION												TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	18%	82%	18%	0%	18%	9%	18%	36%	9%	18%	73%	64%	0%	36%	0%	82%	0%	18%	0%	0%	36%	36%	9%	18%	0%	0%	0%	0%	0%	0%	0%	0%	20%
2015	0%	54%	46%	0%	15%	8%	15%	23%	38%	15%	8%	77%	54%	8%	38%	0%	85%	0%	15%	0%	0%	69%	23%	0%	8%	0%	0%	0%	0%	0%	0%	0%	0%	24%
2016	0%	23%	77%	23%	0%	8%	23%	15%	31%	31%	15%	54%	77%	8%	15%	0%	85%	0%	15%	0%	0%	69%	8%	0%	8%	0%	0%	0%	0%	0%	0%	15%	0%	24%
2017	0%	50%	50%	0%	0%	17%	33%	33%	17%	33%	0%	67%	50%	17%	33%	0%	83%	0%	17%	0%	0%	33%	50%	0%	0%	0%	0%	0%	0%	0%	17%	0%	0%	11%
2018	0%	18%	82%	0%	18%	45%	0%	0%	36%	0%	27%	73%	55%	9%	36%	0%	82%	0%	18%	0%	0%	36%	36%	9%	0%	0%	0%	0%	9%	0%	9%	0%	0%	20%
TOTAL	0%	31%	69%	9%	7%	19%	15%	17%	33%	17%	15%	69%	61%	7%	31%	0%	83%	0%	17%	0%	0%	52%	28%	4%	7%	0%	0%	0%	2%	0%	4%	4%	0%	100%

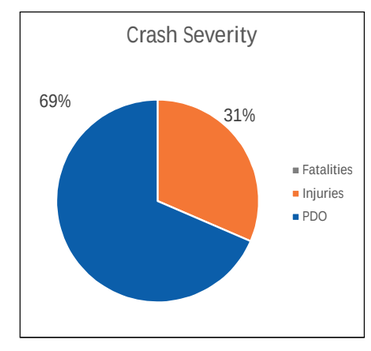












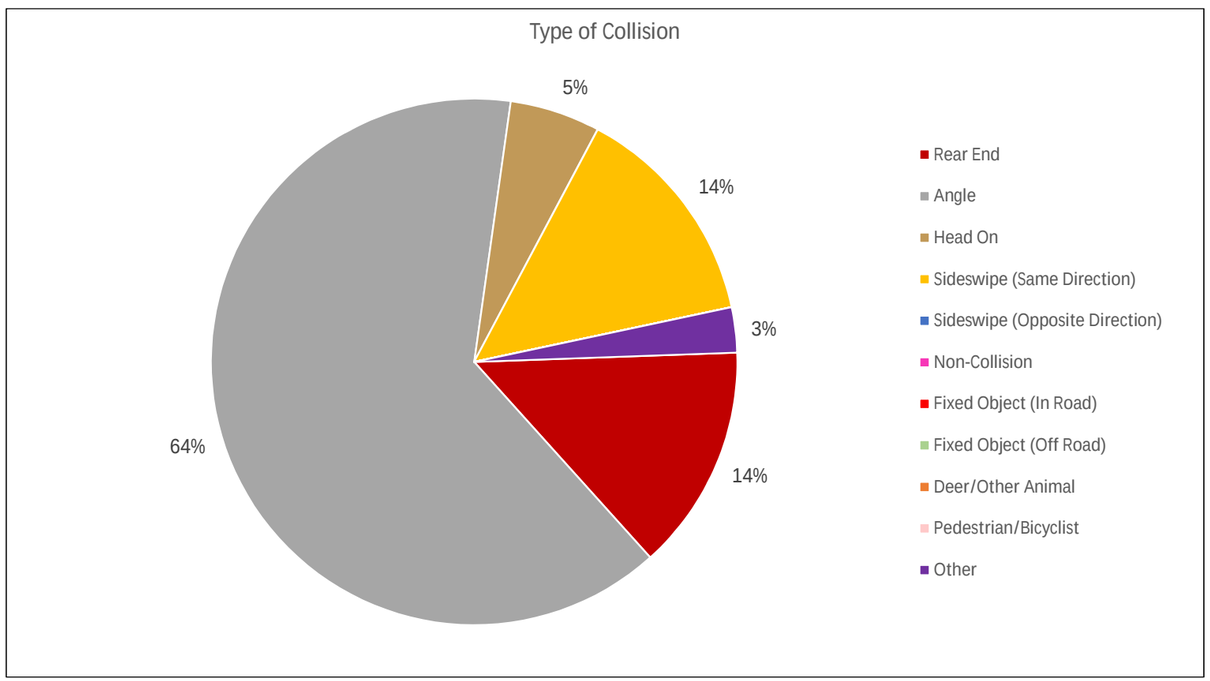
Seminary Road and 395 Southbound Eastern Ramp - Intersection Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

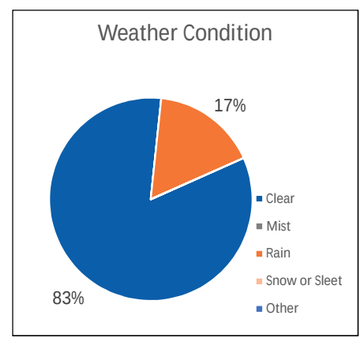
Total Comparison

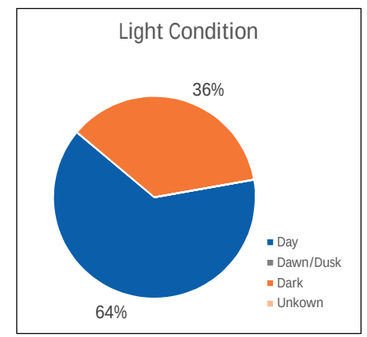
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	2	6	1	1	1	0	3	2	2	3	3	6	0	2	0	8	0	0	0	0	1	7	0	0	0	0	0	0	0	0	0	0	8
2015	0	1	9	0	2	0	1	1	6	1	1	8	5	0	5	0	10	0	0	0	0	1	4	0	4	0	0	0	0	0	0	0	1	10
2016	0	3	3	0	0	0	1	2	3	0	1	5	6	0	0	0	4	0	2	0	0	1	4	1	0	0	0	0	0	0	0	0	0	6
2017	0	3	2	2	0	0	0	2	1	0	0	5	3	0	2	0	5	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	5
2018	0	3	4	0	2	2	1	0	2	1	0	6	3	0	4	0	3	0	4	0	0	0	5	1	1	0	0	0	0	0	0	0	0	7
TOTAL	0	12	24	3	5	3	3	8	14	4	5	27	23	0	13	0	30	0	6	0	0	5	23	2	5	0	0	0	0	0	0	0	1	36

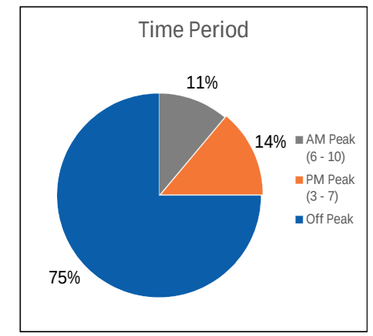
Percentage Comparison

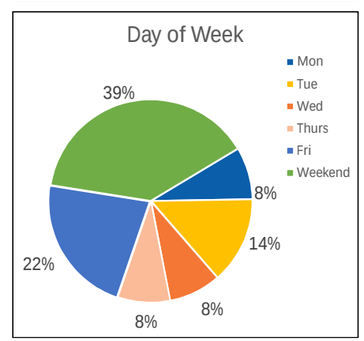
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	25%	75%	13%	13%	13%	0%	38%	25%	25%	38%	38%	75%	0%	25%	0%	100%	0%	0%	0%	0%	13%	88%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	22%
2015	0%	10%	90%	0%	20%	0%	10%	10%	60%	10%	10%	80%	50%	0%	50%	0%	100%	0%	0%	0%	0%	10%	40%	0%	40%	0%	0%	0%	0%	0%	0%	0%	10%	28%
2016	0%	50%	50%	0%	0%	0%	17%	33%	50%	0%	17%	83%	100%	0%	0%	0%	67%	0%	33%	0%	0%	17%	67%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%
2017	0%	60%	40%	40%	0%	0%	0%	40%	20%	0%	0%	100%	60%	0%	40%	0%	100%	0%	0%	0%	0%	40%	60%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%
2018	0%	43%	57%	0%	29%	29%	14%	0%	29%	14%	0%	86%	43%	0%	57%	0%	43%	0%	57%	0%	0%	0%	71%	14%	14%	0%	0%	0%	0%	0%	0%	0%	0%	19%
TOTAL	0%	33%	67%	8%	14%	8%	8%	22%	39%	11%	14%	75%	64%	0%	36%	0%	83%	0%	17%	0%	0%	14%	64%	6%	14%	0%	0%	0%	0%	0%	0%	0%	3%	100%

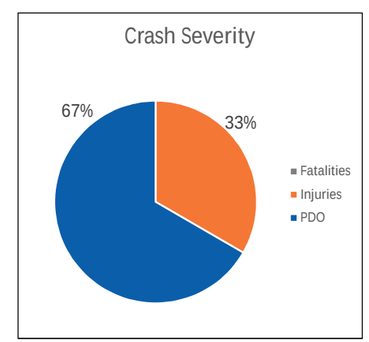












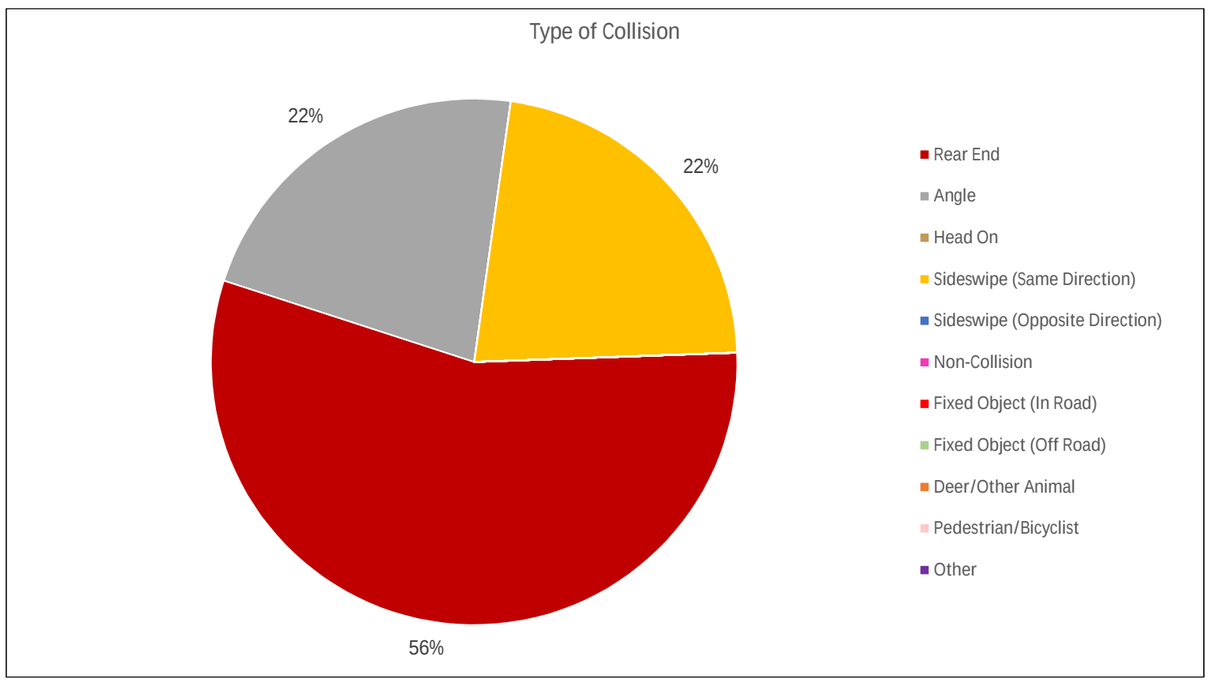
Seminary Road and 395 Southbound Western Ramp - Intersection Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

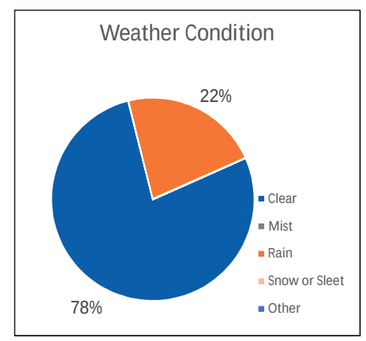
Total Comparison

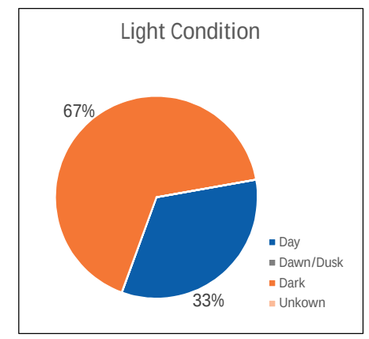
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	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
2015	0	0	2	1	0	0	0	1	0	0	1	1	1	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
2016	0	2	3	0	1	0	1	1	2	0	2	3	1	0	4	0	5	0	0	0	0	1	2	0	2	0	0	0	0	0	0	0	5
2017	0	0	2	0	1	0	0	0	1	0	1	1	1	0	1	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
2018	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
TOTAL	0	2	7	1	2	0	1	2	3	0	4	5	3	0	6	0	7	0	2	0	0	5	2	0	2	0	0	0	0	0	0	0	9

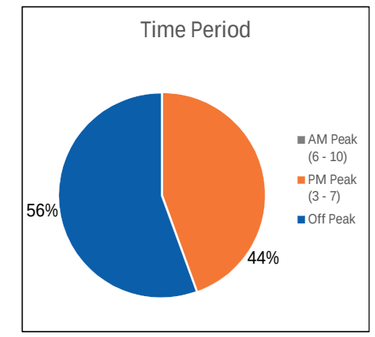
Percentage Comparison

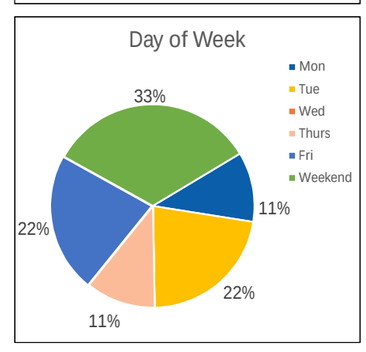
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	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%
2015	0%	0%	100%	50%	0%	0%	0%	50%	0%	0%	50%	50%	50%	0%	50%	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	22%
2016	0%	40%	60%	0%	20%	0%	20%	20%	40%	0%	40%	60%	20%	0%	80%	0%	100%	0%	0%	0%	0%	20%	40%	0%	40%	0%	0%	0%	0%	0%	0%	0%	56%
2017	0%	0%	100%	0%	50%	0%	0%	0%	50%	0%	50%	50%	50%	0%	50%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	22%
2018	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%
TOTAL	0%	22%	78%	11%	22%	0%	11%	22%	33%	0%	44%	56%	33%	0%	67%	0%	78%	0%	22%	0%	0%	56%	22%	0%	22%	0%	0%	0%	0%	0%	0%	0%	100%

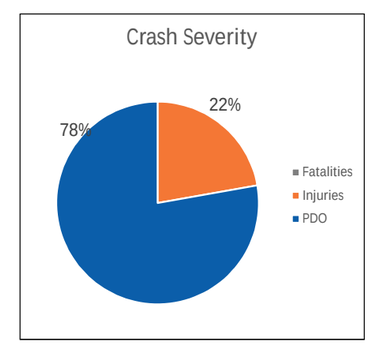












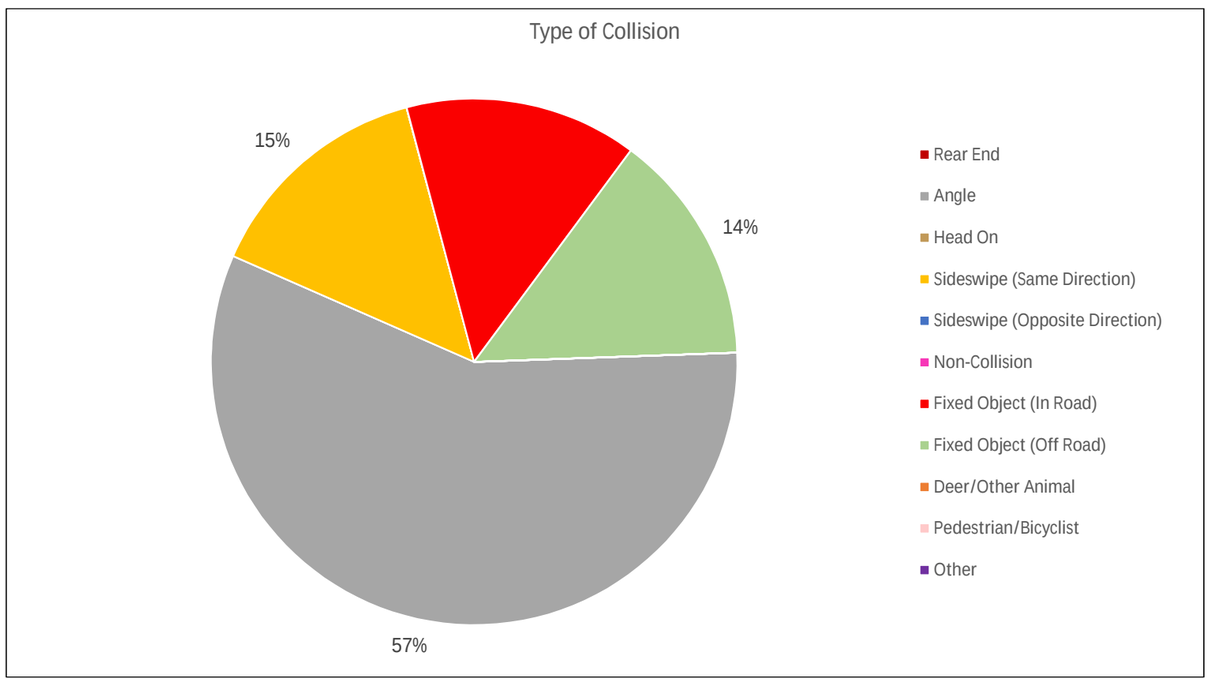
Seminary Road and HOV Ramp - Intersection Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

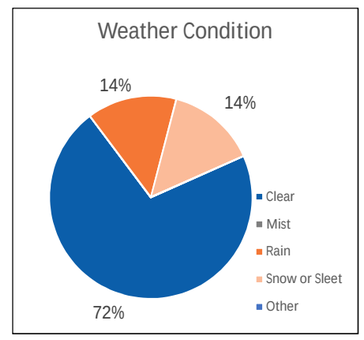
Total Comparison

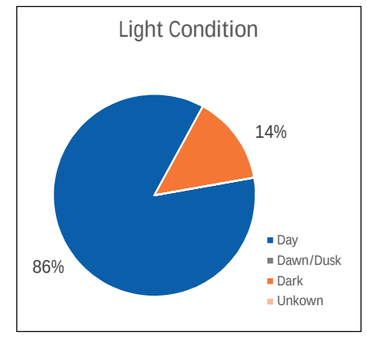
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	1	1	0	0	0	1	0	1	0	1	1	1	0	1	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
2015	0	0	2	0	1	1	0	0	0	1	0	1	2	0	0	0	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
2016	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
2017	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2018	0	1	1	0	1	0	0	1	0	1	0	1	2	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	2
TOTAL	0	3	4	0	2	1	1	2	1	2	1	4	6	0	1	0	5	0	1	1	0	0	4	0	1	0	0	1	1	0	0	0	0	7

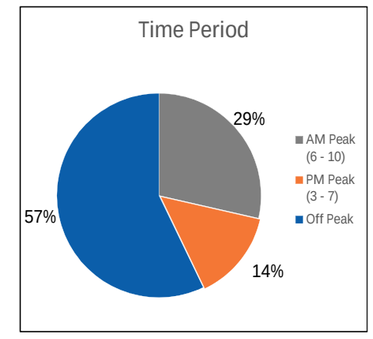
Percentage Comparison

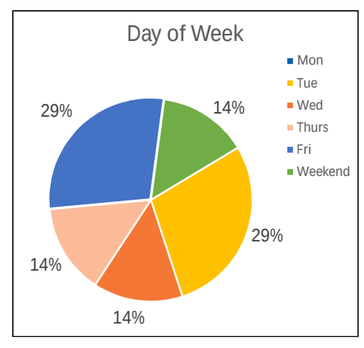
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	50%	50%	0%	0%	0%	50%	0%	50%	0%	50%	50%	50%	0%	50%	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	29%
2015	0%	0%	100%	0%	50%	50%	0%	0%	0%	50%	0%	50%	100%	0%	0%	0%	50%	0%	50%	0%	0%	0%	50%	0%	50%	0%	0%	0%	0%	0%	0%	0%	29%
2016	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%
2017	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	100%	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%
2018	0%	50%	50%	0%	50%	0%	0%	50%	0%	50%	0%	50%	100%	0%	0%	0%	50%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%	50%	50%	0%	0%	0%	29%
TOTAL	0%	43%	57%	0%	29%	14%	14%	29%	14%	29%	14%	57%	86%	0%	14%	0%	71%	0%	14%	14%	0%	0%	57%	0%	14%	0%	0%	14%	14%	0%	0%	0%	100%

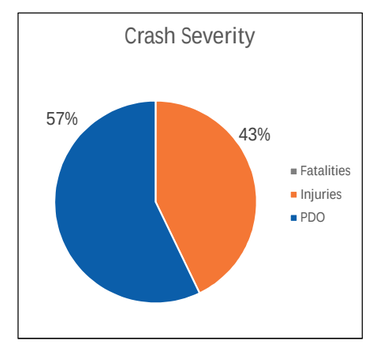












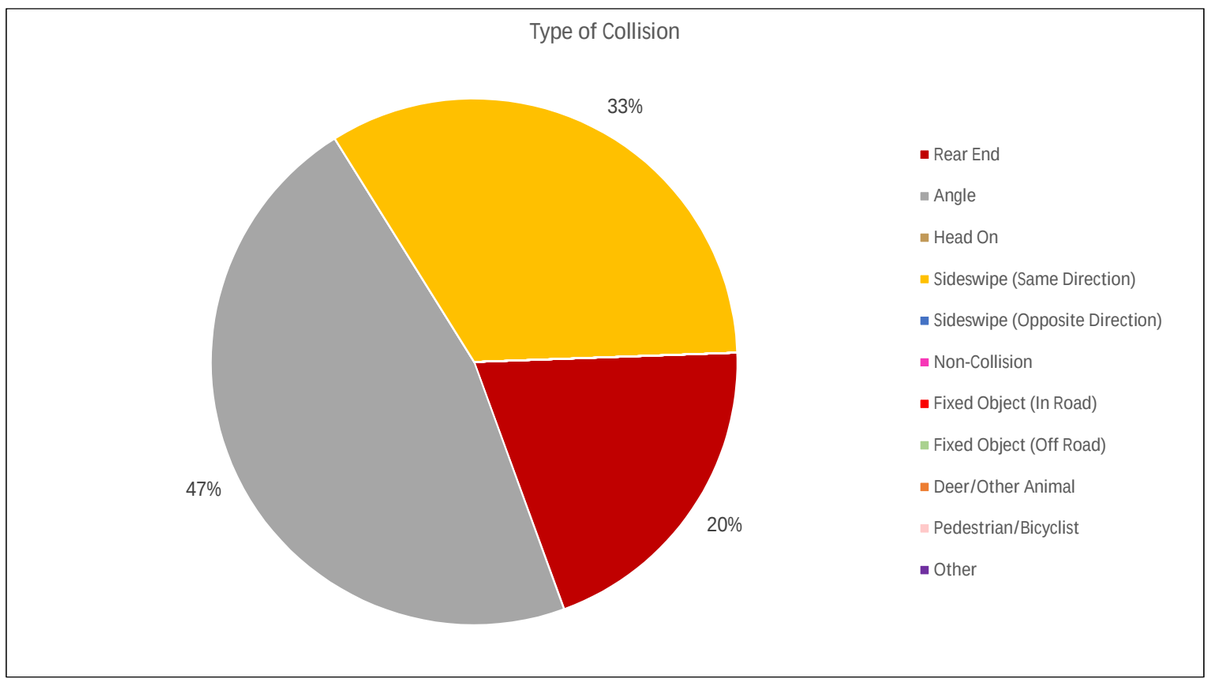
Seminary Road and 395 Northbound Eastern Ramp - Intersection Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

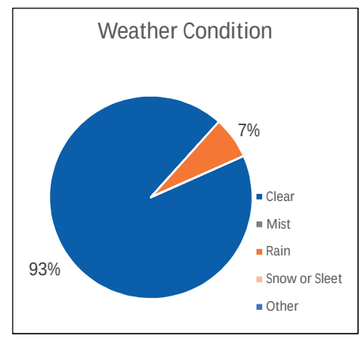
Total Comparison

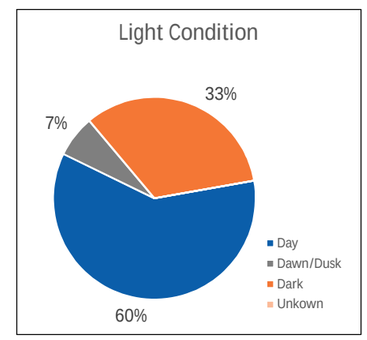
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	1	1	0	1	0	0	0	1	0	0	2	0	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
2015	0	1	5	0	1	1	3	0	1	4	2	0	4	1	1	0	5	0	1	0	0	1	1	0	4	0	0	0	0	0	0	0	0	6
2016	0	0	2	0	0	0	1	0	1	0	1	1	1	0	1	0	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
2017	0	1	0	0	0	0	1	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2018	0	2	2	0	1	1	0	1	1	1	1	2	3	0	1	0	4	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	4
TOTAL	0	5	10	0	3	2	5	1	4	5	4	6	9	1	5	0	14	0	1	0	0	3	7	0	5	0	0	0	0	0	0	0	0	15

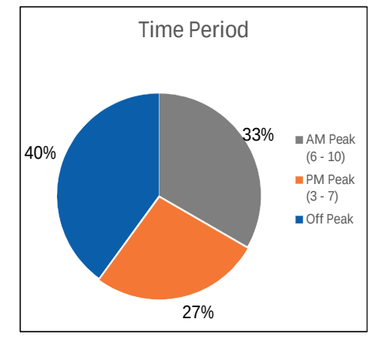
Percentage Comparison

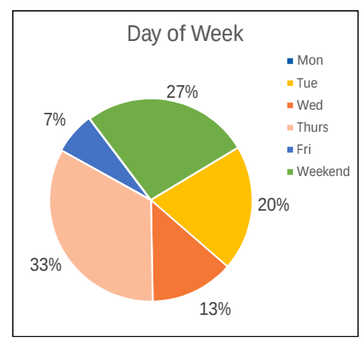
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	50%	50%	0%	50%	0%	0%	0%	50%	0%	0%	100%	0%	0%	100%	0%	100%	0%	0%	0%	0%	0%	50%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	13%
2015	0%	17%	83%	0%	17%	17%	50%	0%	17%	67%	33%	0%	67%	17%	17%	0%	83%	0%	17%	0%	0%	17%	17%	0%	67%	0%	0%	0%	0%	0%	0%	0%	0%	40%
2016	0%	0%	100%	0%	0%	0%	50%	0%	50%	0%	50%	50%	50%	0%	50%	0%	100%	0%	0%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%
2017	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%	100%	100%	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%
2018	0%	50%	50%	0%	25%	25%	0%	25%	25%	25%	25%	50%	75%	0%	25%	0%	100%	0%	0%	0%	0%	25%	75%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	27%
TOTAL	0%	33%	67%	0%	20%	13%	33%	7%	27%	33%	27%	40%	60%	7%	33%	0%	93%	0%	7%	0%	0%	20%	47%	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%	100%

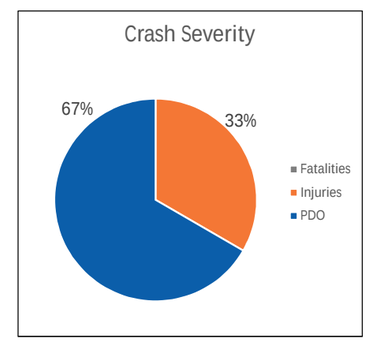












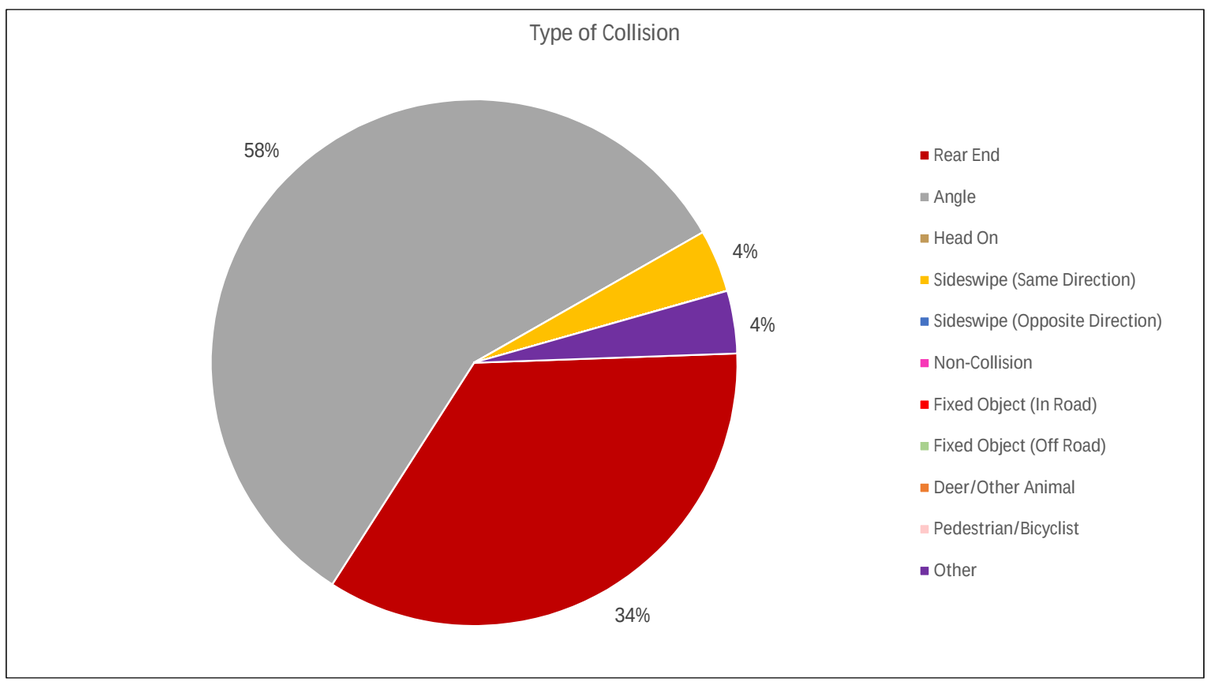
Seminary Road and 395 Northbound Western Ramp - Intersection Crash Analysis
Crash Dates: January 1, 2014 to December 31, 2018

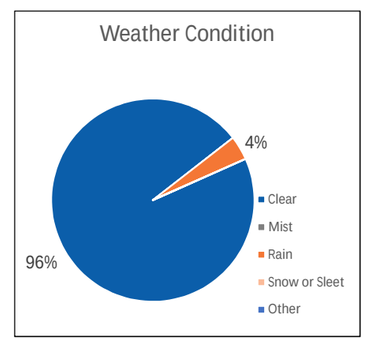
Total Comparison

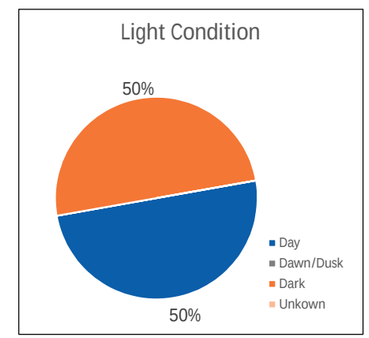
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Fog	Rain or Mist	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0	1	2	1	0	1	1	0	0	0	0	3	3	0	0	0	2	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
2015	0	0	6	0	2	1	0	0	3	1	2	3	5	0	1	0	6	0	0	0	0	1	4	0	1	0	0	0	0	0	0	0	0	6
2016	0	1	4	0	1	0	2	1	1	0	1	4	1	0	4	0	5	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	1	5
2017	0	3	5	0	1	1	1	2	3	0	1	7	3	0	5	0	8	0	0	0	0	5	3	0	0	0	0	0	0	0	0	0	0	8
2018	0	2	2	1	0	0	1	0	2	0	0	4	1	0	3	0	4	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	4
TOTAL	0	7	19	2	4	3	5	3	9	1	4	21	13	0	13	0	25	0	1	0	0	9	15	0	1	0	0	0	0	0	0	0	1	26

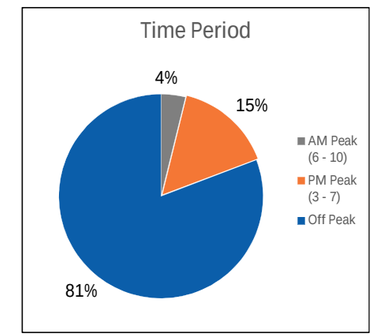
Percentage Comparison

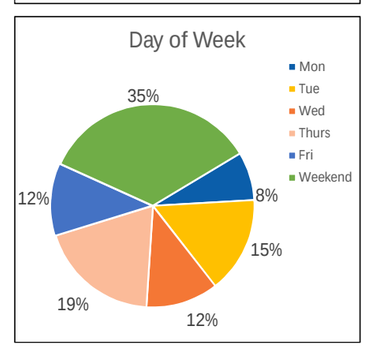
YEAR	SEVERITY			WEEKDAY					WEEKEND	TIME PERIOD			LIGHT CONDITION				WEATHER CONDITION					TYPE OF COLLISION											TOTAL
	Fatalities	Injuries	PDO	Mon	Tue	Wed	Thurs	Fri	Weekend	AM Peak (6 - 10)	PM Peak (3 - 7)	Off Peak	Day	Dawn/ Dusk	Dark	Unknown	Clear	Mist	Rain	Snow or Sleet	Other	Rear End	Angle	Head On	Side-swipe (Same)	Side-swipe (Opp.)	Non-Collision	Fixed Object (In Road)	Fixed Object (Off Road)	Deer/ Other Animal	Ped/ Bike	Backed Into	Other	
2014	0%	33%	67%	33%	0%	33%	33%	0%	0%	0%	0%	100%	100%	0%	0%	0%	67%	0%	33%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%
2015	0%	0%	100%	0%	33%	17%	0%	0%	50%	17%	33%	50%	83%	0%	17%	0%	100%	0%	0%	0%	0%	17%	67%	0%	17%	0%	0%	0%	0%	0%	0%	0%	0%	23%
2016	0%	20%	80%	0%	20%	0%	40%	20%	20%	0%	20%	80%	20%	0%	80%	0%	100%	0%	0%	0%	0%	20%	60%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	19%
2017	0%	38%	63%	0%	13%	13%	13%	25%	38%	0%	13%	88%	38%	0%	63%	0%	100%	0%	0%	0%	0%	63%	38%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	31%
2018	0%	50%	50%	25%	0%	0%	25%	0%	50%	0%	0%	100%	25%	0%	75%	0%	100%	0%	0%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%
TOTAL	0%	27%	73%	8%	15%	12%	19%	12%	35%	4%	15%	81%	50%	0%	50%	0%	96%	0%	4%	0%	0%	35%	58%	0%	4%	0%	0%	0%	0%	0%	0%	0%	4%	100%

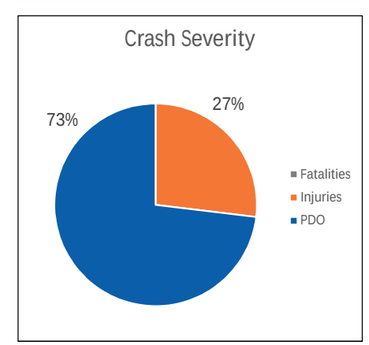












APPENDIX I: SIGNING AND MARKING PLAN

I-395 to Seminary Road Express Exit Signing Retrofit

ID	Station	Location	Change	Item	Structure #	Description	Action	Proposed Dimensions	Notes
1	1448+77	NB I-395	Overlay	Sign	N4-128-A	Express Exit Interchange Sequence	Overlay HOV Diamond	1' x 1'-10"	
2	1456+96	NB I-395	Remove	Sign	N4-128-B	Express Exit Seminary Rd HOV	Remove panel		
3	1456+96	NB I-395	Remove	Sign	N4-128-B	HOV 3+ panel	Remove panel		
4	1483+50	NB I-395	Remove	Sign	N4-128C	Express Exit Seminary Rd HOV	Remove Panel		
5	1578+53	NB I-395	Replace	Sign	N4-137	HOV Exit	Replace HOV Exit panel with Express Exit panel	13' x 2'-6"	Existing dimensions are 11' x 3'. Proposed panel area is less than existing panel (32.5 SF vs 33 SF)
6	1609+75	NB I-395	Replace	Sign	N4-140-A	HOV Exit	Replace HOV Exit panel with Express Exit panel	13' x 2'-6"	Existing dimensions are 11' x 3'. Proposed panel area is less than existing panel (32.5 SF vs 33 SF)
7	1630+40	NB I-395	Remove	Pavement Marking	NA	HOV Diamond Pavement Message	Remove pavement message		
8	1634+40	NB I-395	Replace	Sign	N4-143-C	HOV Exit	Replace HOV Exit panel with Express Exit panel	13' x 2'-6"	Existing dimensions are 11' x 3'. Proposed panel area is less than existing panel (32.5 SF vs 33 SF)
9	1635+15	NB I-395	Remove	Pavement Marking	NA	HOV Diamond Pavement Message	Remove pavement message		
10	1639+70	NB I-395	Remove	Sign	N4-144-B	HOV 3+ panel	Remove panel		
11	1661+00	I-395/Seminary Ramp	Replace	Pavement	NA	HOV Diamond Pavement Message	Replace HOV pavement message with EZ-PASS ONLY pavement messages		
12	1661+10	I-395/Seminary Ramp	Replace	Pavement	NA	HOV Diamond Pavement Message	Replace HOV pavement message with EZ-PASS ONLY pavement messages		
13	NA	WB Seminary	Overlay	Sign	N-SEM-5	Express Lanes Mark Center	Overlay HOV Diamond	18" x 32"	
14	NA	WB Seminary	Remove	Sign	N-SEM-11B	HOV 3+ Violation panel	Remove panel		
15	NA	WB Seminary	Overlay	Sign	N-SEM-11A	Toll DMS	Overlay HOV Diamond	26" x 42"	
16	NA	WB Seminary	Remove	Sign	N-SEM-11A	HOV 3+ panel	Remove panel		
17	NA	WB Seminary	Replace	Sign	N-SEM-13	I-395 HOV Ramp	Replace panel with I-395 Express Ramp panel	7'-3" x 1' (estimate)	Need sign details to verify dimensions
18	NA	EB Seminary	Overlay	Sign	S-SEM-2	Express Lanes Seminary Rd	Overlay HOV Diamond	18" x 32"	
19	NA	EB Seminary	Overlay	Sign	S-SEM-4	Express Lanes Seminary Rd	Overlay HOV Diamond	18" x 32"	
20	NA	EB Seminary	Overlay	Sign	S-SEM-6A	Toll DMS	Overlay HOV Diamond	26" x 42"	
21	NA	EB Seminary	Remove	Sign	S-SEM-6A	HOV 3+ panel	Remove panel		
22	NA	EB Seminary	Remove	Sign	S-SEM-7B	HOV 3+ Violation panel	Remove panel		
23	NA	EB Seminary	Replace	Sign	N-SEM-12	I-395 HOV Ramp	Replace panel with I-395 Express Ramp panel	7'-3" x 1' (estimate)	Need sign details to verify dimensions

SIGNING LEGEND

EXPRESS LANES	- EXISTING SIGN PANEL
EXPRESS LANES	- EXISTING SIGN TO BE REPLACED/REMOVED
EXPRESS LANES	- PROPOSED SIGN PANEL
	- EXISTING OVERHEAD SIGN STRUCTURE
	- EXISTING SIGN

I-395 SEMINARY ROAD RAMP RETROFIT

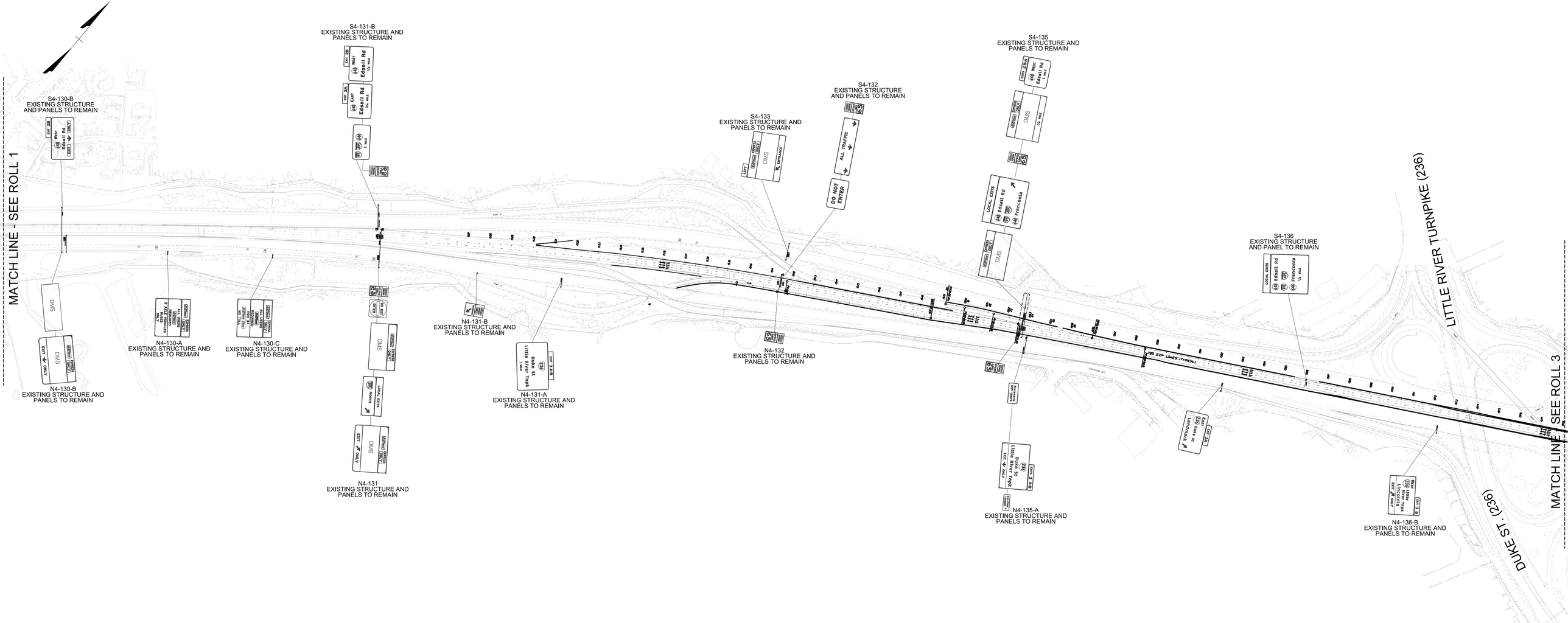
DATE: 09/23/2019

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

Conceptual Signing and Pavement Marking Plan

SCALE 0 100' 200'

Roll 1 of 4



SIGNING LEGEND

- EXPRESS LANES - EXISTING SIGN PANEL
- ~~EXPRESS LANES~~ - EXISTING SIGN TO BE REPLACED/REMOVED
- EXPRESS LANES - PROPOSED SIGN PANEL
- EXISTING OVERHEAD SIGN STRUCTURE
- EXISTING SIGN

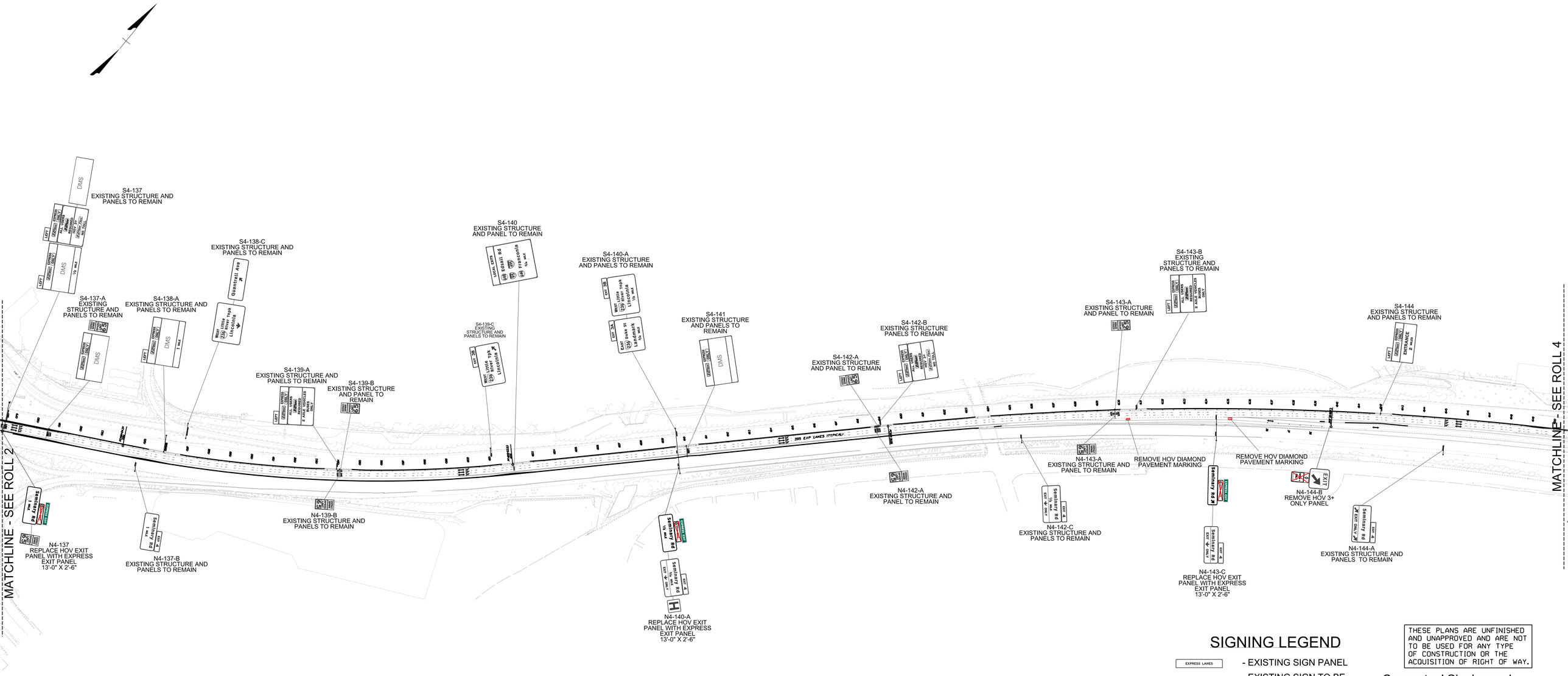
I-395 SEMINARY ROAD
RAMP RETROFIT
DATE: 09/23/2019

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

Conceptual Signing and Pavement Marking Plan

SCALE
0 100' 200'

Roll 2 of 4



SIGNING LEGEND

- EXPRESS LANES - EXISTING SIGN PANEL
- EXPRESS LANES - EXISTING SIGN TO BE REPLACED/REMOVED
- EXPRESS LANES - PROPOSED SIGN PANEL
- EXISTING OVERHEAD SIGN STRUCTURE
- EXISTING SIGN

I-395 SEMINARY ROAD RAMP RETROFIT

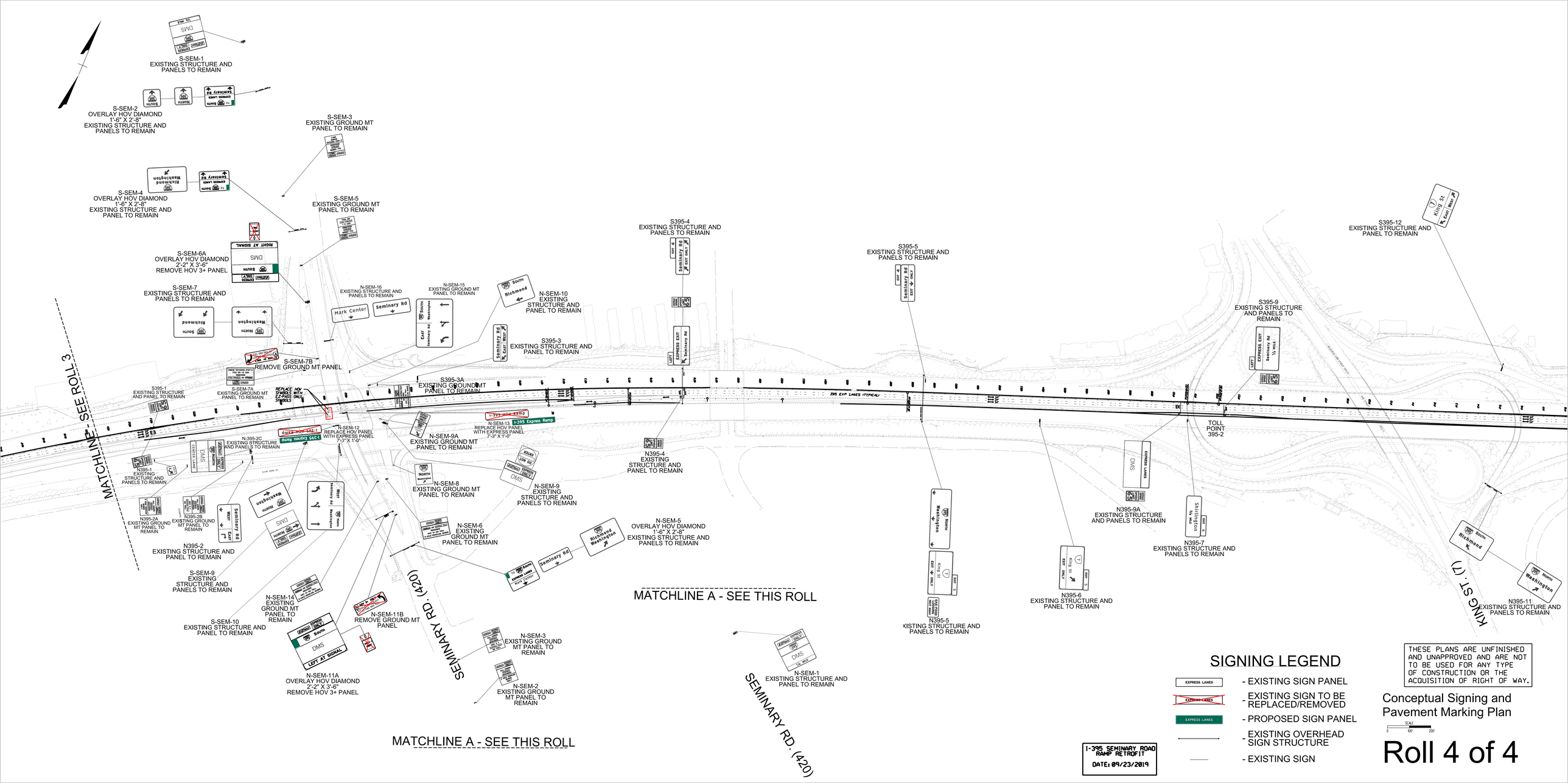
DATE: 09/23/2019

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

Conceptual Signing and Pavement Marking Plan

SCALE 0 100' 200'

Roll 3 of 4


S-SEM-1
EXISTING STRUCTURE AND PANELS TO REMAIN
S-SEM-2
OVERLAY HOV DIAMOND
1'-6" X 2'-8"
EXISTING STRUCTURE AND PANELS TO REMAIN
S-SEM-3
EXISTING GROUND MT PANEL TO REMAIN
S-SEM-4
OVERLAY HOV DIAMOND
1'-6" X 2'-8"
EXISTING STRUCTURE AND PANEL TO REMAIN
S-SEM-5
EXISTING GROUND MT PANEL TO REMAIN
S-SEM-6A
OVERLAY HOV DIAMOND
2'-2" X 3'-6"
REMOVE HOV 3+ PANEL
S-SEM-7
EXISTING STRUCTURE AND PANELS TO REMAIN
S-SEM-7B
REMOVE GROUND MT PANEL
S-SEM-7A
EXISTING GROUND MT PANEL TO REMAIN
REPLACE HOV SYMBOLS WITH EXPRESS ONLY SYMBOLS
S395-1
EXISTING STRUCTURE AND PANEL TO REMAIN
MATCHLINE - SEE ROLL 3
N-SEM-16
EXISTING STRUCTURE AND PANELS TO REMAIN
N-SEM-15
EXISTING GROUND MT PANEL TO REMAIN
N-SEM-10
EXISTING STRUCTURE AND PANEL TO REMAIN
S395-3
EXISTING STRUCTURE AND PANEL TO REMAIN
S395-3A
EXISTING GROUND MT PANEL TO REMAIN
N-SEM-12
REPLACE HOV PANEL WITH EXPRESS PANEL
7'-3" X 1'-0"
N-SEM-13
REPLACE HOV PANEL WITH EXPRESS PANEL
7'-3" X 1'-0"
N-SEM-9A
EXISTING GROUND MT PANEL TO REMAIN
N395-4
EXISTING STRUCTURE AND PANEL TO REMAIN
N-SEM-8
EXISTING GROUND MT PANEL TO REMAIN
N-SEM-9
EXISTING STRUCTURE AND PANELS TO REMAIN
N-SEM-6
EXISTING GROUND MT PANEL TO REMAIN
N-SEM-5
OVERLAY HOV DIAMOND
1'-6" X 2'-8"
EXISTING STRUCTURE AND PANELS TO REMAIN
N395-2C
EXISTING STRUCTURE AND PANELS TO REMAIN
N395-1
EXISTING STRUCTURE AND PANELS TO REMAIN
N395-2A
EXISTING GROUND MT PANEL TO REMAIN
N395-2B
EXISTING GROUND MT PANEL TO REMAIN
N395-2
EXISTING STRUCTURE AND PANEL TO REMAIN
S-SEM-9
EXISTING STRUCTURE AND PANELS TO REMAIN
S-SEM-10
EXISTING STRUCTURE AND PANEL TO REMAIN
N-SEM-14
EXISTING GROUND MT PANEL TO REMAIN
N-SEM-11B
REMOVE GROUND MT PANEL
N-SEM-11A
OVERLAY HOV DIAMOND
2'-2" X 3'-6"
REMOVE HOV 3+ PANEL
SEMINARY RD. (420)
N-SEM-3
EXISTING GROUND MT PANEL TO REMAIN
N-SEM-2
EXISTING GROUND MT PANEL TO REMAIN
MATCHLINE A - SEE THIS ROLL
MATCHLINE A - SEE THIS ROLL
N-SEM-1
EXISTING STRUCTURE AND PANEL TO REMAIN
SEMINARY RD. (420)
S395-4
EXISTING STRUCTURE AND PANELS TO REMAIN
S395-5
EXISTING STRUCTURE AND PANELS TO REMAIN
N395-5
XISTING STRUCTURE AND PANELS TO REMAIN
N395-6
EXISTING STRUCTURE AND PANEL TO REMAIN
N395-9A
EXISTING STRUCTURE AND PANELS TO REMAIN
N395-7
EXISTING STRUCTURE AND PANELS TO REMAIN
TOLL POINT 395-2
S395-9
EXISTING STRUCTURE AND PANELS TO REMAIN
S395-12
EXISTING STRUCTURE AND PANEL TO REMAIN
N395-11
EXISTING STRUCTURE AND PANELS TO REMAIN
KING ST. (7)
395 EXP LANES (TYPICAL)
I-395 HOV RAMP
I-395 Express Ramp
SIGNING LEGEND
- EXISTING SIGN PANEL
- EXISTING SIGN TO BE REPLACED/REMOVED
- PROPOSED SIGN PANEL
- EXISTING OVERHEAD SIGN STRUCTURE
- EXISTING SIGN
I-395 SEMINARY ROAD RAMP RETROFIT
DATE: 09/23/2019
THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.
Conceptual Signing and Pavement Marking Plan
SCALE
0 100' 200'
Roll 4 of 4

APPENDIX J: INPUT FROM LOCAL JURISDICTION

DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES
P.O. Box 178 – City Hall
Alexandria, Virginia 22313
www.alexandriava.gov

December 6, 2019

Abraham Lerner
Virginia Department of Transportation
4975 Alliance Drive
Fairfax, VA. 22030

Re: I-395 at Seminary Rd IMR (Lite) Comments

Dear Mr. Lerner:

The City of Alexandria appreciates the opportunity to review the October 2019, I-395 at Seminary Road Interchange Modification Report (IMR) Lite. We expedited our review to get you our comments prior to the December 9 public meeting.

Overall, we found the analysis methodology is consistent with good industry practice and there were no fatal flaws in the assumptions, projections or results. VDOT is to be commended because the analysis is very thorough. The analysis found converting the ramp to High Occupancy Toll (HOT) operation slightly improves travel times for the northbound I-395 AM peak both in 2020 and 2040. No improvements were noted for other times. However, no increase in the number of people or vehicles moved through the corridor was identified. Furthermore, the analysis did not identify any travel time improvements or other benefits to the local roadway network by allowing the conversion of the ramp.

Based on the results of the IMR, the City finds no compelling reason to convert the Seminary ramp for High Occupancy Vehicle (HOV) to HOT. There are still many unknowns and the City does not believe the risk is worth the minimal benefit. Additionally, the Alexandria City Council adopted a resolution in 2012 stating the City position with respect to the operation of the Northbound I-395/Seminary Road HOV/Transit Ramp.

I can be reached at 703-746-4017 should you have further questions.

Hillary Orr
Deputy Director for Transportation
Department of Transportation and Environmental Services

APPENDIX K: 2020 AND 2040 ANALYSIS WITH ROAD DIET ALONG SEMINARY ROAD

- **2020 AM No-Build and Build MOE Comparison**
- **2020 PM No-Build and Build MOE Comparison**
- **2040 AM No-Build and Build MOE Comparison**
- **2040 PM No-Build and Build MOE Comparison**

2020 AM

with Road-Diet along Seminary Rd

No-Build and Build MOE Comparison

2020 Freeway and Ramp Volume and MOEs Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

Facility	Segment	Type	Existing AM			2020 No-Build AM			2020 Build AM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
NB I-395 GP	Mainline south of Turkeycock	Basic/Diverge	3,704	57	16.3	3,956	17	59.1	4,047	19	55.2
	Between off-ramp to HOV NB and on-ramp from HOT NB at Turkeycock	Basic	3,504	39	38.1	3,772	35	40.6	3,865	44	29.6
	Between on-ramp from HOT NB at Turkeycock and off-ramp to Duke Street EB	Merge/Diverge	4,534	15	99.5	4,416	32	43.9	4,487	48	22.7
	Between off-ramp to Duke Street EB and off-ramp to Duke Street WB	Diverge	4,037	16	68.0	3,923	29	50.7	3,994	50	20.2
	Between off-ramp to Duke Street WB and on-ramp from Duke Street	Basic	3,499	15	79.5	3,302	24	62.1	3,405	47	26.0
	Between on-ramp from Duke Street EB and off-ramp to Seminary Road	Merge/Basic/Diverge	4,472	18	63.6	4,251	26	42.5	4,426	38	32.1
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	3,176	13	84.6	2,855	42	27.0	3,062	23	57.3
	Between on-ramp from Seminary Road and off-ramp to King Street EB	Merge/Diverge	4,458	14	71.6	4,191	32	37.8	4,419	18	60.7
	Between off-ramp to King Street and on-ramp from King Street	Basic	4,180	25	55.7	3,927	33	42.2	4,146	27	51.6
	Between on-ramp from King Street EB and on-ramp from King Street WB	Merge	4,622	30	46.3	4,339	37	36.2	4,527	33	41.2
	Mainline north of King Street	Weave	5,681	36	36.2	5,407	36	34.0	5,552	36	35.3

Facility	Segment	Type	Existing AM			2020 No-Build AM			2020 Build AM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
NB I-395 HOV/HOT	Mainline south of Turkeycock	Basic/Diverge	3,018	40	56.3	3,142	66	14.9	3,243	66	15.4
	Between off-ramp to GP and on-ramp from GP at Turkeycock	Basic	2,048	58	19.7	2,465	67	11.7	2,631	67	12.6
	Between on-ramp from GP at Turkeycock to off-ramp to Seminary Road	Merge/Basic/Diverge	2,273	66	16.6	2,635	68	12.8	2,834	68	13.8
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	2,005	67	15.0	2,434	68	12.0	2,480	68	12.2
	Mainline north of King Street	Merge/Basic	2,140	67	15.7	2,656	67	13.0	2,705	67	13.2

Facility	Segment	Type	Existing AM			2020 No-Build AM			2020 Build AM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
Duke Street Interchange Ramps	I-395 NB to Duke St EB		500	43	11.7	482	44	10.9	493	44	11.2
	I-395 NB to Duke St WB		531	29	18.0	519	29	17.8	582	29	19.8
	Duke St WB to I-395 NB		440	44	10.1	479	42	11.9	478	43	11.0
	Duke St EB to I-395 NB		612	41	14.8	619	40	15.7	620	41	15.0
	I-395 SB to Duke St WB		405	44	7.5	820	42	7.6	849	42	8.0
	I-395 SB to Duke St EB		430	30	14.2	427	8	25.9	439	8	27.1
	Duke St WB to I-395 SB		546	29	18.5	676	36	18.9	661	36	18.5
	Duke St EB to I-395 SB		495	44	11.1	470	44	10.5	476	44	10.6
Seminary Road Interchange Ramps	I-395 NB to Seminary Rd		1,290	22	36.2	1,394	5	151.7	1,363	14	65.8
	Seminary Rd to I-395 NB		1,293	33	20.2	1,322	42	16.1	1,353	36	19.3
	I-395 SB to Seminary Rd		646	48	6.7	653	49	6.7	640	49	6.6
	Seminary Rd to I-395 SB		831	40	20.5	900	40	22.1	916	40	22.6
	I-395 HOV/HOT NB to Seminary Rd		284	17	8.3	224	21	5.3	379	21	8.9
	Seminary Rd to I-395 HOV/HOT NB		125	42	2.9	205	42	4.8	213	42	5.0
King Street Interchange Ramps	I-395 NB to King St EB		130	36	3.6	140	35	3.9	147	36	4.1
	I-395 NB to King St WB		151	32	4.7	158	32	4.9	138	32	4.3
	King St WB to I-395 NB		964	37	13.0	969	37	13.1	935	37	12.6
	King St EB to I-395 NB		437	29	15.1	411	29	14.1	382	29	13.1
	I-395 SB to King St WB		584	36	16.2	592	36	16.4	596	36	16.5
	I-395 SB to King St EB		180	35	5.2	182	35	5.2	178	34	5.1
	King St WB to I-395 SB		333	33	9.8	341	33	10.1	342	33	10.1
	King St EB to I-395 SB		391	34	11.5	425	34	12.5	433	34	12.8
Turkeycock Interchange Ramps	I-395 GP NB to I-395 HOV NB		977	20	93.1	680	43	15.9	614	46	13.2
	Seminary Rd to I-395 HOV/HOT NB		224	41	5.5	161	41	3.9	193	41	4.7

2020 Intersection Volume and MOEs Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

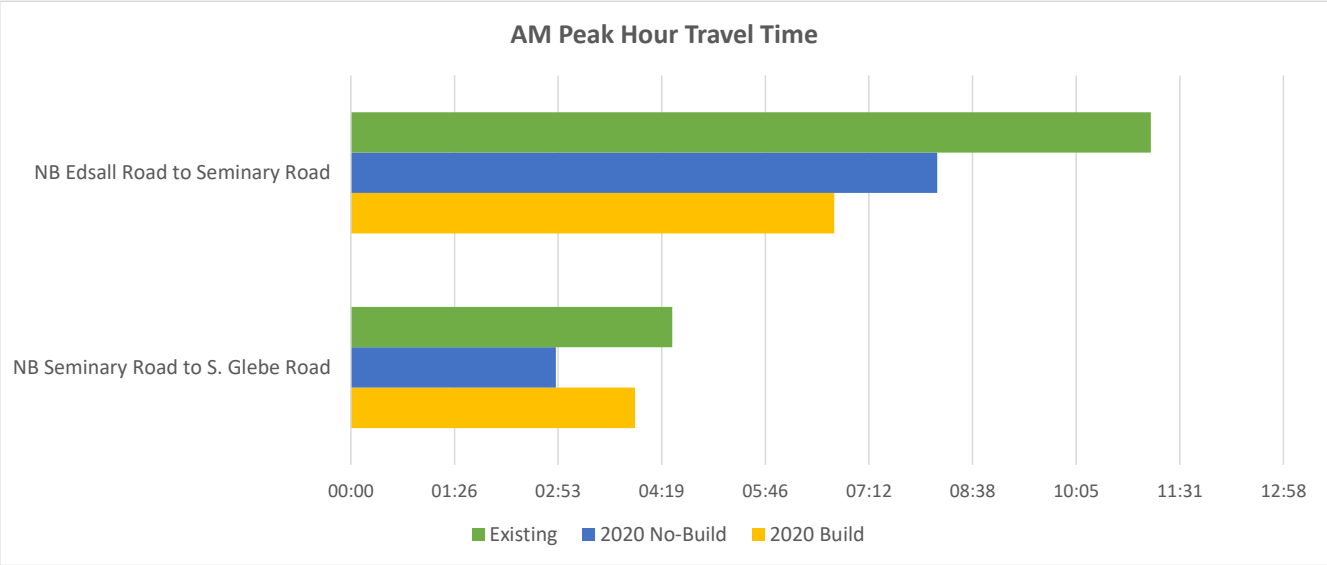
#	Intersection	Approach	Movement	Existing AM				2020 No-Build AM				2020 Build AM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
401	Seminary Rd and I-395 Northbound Off-Ramp	NB	TH	53.6	46.9	D	D	59.8	53.2	E	D	56.9	50.4	E	D
			RT	13.3		B		15.3		B		13.9		B	
		EB	LT	8.0	6.7	A	A	8.1	6.8	A	A	8.4	7.1	A	A
			TH	2.3		A		2.2		A		2.6		A	
		Intersection		31.2		C		35.6		D		33.7		C	
402	Seminary Rd and I-395 Northbound On-Ramp	NB	LT	1.3	1.2	A	A	1.4	1.2	A	A	1.4	1.3	A	A
			TH	1.0		A		0.9		A		1.1		A	
		WB	TH	76.3	24.6	E	C	80.9	26.6	F	C	79.4	24.8	E	C
			RT	0.6		A		0.8		A		0.8		A	
		Intersection		9.8		A		10.7		B		10.1		B	
403	Seminary Rd and I-395 Southbound Off-Ramp	SB	TH	74.6	27.8	E	C	77.8	29.2	E	C	76.4	29.5	E	C
			RT	5.0		A		4.6		A		4.1		A	
		WB	LT	2.2	1.2	A	A	1.9	1.0	A	A	1.8	1.0	A	A
			TH	0.9		A		0.8		A		0.8		A	
		Intersection		9.3		A		9.4		A		9.5		A	
404	Seminary Rd and I-395 Southbound On-Ramp	SB	LT	1.4	1.4	A	A	1.6	1.9	A	A	1.5	1.8	A	A
			TH	1.4		A		2.1		A		2.0		A	
		EB	TH	65.6	35.5	E	D	66.8	34.5	E	C	66.9	33.9	E	C
			RT	0.5		A		0.7		A		0.7		A	
		Intersection		25.8		C		25.4		C		25.5		C	
405	Seminary Rd and I-395 Northbound HOV Off-Ramp	NB	LT	25.8	25.5	C	C	17.4	17.5	B	B	16.9	17.1	B	B
			RT	25.0		C		17.7		B		17.4		B	
		EB	TH	5.3	5.3	A	A	5.5	5.5	A	A	6.7	6.7	A	A
		WB	TH	7.1	7.1	A	A	5.9	5.9	A	A	7.5	7.5	A	A
		Intersection		9.7		A		8.1		A		10.2		B	
411	Seminary Rd and Mark Center Ave	NB	LT	60.1	38.8	E	D	62.1	40.0	E	D	64.5	41.5	E	D
			TH	63.3		E		67.8		E		62.1		E	
			RT	32.0		C		31.7		C		34.3		C	
		SB	LT	54.4	43.7	D	D	53.2	42.0	D	D	51.9	40.8	D	D
			TH	54.4		D		55.4		E		54.3		D	
			RT	11.7		B		9.6		A		9.9		A	
		EB	LT	83.3	22.5	F	C	81.8	21.7	F	C	81.3	21.4	F	C
			TH	19.8		B		18.7		B		18.6		B	
			RT	17.1		B		16.6		B		16.0		B	
		WB	LT	60.4	30.8	E	C	60.4	26.0	E	C	61.1	27.4	E	C
			TH	27.1		C		21.2		C		23.2		C	
			RT	13.6		B		8.9		A		11.2		B	
		Intersection		29.5		C		26.7		C		27.3		C	
412	Seminary Rd and N. Beauregard St	NB	LT	69.4	36.0	E	D	80.9	40.5	F	D	71.7	36.6	E	D
			TH	51.2		D		52.0		D		50.6		D	
			RT	1.8		A		1.7		A		1.8		A	
		SB	LT	139.1	83.8	F	F	116.7	75.9	F	E	125.3	78.0	F	E
			TH	58.8		E		59.5		E		57.9		E	
			RT	39.2		D		44.8		D		43.5		D	
		EB	LT	118.6	38.0	F	D	113.2	35.3	F	D	115.6	35.9	F	D
			TH	41.7		D		40.1		D		40.3		D	
			RT	10.4		B		8.5		A		8.5		A	
		WB	LT	61.4	32.0	E	C	43.6	22.1	D	C	53.2	27.1	D	C
			TH	15.0		B		8.2		A		9.8		A	
			RT	4.9		A		3.0		A		3.3		A	
		Intersection		38.4		D		34.5		C		35.8		D	
421	Seminary Rd and Kenmore Ave-Library Lane	NB	LT	65.9	65.7	E	E	63.2	62.6	E	E	62.2	61.8	E	E
			TH	64.7		E		63.3		E		63.8		E	
			RT	65.8		E		61.1		E		59.6		E	
		SB	LT	64.2	62.9	E	E	64.6	64.9	E	E	62.2	61.5	E	E
			TH	63.2		E		63.9		E		63.9		E	
			RT	61.6		E		65.5		E		60.1		E	
		EB	LT	18.5	10.7	B	B	13.3	9.8	B	A	12.9	9.6	B	A
			TH	9.1		A		9.1		A		9.0		A	
			RT	16.6		B		9.0		A		11.2		B	
		WB	LT	8.1	4.5	A	A	6.0	4.8	A	A	6.3	5.0	A	A
			TH	4.5		A		4.8		A		5.0		A	
			RT	4.7		A		5.2		A		4.9		A	
		Intersection		10.6		B		10.6		B		10.5		B	

#	Intersection	Approach	Movement	Existing AM				2020 No-Build AM				2020 Build AM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
422	Seminary Rd and Seminary Rd - The Encore entrance	NB	LT	54.8	48.8	D	D	54.5	47.2	D	D	53.2	46.2	D	D
			RT	37.2		D		35.1		D		34.9		C	
		SB	LT	53.2	14.0	D	B	55.8	18.7	E	B	50.0	15.7	D	B
			RT	6.9		A		7.9		A		6.9		A	
		EB	LT	21.5	6.5	C	A	17.9	5.7	B	A	18.9	5.8	B	A
			TH	6.4		A		5.5		A		5.7		A	
		WB	TH	5.5	5.5	A	A	5.7	5.7	A	A	5.7	5.7	A	A
			RT	4.8		A		5.1		A		4.6		A	
		Intersection		8.3		A		8.4		A		8.3		A	
423	Seminary Rd and N. Pickett St	NB	LT	59.8	40.0	E	D	62.3	38.1	E	D	64.1	39.0	E	D
			RT	19.6		B		19.0		B		20.1		C	
		EB	TH	9.0	8.8	A	A	9.4	9.2	A	A	9.5	9.3	A	A
			RT	7.6		A		7.6		A		7.8		A	
		WB	LT	15.6	7.6	B	A	10.9	7.9	B	A	12.5	7.6	B	A
			TH	7.1		A		7.6		A		7.2		A	
		Intersection		10.8		B		11.2		B		11.1		B	
424	Seminary Rd and N. Jordan St	NB	LT	49.6	44.2	D	D	51.7	45.2	D	D	52.6	46.1	D	D
			RT	14.8		B		13.8		B		15.0		B	
		EB	TH	9.1	8.8	A	A	7.5	7.3	A	A	11.5	11.3	B	B
			RT	7.2		A		6.3		A		10.0		B	
		WB	LT	19.6	7.6	B	A	15.6	10.0	B	B	16.7	10.3	B	B
			TH	7.4		A		9.9		A		10.2		B	
		Intersection		15.1		B		15.8		B		17.4		B	
425	Seminary Rd and N. Howard St	NB	LT	38.8	49.2	D	D	41.9	50.7	D	D	42.4	49.8	D	D
			TH	56.1		E		56.7		E		55.6		E	
			RT	45.6		D		45.3		D		42.2		D	
		SB	LT	42.0	39.3	D	D	45.5	43.4	D	D	45.1	40.5	D	D
			TH	52.9		D		55.3		E		49.9		D	
			RT	19.7		B		23.7		C		18.4		B	
		EB	LT	42.1	33.1	D	C	52.5	31.8	D	C	69.1	45.8	E	D
			TH	33.3		C		26.9		C		40.3		D	
			RT	19.0		B		16.2		B		27.1		C	
		WB	LT	17.0	24.6	B	C	14.9	20.2	B	C	17.3	24.5	B	C
			TH	24.6		C		20.9		C		25.3		C	
			RT	26.5		C		20.0		C		24.5		C	
		Intersection		33.0		C		32.0		C		37.2		D	
426	Seminary Rd and St. Stephens Rd	NB	LT	21.7	20.2	C	C	34.7	31.7	C	C	38.2	35.5	D	D
			RT	14.3		B		21.7		C		25.8		C	
		EB	TH	6.4	6.0	A	A	12.5	12.0	B	B	13.1	12.6	B	B
			RT	4.4		A		10.5		B		10.7		B	
		WB	LT	14.6	9.0	B	A	15.7	11.7	B	B	13.5	14.1	B	B
			TH	8.4		A		11.2		B		14.1		B	
		Intersection		9.4		A		14.3		B		16.3		B	
427	Seminary Rd and Fort Williams Pkwy	NB	LT	5.2	4.5	A	A	12.5	11.0	B	B	63.6	61.1	F	F
			RT	2.4		A		7.3		A		54.1		F	
		EB	TH	0.3	0.3	A	A	1.3	1.3	A	A	1.2	1.2	A	A
			RT	0.7		A		1.2		A		1.2		A	
		WB	LT	3.7	0.7	A	A	5.2	2.8	A	A	7.7	4.6	A	A
			TH	0.6		A		2.7		A		4.6		A	
		Intersection		0.9		A		3.1		A		9.2		A	
428	Seminary Rd and N. Quaker Lane	NB	LT	77.8	50.3	E	D	42.4	36.0	D	D	41.4	34.1	D	C
			TH	29.3		C		32.0		C		29.6		C	
			RT	25.9		C		26.8		C		25.7		C	
		SB	LT	45.1	34.0	D	C	38.5	47.4	D	D	34.5	42.9	C	D
			TH	31.6		C		50.9		D		45.9		D	
			RT	25.7		C		44.8		D		41.8		D	
		EB	LT	26.5	31.8	C	C	27.7	29.7	C	C	27.2	29.8	C	C
			TH	36.3		D		33.8		C		34.5		C	
			RT	27.9		C		25.2		C		25.1		C	
		WB	LT	25.0	27.6	C	C	24.4	22.2	C	C	25.5	22.7	C	C
			TH	32.3		C		30.9		C		31.3		C	
			RT	19.7		B		8.7		A		8.9		A	
		Intersection		39.7		D		35.4		D		33.6		C	

2020 Travel Time Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

Segment ID: Description of Route	AM Peak Hour Travel Time				
	Existing VISSIM (MM:SS)	2020 No-Build VISSIM (MM:SS)	2020 Build VISSIM (MM:SS)	Difference between No-Build and Build (MM:SS)	Percent Difference between No-Build and Build
NB Edsall Road to Seminary Road	11:07	08:09	06:43	- 01:26	- 19.3%
NB Seminary Road to S. Glebe Road	04:28	02:51	03:57	01:06	32.4%
NB Total	**15:35**	**11:00**	**10:40**	**- 00:20**	**- 3.1%**



2020 Targeted Queue Location Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

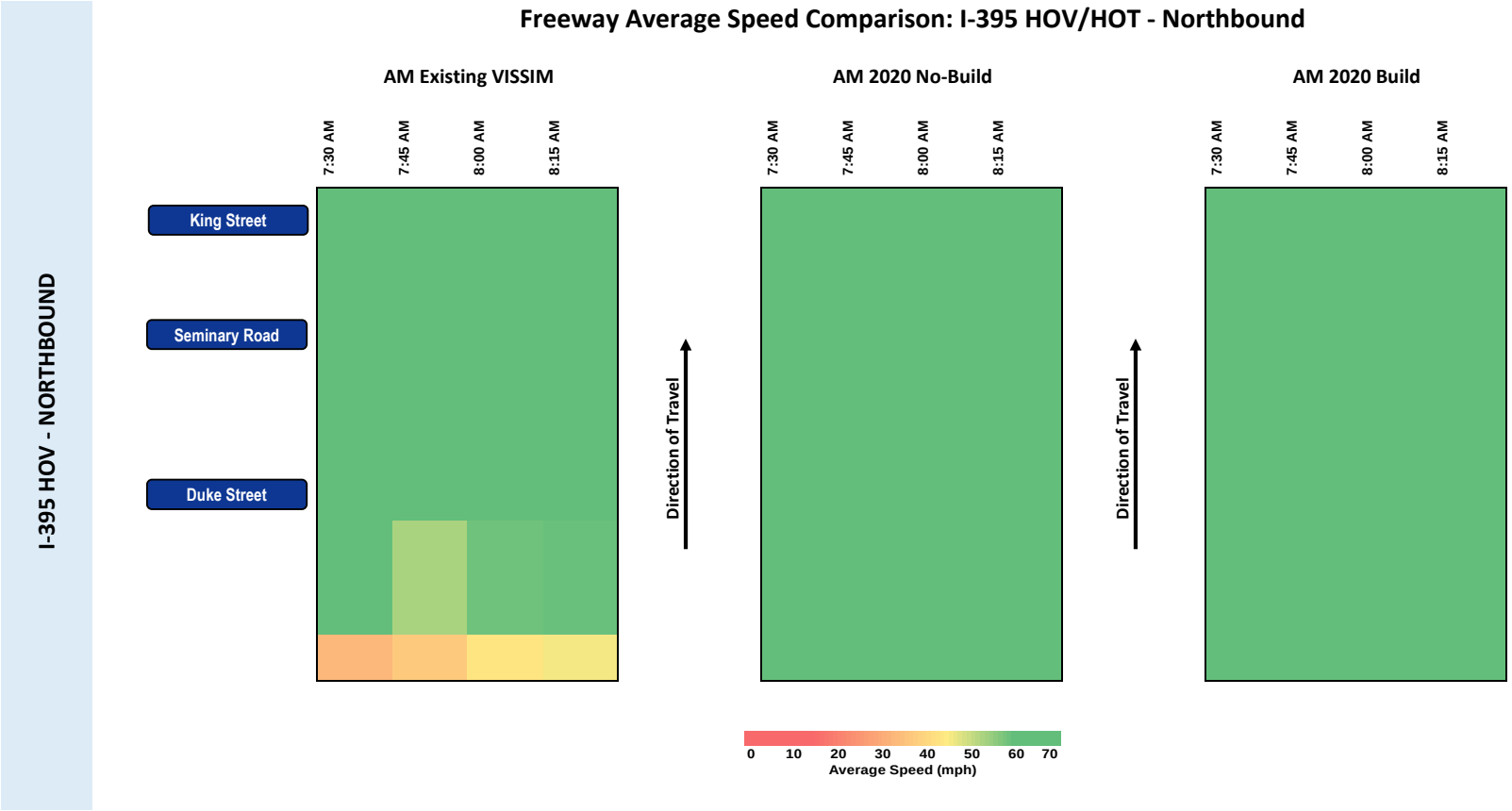
Interchange	Location	Approximate Storage (feet)	AM Vissim Max Queue Length (feet)		
			Existing	2020 No-Build	2020 Build
Duke Street	Ramp from Duke Street westbound to I-395 southbound	2,500	0	0	0
Seminary Road	Ramp from Seminary Road westbound to I-395 southbound	1,300	0	0	0
	Ramp from I-395 HOV northbound to Seminary Road	1,100	140	105	136
	Ramp from Seminary Road to I-395 HOV northbound	2,600	0	0	0

2020 Speed Heat Map Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

2020 Speed Heat Map Comparison

AM Peak Hour (7:30 AM - 8:30 AM)



2020 PM

with Road-Diet along Seminary Rd

No-Build and Build MOE Comparison

2020 Freeway and Ramp Volume and MOEs Comparison

PM Peak Hour (4:30 PM - 5:30 PM)

Facility	Segment	Type	Existing PM			2020 No-Build PM			2020 Build PM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
SB I-395 GP	Mainline north of King Street	Weave	5,421	41	38.5	5,248	54	24.3	5,266	54	24.7
	Between off-ramp to King Street EB & WB and on-ramp from King Street WB	Basic	3,887	15	73.9	3,722	49	20.7	3,784	49	21.0
	Between on-ramp from King Street WB and on-ramp from King Street EB	Merge	4,011	14	77.2	3,907	51	18.1	3,952	51	18.3
	Between on-ramp from King Street EB and off-ramp to Seminary Road	Weave	4,143	9	104.4	4,229	55	15.3	4,266	55	15.4
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	3,491	6	148.9	3,670	55	16.9	3,707	55	17.1
	Between on-ramp from Seminary Road and off-ramp to Duke Street WB	Merge/Basic/Diverge	4,196	14	87.9	4,824	53	22.1	4,688	53	21.4
	Between off-ramp to Duke Street WB and on-ramp from Duke Street WB	Basic	3,925	17	67.7	3,932	57	17.2	3,759	57	16.4
	Between on-ramp from Duke Street WB and off-ramp to Duke Street EB	Weave	4,469	13	88.4	4,685	51	22.1	4,504	52	21.2
	Between off-ramp to Duke Street EB and on-ramp from Duke Street EB	Basic	4,312	38	37.7	3,922	51	22.3	3,751	52	21.4
	Between on-ramp from Duke Street EB and off-ramp to HOT SB at Turkeycock	Merge/Diverge	4,869	49	30.6	4,685	50	23.3	4,505	51	22.3
	Between off-ramp to HOT SB and on-ramp from HOV SB at Turkeycock	Basic	4,061	48	28.2	4,203	48	21.9	4,137	48	21.5
	Mainline south of Turkeycock	Merge/Basic	4,771	47	25.3	5,380	48	22.4	5,423	48	22.6

Facility	Segment	Type	Existing PM			2020 No-Build PM			2020 Build PM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
SB I-395 HOV/HOT	Mainline south of Turkeycock	Basic/Diverge	2,983	65	22.4	3,747	60	20.5	3,833	60	21.0
	Between off-ramp to GP and on-ramp from GP at Turkeycock	Basic	2,736	66	20.8	3,328	59	18.6	3,385	59	19.0
	Between on-ramp from GP at Turkeycock to off-ramp to Seminary Road	Merge/Basic/Diverge	2,965	61	24.4	3,523	66	17.1	3,764	66	18.4
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	2,233	63	17.0	2,820	67	13.8	2,955	67	14.6
	Mainline north of King Street	Merge/Basic	3,038	67	14.8	3,301	67	15.7	3,326	67	15.8

Facility	Segment	Type	Existing PM			2020 No-Build PM			2020 Build PM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
Duke Street Interchange Ramps	I-395 NB to Duke St EB		578	40	14.4	594	39	16.0	588	40	14.6
	I-395 NB to Duke St WB		428	26	16.4	460	26	17.5	448	26	17.0
	Duke St WB to I-395 NB		625	40	15.5	637	40	15.7	645	40	16.0
	Duke St EB to I-395 NB		400	38	10.4	408	38	10.6	418	38	10.8
	I-395 SB to Duke St WB		475	40	9.7	881	38	11.9	918	38	12.1
	I-395 SB to Duke St EB		268	27	10.0	329	8	20.3	352	8	21.8
	Duke St WB to I-395 SB		612	23	29.2	772	33	23.5	761	33	23.0
	Duke St EB to I-395 SB		559	41	13.3	497	42	11.7	508	42	12.0
Seminary Road Interchange Ramps	I-395 NB to Seminary Rd		771	43	8.9	766	43	8.8	791	43	9.1
	Seminary Rd to I-395 NB		956	42	11.4	950	42	11.3	943	42	11.3
	I-395 SB to Seminary Rd		624	44	7.0	591	46	6.4	592	46	6.4
	Seminary Rd to I-395 SB		905	9	117.3	1,105	40	27.6	939	40	23.2
	I-395 HOV/HOT SB to Seminary Rd		228	40	6.7	194	38	10.9	378	38	11.5
	Seminary Rd to I-395 HOV/HOT SB		241	39	2.9	402	40	2.4	432	40	4.8
King Street Interchange Ramps	I-395 NB to King St EB		311	32	9.6	297	32	9.2	300	32	9.3
	I-395 NB to King St WB		399	29	13.9	416	28	14.6	432	28	15.2
	King St WB to I-395 NB		185	34	2.7	167	34	2.4	176	34	2.6
	King St EB to I-395 NB		617	26	23.6	634	26	24.2	644	26	24.6
	I-395 SB to King St WB		794	34	23.5	886	33	26.4	885	33	26.3
	I-395 SB to King St EB		728	31	23.6	803	31	26.0	771	31	24.9
	King St WB to I-395 SB		156	30	5.1	186	30	6.1	168	30	5.5
	King St EB to I-395 SB		301	29	10.5	365	31	11.8	357	31	11.4
Turkeycock Interchange Ramps	I-395 GP NB to I-395 HOV SB		716	39	18.1	688	39	17.8	795	38	20.7
	Seminary Rd to I-395 HOV/HOT SB		807	42	19.3	483	42	11.4	371	42	8.8

2020 Intersection Volume and MOEs Comparison

PM Peak Hour (4:30 PM - 5:30 PM)

#	Intersection	Approach	Movement	Existing PM				2020 No-Build PM				2020 Build PM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
401	Seminary Rd and I-395 Northbound Off-Ramp	NB	TH	53.2	41.2	D	D	56.2	42.6	E	D	56.8	42.4	E	D
			RT	8.1		A		8.7		A		8.6		A	
		EB	LT	5.6	5.3	A	A	5.1	5.5	A	A	5.5	6.0	A	A
			TH	4.9		A		6.0		A		6.6		A	
		Intersection		21.6		C		22.0		C		22.3		C	
402	Seminary Rd and I-395 Northbound On-Ramp	NB	LT	1.5	0.9	A	A	1.4	0.9	A	A	1.4	0.9	A	A
			TH	0.4		A		0.4		A		0.4		A	
		WB	TH	76.8	26.6	E	C	79.4	35.8	E	D	77.9	33.9	E	C
			RT	0.2		A		0.5		A		0.5		A	
		Intersection		10.0		A		16.1		B		14.4		B	
403	Seminary Rd and I-395 Southbound Off-Ramp	SB	TH	77.2	43.5	E	D	74.0	42.5	E	D	73.3	40.9	E	D
			RT	10.8		B		0.8		A		0.7		A	
		WB	LT	7.1	5.5	A	A	8.0	6.2	A	A	8.0	6.2	A	A
			TH	4.5		A		5.0		A		5.0		A	
		Intersection		19.3		B		16.8		B		16.3		B	
404	Seminary Rd and I-395 Southbound On-Ramp	SB	LT	4.0	4.3	A	A	5.2	3.1	A	A	5.7	3.5	A	A
			TH	4.7		A		0.7		A		0.8		A	
		EB	TH	60.4	28.7	E	C	63.3	26.5	E	C	62.6	29.7	E	C
			RT	0.6		A		0.4		A		0.4		A	
		Intersection		19.8		B		17.0		B		18.7		B	
405	Seminary Rd and I-395 Southbound HOV On-Ramp	NB	LT	-	-	-	-	-	-	-	-	-	-	-	-
			RT	-		-		-		-		-		-	
		EB	TH	1.4	1.5	A	A	2.6	2.6	A	A	3.1	3.1	A	A
		WB	TH	31.7	29.5	C	C	0.0	1.3	A	A	0.0	2.1	A	A
		Intersection		10.5		B		2.2		A		2.9		A	
411	Seminary Rd and Mark Center Ave	NB	LT	68.0	38.7	E	D	52.6	33.5	D	C	53.4	35.4	D	D
			TH	66.2		E		45.7		D		49.5		D	
			RT	34.8		C		30.5		C		32.8		C	
		SB	LT	53.1	40.4	D	D	59.7	39.7	E	D	57.7	39.5	E	D
			TH	51.6		D		54.7		D		57.8		E	
			RT	18.0		B		8.0		A		8.0		A	
		EB	LT	89.8	16.3	F	B	89.7	14.9	F	B	86.5	14.4	F	B
			TH	14.2		B		12.8		B		12.3		B	
			RT	10.5		B		9.5		A		8.6		A	
		WB	LT	65.0	62.1	E	E	68.7	27.2	E	C	70.5	27.6	E	C
			TH	63.9		E		27.5		C		28.0		C	
			RT	38.5		D		9.7		A		10.8		B	
		Intersection		38.7		D		25.4		C		25.7		C	
412	Seminary Rd and N. Beauregard St	NB	LT	70.1	36.2	E	D	73.7	39.8	E	D	70.0	37.7	E	D
			TH	48.3		D		50.2		D		49.1		D	
			RT	1.1		A		1.0		A		0.9		A	
		SB	LT	87.5	59.9	F	E	83.2	59.9	F	E	83.1	58.6	F	E
			TH	52.0		D		53.4		D		51.7		D	
			RT	46.5		D		47.6		D		44.6		D	
		EB	LT	119.3	30.2	F	C	106.0	26.3	F	C	108.3	26.9	F	C
			TH	36.4		D		32.6		C		33.3		C	
			RT	11.3		B		8.6		A		8.8		A	
		WB	LT	142.8	56.2	F	E	43.4	19.5	D	B	44.4	19.4	D	B
			TH	18.8		B		9.5		A		9.2		A	
			RT	3.6		A		1.4		A		1.7		A	
		Intersection		44.1		D		32.0		C		31.8		C	
421	Seminary Rd and Kenmore Ave-Library Lane	NB	LT	44.1	43.9	D	D	42.9	42.0	D	D	43.6	42.5	D	D
			TH	41.6		D		38.5		D		44.5		D	
			RT	45.3		D		41.6		D		36.7		D	
		SB	LT	54.9	54.0	D	D	51.0	50.1	D	D	49.4	48.6	D	D
			TH	49.3		D		48.4		D		48.4		D	
			RT	53.5		D		49.7		D		48.1		D	
		EB	LT	16.6	16.6	B	B	14.5	12.0	B	B	14.1	11.7	B	B
			TH	16.7		B		11.5		B		11.3		B	
			RT	10.2		B		9.1		A		9.5		A	
		WB	LT	12.8	9.2	B	A	9.0	9.0	A	A	9.5	8.3	A	A
			TH	9.1		A		8.9		A		8.2		A	
			RT	9.2		A		10.2		B		9.1		A	
		Intersection		17.0		B		14.6		B		13.8		B	

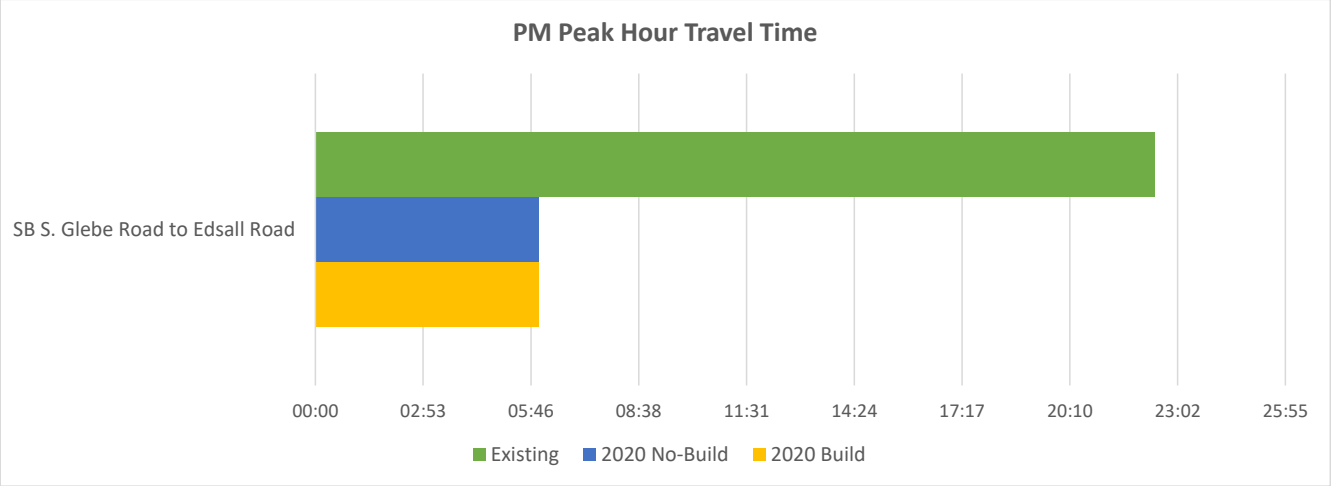
#	Intersection	Approach	Movement	Existing PM				2020 No-Build PM				2020 Build PM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
422	Seminary Rd and Seminary Rd - The Encore entrance	NB	RT	53.3	53.3	D	D	33.4	33.4	C	C	27.9	27.9	C	C
		SB	LT	56.7	25.3	E	C	42.6	21.8	D	C	44.4	23.0	D	C
			RT	7.9		A		6.8		A		7.6		A	
		EB	LT	22.0	22.5	C	C	15.3	12.1	B	B	14.7	12.5	B	B
			TH	22.5		C		12.1		B		12.5		B	
		WB	TH	1.3	1.3	A	A	1.1	1.1	A	A	1.1	1.1	A	A
			RT	1.2		A		1.2		A		1.2		A	
		Intersection		14.2		B		8.0		A		8.3		A	
423	Seminary Rd and N. Pickett St	NB	LT	51.8	38.0	D	D	54.2	38.6	D	D	53.5	37.0	D	D
			RT	12.4		B		13.0		B		11.7		B	
		EB	TH	19.1	19.0	B	B	15.0	14.8	B	B	15.4	15.2	B	B
			RT	18.3		B		13.0		B		13.8		B	
		WB	LT	17.6	5.6	B	A	16.3	5.3	B	A	17.0	5.2	B	A
			TH	4.3		A		3.8		A		3.6		A	
		Intersection		14.4		B		12.0		B		12.1		B	
424	Seminary Rd and N. Jordan St	NB	LT	46.7	42.7	D	D	46.4	42.8	D	D	47.8	43.8	D	D
			RT	7.0		A		7.3		A		7.4		A	
		EB	TH	14.2	13.2	B	B	11.4	10.8	B	B	10.6	10.1	B	B
			RT	10.9		B		9.4		A		8.9		A	
		WB	LT	30.3	7.3	C	A	27.2	5.7	C	A	25.7	5.6	C	A
			TH	5.0		A		3.3		A		3.4		A	
		Intersection		13.6		B		11.9		B		11.5		B	
425	Seminary Rd and N. Howard St	NB	LT	33.7	34.2	C	C	39.7	36.9	D	D	37.1	35.7	D	D
			TH	41.6		D		40.0		D		41.6		D	
			RT	24.2		C		27.8		C		24.5		C	
		SB	LT	38.8	71.5	D	E	43.2	75.0	D	E	39.5	72.4	D	E
			TH	98.6		F		95.9		F		96.9		F	
			RT	62.0		E		66.3		E		62.5		E	
		EB	LT	17.9	16.5	B	B	22.0	18.1	C	B	25.2	19.3	C	B
			TH	17.1		B		18.7		B		19.7		B	
			RT	11.8		B		12.0		B		11.2		B	
		WB	LT	18.4	14.6	B	B	15.5	14.2	B	B	15.1	14.6	B	B
			TH	14.3		B		14.5		B		14.6		B	
			RT	14.2		B		12.3		B		14.1		B	
		Intersection		30.6		C		32.8		C		32.7		C	
426	Seminary Rd and St. Stephens Rd	NB	LT	28.3	23.4	C	C	28.2	22.8	C	C	30.2	25.1	C	C
			RT	15.4		B		14.2		B		16.1		B	
		EB	TH	11.9	11.7	B	B	13.1	13.0	B	B	12.4	12.2	B	B
			RT	9.8		A		12.0		B		10.8		B	
		WB	LT	8.4	4.5	A	A	14.4	6.6	B	A	14.2	7.0	B	A
			TH	4.2		A		6.0		A		6.5		A	
		Intersection		10.1		B		11.5		B		11.6		B	
427	Seminary Rd and Fort Williams Pkwy	NB	LT	6.2	3.8	A	A	9.6	7.1	A	A	21.5	16.1	C	C
			RT	1.4		A		4.4		A		11.0		B	
		EB	TH	0.7	0.8	A	A	1.1	1.1	A	A	1.0	1.0	A	A
			RT	1.6		A		1.3		A		1.3		A	
		WB	LT	8.1	1.1	A	A	16.2	6.9	C	A	14.9	6.6	B	A
			TH	0.3		A		6.0		A		5.7		A	
		Intersection		1.0		A		3.8		A		3.8		A	
428	Seminary Rd and N. Quaker Lane	NB	LT	42.7	32.0	D	C	36.0	27.0	D	C	56.0	49.4	E	D
			TH	27.8		C		23.6		C		47.2		D	
			RT	23.6		C		20.7		C		43.1		D	
		SB	LT	69.2	45.2	E	D	58.0	38.7	E	D	64.1	53.1	E	D
			TH	36.6		D		32.2		C		50.0		D	
			RT	31.3		C		25.2		C		43.1		D	
		EB	LT	24.7	36.5	C	D	36.6	33.2	D	C	27.1	23.8	C	C
			TH	39.8		D		34.7		C		25.1		C	
			RT	35.2		D		29.5		C		20.3		C	
		WB	LT	26.7	24.0	C	C	37.5	18.3	D	B	33.6	15.4	C	B
			TH	29.7		C		25.3		C		20.5		C	
			RT	15.9		B		6.6		A		6.2		A	
		Intersection		36.1		D		31.0		C		39.9		D	

2020 Travel Time Comparison

PM Peak Hour (4:30 PM - 5:30 PM)

Segment ID: Description of Route	PM Peak Hour Travel Time				
	Existing VISSIM (MM:SS)	2020 No-Build VISSIM (MM:SS)	2020 Build VISSIM (MM:SS)	Difference between No-Build and Build (MM:SS)	Percent Difference between No-Build and Build
5: SB S. Glebe Road to Edsall Road*	22:26	05:58	05:58	00:00	0.0%
SB Total	**22:26**	**05:58**	**05:58**	**00:00**	**0.0%**

** As noted in the Calibration Memo, SB Travel Times in the PM were evaluated along the full corridor.*



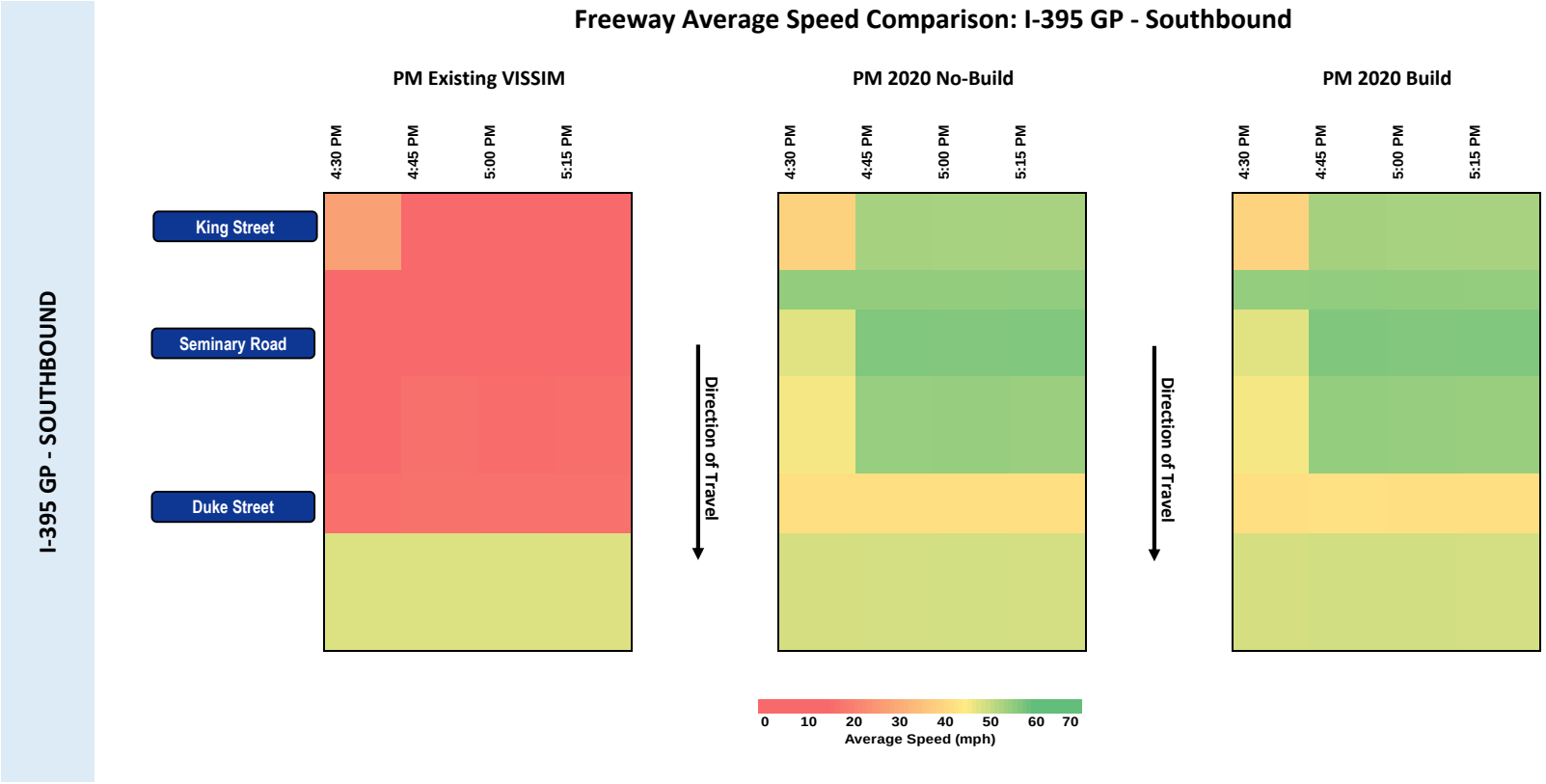
2020 Targeted Queue Location Comparison

PM Peak Hour (4:30 PM - 5:30 PM)

Interchange	Location	Approximate Storage (feet)	PM Vissim Max Queue Length (feet)		
			Existing	2020 No-Build	2020 Build
Duke Street	Ramp from Duke Street westbound to I-395 southbound	2,500	1,423	0	0
Seminary Road	Ramp from Seminary Road westbound to I-395 southbound	1,300	1,361	0	0
	Ramp from Seminary Road to I-395 HOV southbound	1,100	119	250	250
	Ramp from I-395 HOV southbound to Seminary Road	2,600	0	0	0

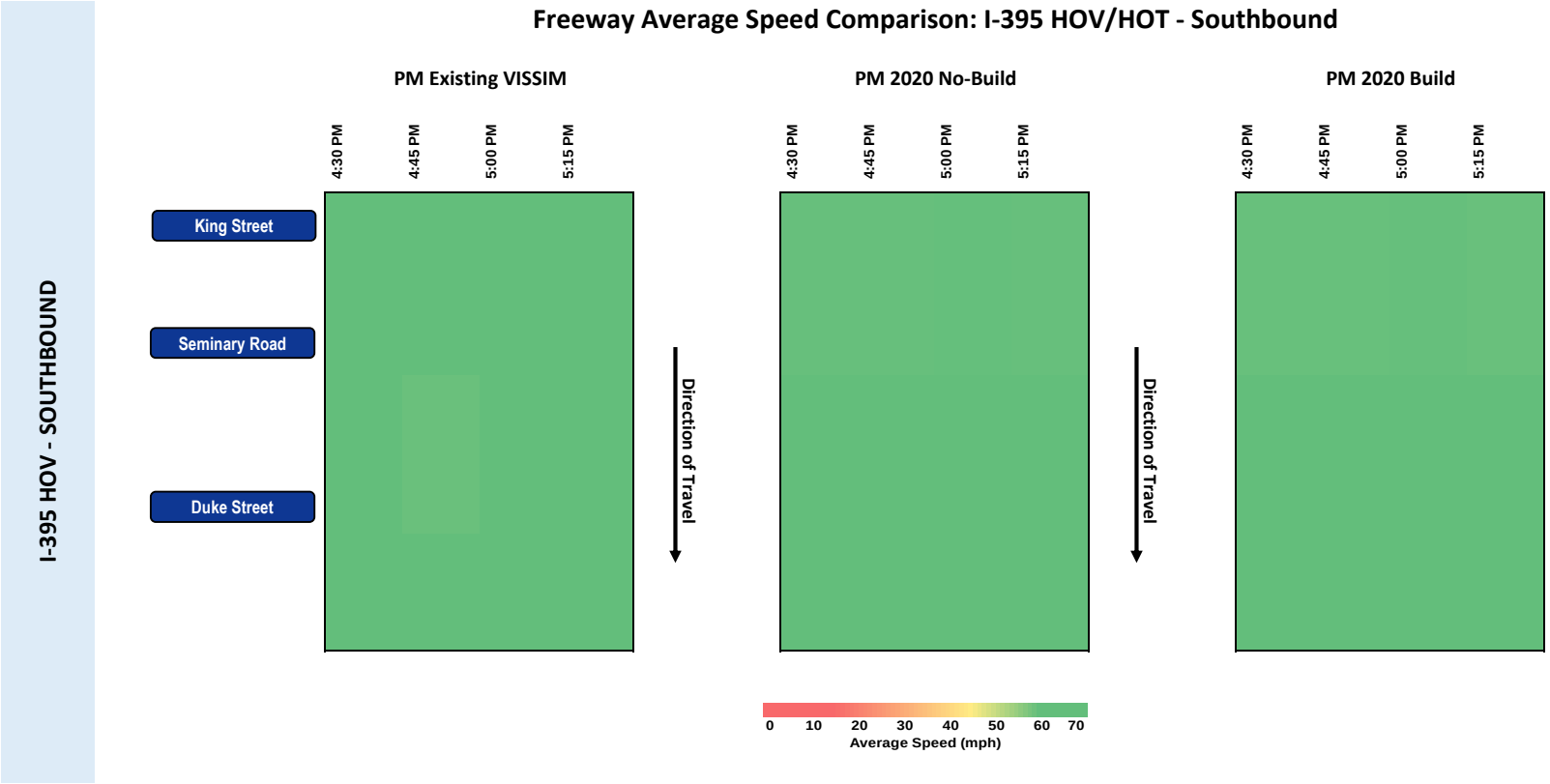
2020 Speed Heat Map Comparison

PM Peak Hour (4:30 PM - 5:30 PM)



2020 Speed Heat Map Comparison

PM Peak Hour (4:30 PM - 5:30 PM)



2040 AM

with Road-Diet along Seminary Rd

No-Build and Build MOE Comparison

2040 Freeway and Ramp Volume and MOEs Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

Facility	Segment	Type	Existing AM			2040 No-Build AM			2040 Build AM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
NB I-395 GP	Mainline south of Turkeycock	Basic/Diverge	3,704	57	16.3	3,846	16	60.9	4,035	18	57.4
	Between off-ramp to HOV NB and on-ramp from HOT NB at Turkeycock	Basic	3,504	39	38.1	3,702	35	39.7	3,873	43	30.4
	Between on-ramp from HOT NB at Turkeycock and off-ramp to Duke Street EB	Merge/Diverge	4,534	15	99.5	4,296	30	45.4	4,356	47	22.2
	Between off-ramp to Duke Street EB and off-ramp to Duke Street WB	Diverge	4,037	16	68.0	3,760	21	62.1	3,748	50	19.8
	Between off-ramp to Duke Street WB and on-ramp from Duke Street	Basic	3,499	15	79.5	3,116	16	79.0	3,077	50	21.4
	Between on-ramp from Duke Street EB and off-ramp to Seminary Road	Merge/Basic/Diverge	4,472	18	63.6	4,165	22	47.1	4,368	36	34.5
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	3,176	13	84.6	2,809	36	33.9	3,004	17	68.1
	Between on-ramp from Seminary Road and off-ramp to King Street EB	Merge/Diverge	4,458	14	71.6	4,319	25	48.5	4,402	15	66.9
	Between off-ramp to King Street and on-ramp from King Street	Basic	4,180	25	55.7	3,924	27	51.3	3,963	22	59.5
	Between on-ramp from King Street EB and on-ramp from King Street WB	Merge	4,622	30	46.3	4,465	33	41.3	4,546	32	43.7
	Mainline north of King Street	Weave	5,681	36	36.2	5,235	36	33.0	5,299	36	33.5

Facility	Segment	Type	Existing AM			2040 No-Build AM			2040 Build AM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
NB I-395 HOV/HOT	Mainline south of Turkeycock	Basic/Diverge	3,018	40	56.3	3,309	66	15.7	3,408	66	16.2
	Between off-ramp to GP and on-ramp from GP at Turkeycock	Basic	2,048	58	19.7	2,679	67	12.7	2,936	66	14.1
	Between on-ramp from GP at Turkeycock to off-ramp to Seminary Road	Merge/Basic/Diverge	2,273	66	16.6	2,819	68	13.7	3,106	67	15.1
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	2,005	67	15.0	2,623	67	12.9	2,689	67	13.3
	Mainline north of King Street	Merge/Basic	2,140	67	15.7	2,873	67	14.1	2,947	67	14.4

Facility	Segment	Type	Existing AM			2040 No-Build AM			2040 Build AM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
Duke Street Interchange Ramps	I-395 NB to Duke St EB		500	43	11.7	529	44	12.1	610	44	13.9
	I-395 NB to Duke St WB		531	29	18.0	563	18	48.0	670	22	47.3
	Duke St WB to I-395 NB		440	44	10.1	448	19	63.7	539	43	12.4
	Duke St EB to I-395 NB		612	41	14.8	699	17	101.1	876	40	21.6
	I-395 SB to Duke St WB		405	44	7.5	941	30	16.7	1,043	30	18.5
	I-395 SB to Duke St EB		430	30	14.2	402	8	24.9	422	8	26.0
	Duke St WB to I-395 SB		546	29	18.5	592	35	16.8	632	36	17.8
	Duke St EB to I-395 SB		495	44	11.1	507	44	11.3	611	43	13.9
Seminary Road Interchange Ramps	I-395 NB to Seminary Rd		1,290	22	36.2	1,362	4	155.4	1,360	9	106.2
	Seminary Rd to I-395 NB		1,293	33	20.2	1,475	37	20.7	1,496	29	27.5
	I-395 SB to Seminary Rd		646	48	6.7	700	48	7.2	760	48	7.9
	Seminary Rd to I-395 SB		831	40	20.5	896	40	22.2	918	40	22.7
	I-395 HOV/HOT NB to Seminary Rd		284	17	8.3	228	21	5.5	451	21	10.5
	Seminary Rd to I-395 HOV/HOT NB		125	42	2.9	235	42	5.6	243	42	5.7
King Street Interchange Ramps	I-395 NB to King St EB		130	36	3.6	133	36	3.7	141	36	3.9
	I-395 NB to King St WB		151	32	4.7	262	32	8.2	285	32	9.0
	King St WB to I-395 NB		964	37	13.0	684	37	9.2	668	37	8.9
	King St EB to I-395 NB		437	29	15.1	536	29	18.7	577	28	20.2
	I-395 SB to King St WB		584	36	16.2	655	36	18.2	683	36	19.1
	I-395 SB to King St EB		180	35	5.2	192	35	5.5	194	35	5.6
	King St WB to I-395 SB		333	33	9.8	353	33	10.6	370	33	11.0
	King St EB to I-395 SB		391	34	11.5	461	34	13.6	488	34	14.4
Turkeycock Interchange Ramps	I-395 GP NB to I-395 HOV NB		977	20	93.1	632	43	14.7	474	47	10.2
	Seminary Rd to I-395 HOV/HOT NB		224	41	5.5	129	41	3.1	160	41	3.9

2040 Intersection Volume and MOEs Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

#	Intersection	Approach	Movement	Existing AM				2040 No-Build AM				2040 Build AM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
401	Seminary Rd and I-395 Northbound Off-Ramp	NB	TH	53.6	46.9	D	D	61.0	53.7	E	D	61.1	53.9	E	D
			RT	13.3		B		16.2		B		16.2		B	
		EB	LT	8.0	6.7	A	A	9.2	7.7	A	A	9.1	7.5	A	A
			TH	2.3		A		3.2		A		3.4		A	
		Intersection		31.2		C		34.5		C		34.2		C	
402	Seminary Rd and I-395 Northbound On-Ramp	NB	LT	1.3	1.2	A	A	1.4	1.3	A	A	1.6	1.4	A	A
			TH	1.0		A		1.1		A		1.0		A	
		WB	TH	76.3	24.6	E	C	86.0	28.0	F	C	83.3	24.8	F	C
			RT	0.6		A		1.2		A		1.0		A	
		Intersection		9.8		A		11.6		B		10.6		B	
403	Seminary Rd and I-395 Southbound Off-Ramp	SB	TH	74.6	27.8	E	C	75.8	31.0	E	C	80.5	37.3	F	D
			RT	5.0		A		4.1		A		8.9		A	
		WB	LT	2.2	1.2	A	A	2.2	1.1	A	A	2.1	2.3	A	A
			TH	0.9		A		0.8		A		2.3		A	
		Intersection		9.3		A		10.7		B		14.4		B	
404	Seminary Rd and I-395 Southbound On-Ramp	SB	LT	1.4	1.4	A	A	1.8	2.0	A	A	2.1	2.3	A	A
			TH	1.4		A		2.2		A		2.6		A	
		EB	TH	65.6	35.5	E	D	68.6	38.1	E	D	68.6	36.3	E	D
			RT	0.5		A		0.6		A		0.8		A	
		Intersection		25.8		C		27.5		C		26.5		C	
405	Seminary Rd and I-395 Northbound HOV Off-Ramp	NB	LT	25.8	25.5	C	C	17.7	18.3	B	B	16.7	16.9	B	B
			RT	25.0		C		19.3		B		17.3		B	
		EB	TH	5.3	5.3	A	A	4.9	4.9	A	A	7.7	7.7	A	A
		WB	TH	7.1	7.1	A	A	5.7	5.7	A	A	8.5	8.5	A	A
		Intersection		9.7		A		7.9		A		11.2		B	
411	Seminary Rd and Mark Center Ave	NB	LT	60.1	38.8	E	D	62.5	39.1	E	D	64.7	38.9	E	D
			TH	63.3		E		65.1		E		61.4		E	
			RT	32.0		C		32.2		C		31.8		C	
		SB	LT	54.4	43.7	D	D	51.1	42.3	D	D	50.3	45.2	D	D
			TH	54.4		D		54.3		D		52.1		D	
			RT	11.7		B		14.7		B		29.0		C	
		EB	LT	83.3	22.5	F	C	67.5	36.4	E	D	70.1	38.2	E	D
			TH	19.8		B		35.2		D		37.2		D	
			RT	17.1		B		32.2		C		32.5		C	
		WB	LT	60.4	30.8	E	C	60.1	28.9	E	C	59.5	39.0	E	D
			TH	27.1		C		24.4		C		36.6		D	
			RT	13.6		B		10.0		A		14.8		B	
		Intersection		29.5		C		33.5		C		39.4		D	
412	Seminary Rd and N. Beauregard St	NB	LT	69.4	36.0	E	D	Signal replaced with Ellipse in 2040							
			TH	51.2		D									
			RT	1.8		A									
		SB	LT	139.1	83.8	F	F								
			TH	58.8		E									
			RT	39.2		D									
		EB	LT	118.6	38.0	F	D								
			TH	41.7		D									
			RT	10.4		B									
		WB	LT	61.4	32.0	E	C								
			TH	15.0		B									
			RT	4.9		A									
		Intersection		38.4		D									
413	Seminary Road and N. Beauregard Street - Ellipse Intersection furthest West on Seminary	SB	LT	Signal not built in Existing Conditions.				21.1	6.8	C	A	21.0	6.4	C	A
			TH					4.7		A		4.6		A	
			RT					24.1		C		22.6		C	
		EB	TH					41.3	32.4	D	C	41.8	32.3	D	C
			RT					8.9		A		7.8		A	
		WB	TH					5.8	5.8	A	A	6.7	6.7	A	A
		Intersection						14.5		B		14.4		B	
414	Seminary Road and N. Beauregard Street - Ellipse Intersection south on Beauregard	NB	LT	Signal not built in Existing Conditions.				17.8	14.2	B	B	17.7	14.2	B	B
			TH					11.7		B		12.2		B	
			RT					12.9		B		12.7		B	
		EB	LT					45.0	45.0	D	D	45.6	45.6	D	D
		Intersection						15.1		B		15.1		B	
415	Seminary Road and N. Beauregard Street - Ellipse Intersection furthest East on Seminary	NB	LT	Signal not built in Existing Conditions.				33.2	22.5	C	C	33.4	22.7	C	C
			TH					41.2		D		41.1		D	
			RT					1.0		A		1.0		-	
		EB	TH					1.2	1.2	A	A	1.3	1.3	A	A
		WB	LT					22.4	34.4	C	C	24.3	38.3	C	D
			TH					45.7		D		51.7		D	
			RT					21.3		C		22.2		C	
		Intersection						23.0		C		25.3		C	

#	Intersection	Approach	Movement	Existing AM				2040 No-Build AM				2040 Build AM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
416	Seminary Road and N. Beauregard Street - Ellipse Intersection northeast on Beauregard	NB	LT	Signal not built in Existing Conditions.				8.3	1.7	A	A	10.1	1.8	B	A
			TH					1.3		A		1.4		A	
			RT					2.5		A		2.5		A	
		EB	LT					75.3	43.6	E	D	71.3	42.4	E	D
			TH					32.1		C		31.4		C	
		WB	TH					63.9	62.5	E	E	63.6	62.2	E	E
			RT					59.8		E		59.4		E	
		Intersection						19.1		B		18.4		B	
417	Seminary Road and N. Beauregard Street - Ellipse Intersection northwest on Beauregard	NB	U	Signal not built in Existing Conditions.				30.3	30.3	C	C	33.2	33.2	C	C
		SB	LT					23.0	49.4	C	D	23.1	49.6	C	D
			TH					51.1		D		51.4		D	
		EB	TH					37.6	37.6	D	D	37.7	37.7	D	D
		WB	LT					48.4	46.5	D	D	48.1	46.6	D	D
			TH					16.8		B		16.6		B	
		Intersection						37.4		D		38.8		D	
421	Seminary Rd and Kenmore Ave-Library Lane	NB	LT	65.9	65.7	E	E	64.0	64.5	E	E	62.5	62.8	E	E
			TH	64.7		E		64.3		E		61.4		E	
			RT	65.8		E		65.6		E		64.6		E	
		SB	LT	64.2	62.9	E	E	73.0	72.3	E	E	75.1	73.4	E	E
			TH	63.2		E		69.6		E		69.9		E	
			RT	61.6		E		72.2		E		72.5		E	
		EB	LT	18.5	10.7	B	B	19.2	11.9	B	B	19.5	12.0	B	B
			TH	9.1		A		10.2		B		10.3		B	
			RT	16.6		B		14.9		B		13.7		B	
		WB	LT	8.1	4.5	A	A	6.7	5.1	A	A	6.1	5.1	A	A
			TH	4.5		A		5.0		A		5.1		A	
			RT	4.7		A		5.7		A		5.4		A	
		Intersection		10.6		B		12.8		B		12.7		B	
422	Seminary Rd and Seminary Rd - The Encore entrance	NB	LT	54.8	48.8	D	D	68.0	64.9	E	E	52.2	47.8	D	D
			RT	37.2		D		58.9		E		39.6		D	
		SB	LT	53.2	14.0	D	B	51.8	14.9	D	B	47.0	12.8	D	B
			RT	6.9		A		6.7		A		6.4		A	
		EB	LT	21.5	6.5	C	A	27.3	9.7	C	A	25.5	6.9	C	A
			TH	6.4		A		9.4		A		6.7		A	
		WB	TH	5.5	5.5	A	A	5.9	5.9	A	A	6.0	5.9	A	A
			RT	4.8		A		5.4		A		4.9		A	
		Intersection		8.3		A		10.8		B		8.9		A	
423	Seminary Rd and N. Pickett St	NB	LT	59.8	40.0	E	D	59.8	41.6	E	D	60.4	40.6	E	D
			RT	19.6		B		24.2		C		21.7		C	
		EB	TH	9.0	8.8	A	A	14.8	14.3	B	B	11.0	10.7	B	B
			RT	7.6		A		11.4		B		8.8		A	
		WB	LT	15.6	7.6	B	A	15.0	8.2	B	A	13.8	7.7	B	A
			TH	7.1		A		7.7		A		7.2		A	
		Intersection		10.8		B		13.5		B		11.8		B	
424	Seminary Rd and N. Jordan St	NB	LT	49.6	44.2	D	D	46.8	44.0	D	D	48.2	42.6	D	D
			RT	14.8		B		30.4		C		15.5		B	
		EB	TH	9.1	8.8	A	A	38.6	37.6	D	D	15.0	14.5	B	B
			RT	7.2		A		30.9		C		11.3		B	
		WB	LT	19.6	7.6	B	A	21.0	8.9	C	A	21.2	8.4	C	A
			TH	7.4		A		8.7		A		8.1		A	
		Intersection		15.1		B		27.0		C		17.8		B	
425	Seminary Rd and N. Howard St	NB	LT	38.8	49.2	D	D	39.5	49.5	D	D	37.5	49.7	D	D
			TH	56.1		E		55.4		E		57.4		E	
			RT	45.6		D		46.8		D		45.8		D	
		SB	LT	42.0	39.3	D	D	39.6	37.3	D	D	40.8	37.7	D	D
			TH	52.9		D		49.0		D		48.7		D	
			RT	19.7		B		18.3		B		18.3		B	
		EB	LT	42.1	33.1	D	C	108.7	80.8	F	F	65.5	51.1	E	D
			TH	33.3		C		73.2		E		48.8		D	
			RT	19.0		B		63.9		E		36.9		D	
		WB	LT	17.0	24.6	B	C	21.0	28.8	C	C	20.0	27.5	B	C
			TH	24.6		C		29.9		C		27.8		C	
			RT	26.5		C		28.3		C		28.9		C	
		Intersection		33.0		C		48.4		D		40.0		D	
426	Seminary Rd and St. Stephens Rd	NB	LT	21.7	20.2	C	C	37.6	35.5	D	D	28.9	26.9	C	C
			RT	14.3		B		28.5		C		20.0		C	
		EB	TH	6.4	6.0	A	A	9.9	9.7	A	A	9.8	9.6	A	A
			RT	4.4		A		8.8		A		8.6		A	
		WB	LT	14.6	9.0	B	A	25.9	25.7	C	C	25.7	24.4	C	C
			TH	8.4		A		25.7		C		24.3		C	
		Intersection		9.4		A		21.8		C		19.8		B	
427	Seminary Rd and Fort Williams Pkwy	NB	LT	5.2	4.5	A	A	351.5	335.9	F	F	290.1	275.7	F	F
			RT	2.4		A		305.9		F		249.4		F	
		EB	TH	0.3	0.3	A	A	1.3	1.3	A	A	1.4	1.4	A	A
			RT	0.7		A		1.2		A		1.2		A	
		WB	LT	3.7	0.7	A	A	16.1	17.5	C	C	17.9	16.8	C	C
			TH	0.6		A		17.6		C		16.7		C	
		Intersection		0.9		A		29.4		C		26.0		C	
428	Seminary Rd and N. Quaker Lane	NB	LT	77.8	50.3	E	D	82.7	53.9	F	D	81.7	52.4	F	D
			TH	29.3		C		28.0		C		29.7		C	
			RT	25.9		C		23.8		C		24.1		C	
		SB	LT	45.1	34.0	D	C	29.3	30.7	C	C	38.7	33.1	D	C
			TH	31.6		C		32.7		C		32.3		C	
			RT	25.7		C		25.8		C		26.2		C	
		EB	LT	26.5	31.8	C	C	30.9	30.7	C	C	30.1	31.5	C	C
			TH	36.3		D		34.3		C		35.0		C	
			RT	27.9		C		25.2		C		26.8		C	
		WB	LT	25.0	27.6	C	C	24.6	30.0	C	C	30.1	29.8	C	C
			TH	32.3		C		39.9		D		39.6		D	
			RT	19.7		B		10.2		B		12.6		B	
		Intersection		39.7		D		39.6		D		40.2		D	

2040 Travel Time Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

Segment ID: Description of Route	AM Peak Hour Travel Time				
	Existing VISSIM (MM:SS)	2040 No-Build VISSIM (MM:SS)	2040 Build VISSIM (MM:SS)	Difference between No-Build and Build (MM:SS)	Percent Difference between No-Build and Build
NB Edsall Road to Seminary Road	11:07	09:23	06:57	- 02:26	- 29.8%
NB Seminary Road to S. Glebe Road	04:28	03:25	04:24	00:59	25.2%
NB Total	**15:35**	**12:48**	**11:21**	**- 01:27**	**- 12.0%**

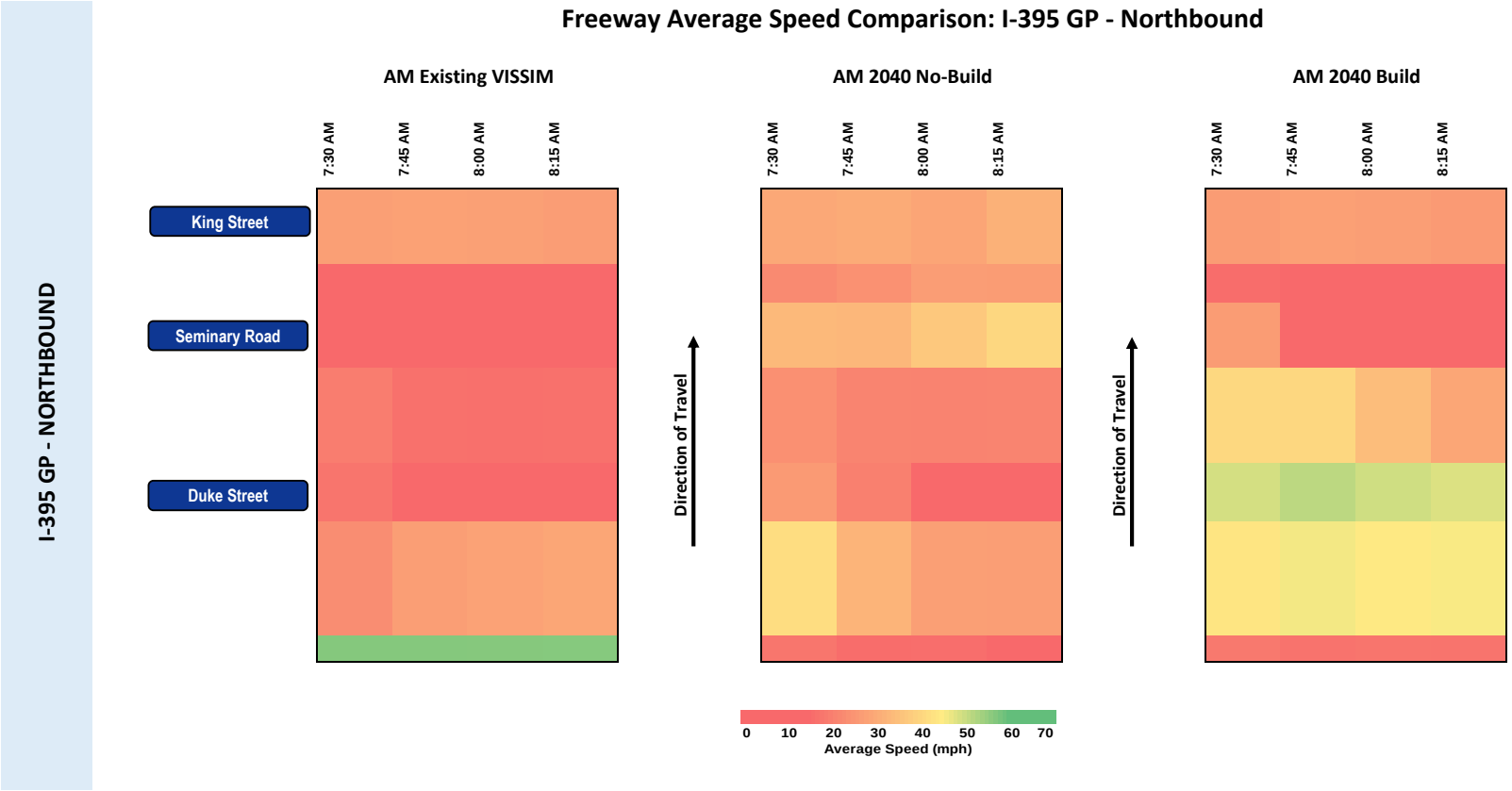
2040 Targeted Queue Location Comparison

AM Peak Hour (7:30 AM - 8:30 AM)

Interchange	Location	Approximate Storage (feet)	AM Vissim Max Queue Length (feet)		
			Existing	2040 No-Build	2040 Build
Duke Street	Ramp from Duke Street westbound to I-395 southbound	2,500	0	0	0
Seminary Road	Ramp from Seminary Road westbound to I-395 southbound	1,300	0	0	0
	Ramp from I-395 HOV northbound to Seminary Road	1,100	140	106	165
	Ramp from Seminary Road to I-395 HOV northbound	2,600	0	0	0

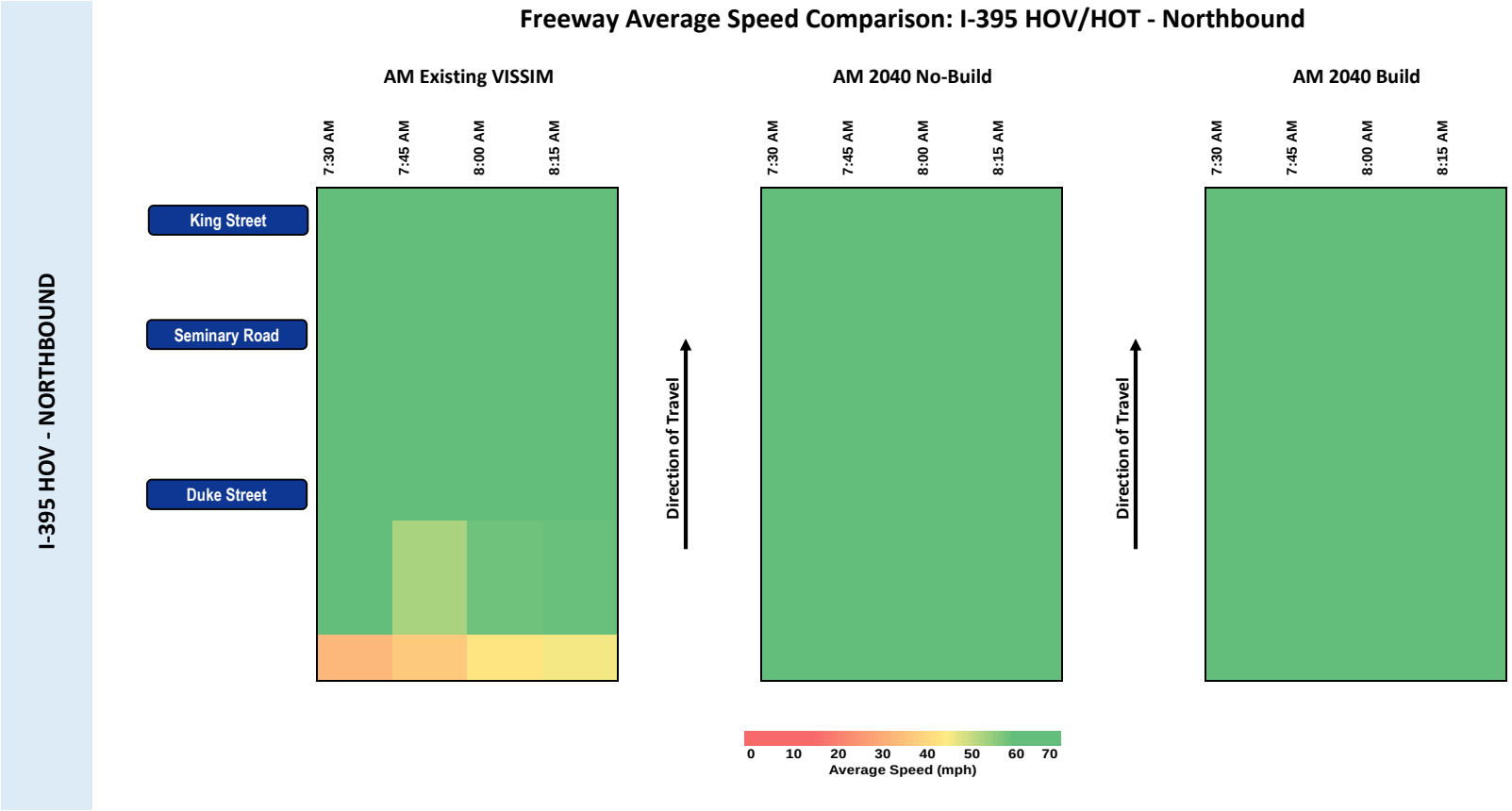
2040 Speed Heat Map Comparison

AM Peak Hour (7:30 AM - 8:30 AM)



2040 Speed Heat Map Comparison

AM Peak Hour (7:30 AM - 8:30 AM)



2040 PM

with Road-Diet along Seminary Rd

No-Build and Build MOE Comparison

2040 Freeway and Ramp Volume and MOEs Comparison

PM Peak Hour (4:30 PM - 5:30 PM)

Facility	Segment	Type	Existing PM			2040 No-Build PM			2040 Build PM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
SB I-395 GP	Mainline north of King Street	Weave	5,421	41	38.5	5,356	53	25.5	5,407	52	26.3
	Between off-ramp to King Street EB & WB and on-ramp from King Street WB	Basic	3,887	15	73.9	3,940	49	21.9	3,948	49	22.2
	Between on-ramp from King Street WB and on-ramp from King Street EB	Merge	4,011	14	77.2	4,134	51	19.3	4,130	51	19.2
	Between on-ramp from King Street EB and off-ramp to Seminary Road	Weave	4,143	9	104.4	4,514	55	16.4	4,517	55	16.4
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	3,491	6	148.9	3,807	55	17.5	3,803	55	17.6
	Between on-ramp from Seminary Road and off-ramp to Duke Street WB	Merge/Basic/Diverge	4,196	14	87.9	5,058	52	24.1	4,849	52	22.7
	Between off-ramp to Duke Street WB and on-ramp from Duke Street WB	Basic	3,925	17	67.7	4,023	57	17.6	3,729	57	16.2
	Between on-ramp from Duke Street WB and off-ramp to Duke Street EB	Weave	4,469	13	88.4	4,787	51	22.6	4,479	52	21.0
	Between off-ramp to Duke Street EB and on-ramp from Duke Street EB	Basic	4,312	38	37.7	4,022	51	22.8	3,719	52	21.2
	Between on-ramp from Duke Street EB and off-ramp to HOT SB at Turkeycock	Merge/Diverge	4,869	49	30.6	4,788	51	23.8	4,479	51	22.1
	Between off-ramp to HOT SB and on-ramp from HOV SB at Turkeycock	Basic	4,061	48	28.2	4,363	48	22.7	4,245	48	22.1
	Mainline south of Turkeycock	Merge/Basic	4,771	47	25.3	5,608	48	23.4	5,563	48	23.2

Facility	Segment	Type	Existing PM			2040 No-Build PM			2040 Build PM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
SB I-395 HOV/HOT	Mainline south of Turkeycock	Basic/Diverge	2,983	65	22.4	3,924	59	21.5	3,939	59	21.6
	Between off-ramp to GP and on-ramp from GP at Turkeycock	Basic	2,736	66	20.8	3,499	59	19.7	3,497	59	19.7
	Between on-ramp from GP at Turkeycock to off-ramp to Seminary Road	Merge/Basic/Diverge	2,965	61	24.4	3,718	66	18.1	3,927	66	19.3
	Between off-ramp to Seminary Road and on-ramp from Seminary Road	Basic	2,233	63	17.0	3,030	67	14.9	3,206	67	15.9
	Mainline north of King Street	Merge/Basic	3,038	67	14.8	3,464	67	16.5	3,447	67	16.4

Facility	Segment	Type	Existing PM			2040 No-Build PM			2040 Build PM		
			VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpl)
Duke Street Interchange Ramps	I-395 NB to Duke St EB		578	40	14.4	552	17	83.1	583	37	22.8
	I-395 NB to Duke St WB		428	26	16.4	581	21	32.7	609	18	45.6
	Duke St WB to I-395 NB		625	40	15.5	605	40	15.0	604	40	14.9
	Duke St EB to I-395 NB		400	38	10.4	456	38	11.8	491	38	12.8
	I-395 SB to Duke St WB		475	40	9.7	1,026	26	27.4	1,107	20	44.3
	I-395 SB to Duke St EB		268	27	10.0	310	8	20.7	295	8	18.4
	Duke St WB to I-395 SB		612	23	29.2	755	33	23.1	756	33	23.2
	Duke St EB to I-395 SB		559	41	13.3	563	42	13.3	612	41	14.6
Seminary Road Interchange Ramps	I-395 NB to Seminary Rd		771	43	8.9	792	43	9.1	811	43	9.4
	Seminary Rd to I-395 NB		956	42	11.4	1,094	42	13.1	1,106	42	13.3
	I-395 SB to Seminary Rd		624	44	7.0	740	46	8.0	748	46	8.1
	Seminary Rd to I-395 SB		905	9	117.3	1,213	39	30.5	998	40	24.8
	I-395 HOV/HOT SB to Seminary Rd		228	40	6.7	219	36	11.9	432	36	11.8
	Seminary Rd to I-395 HOV/HOT SB		241	39	2.9	415	40	2.8	422	39	5.5
King Street Interchange Ramps	I-395 NB to King St EB		311	32	9.6	314	32	9.7	351	32	10.8
	I-395 NB to King St WB		399	29	13.9	536	28	18.8	555	28	19.5
	King St WB to I-395 NB		185	34	2.7	91	34	1.3	48	34	0.7
	King St EB to I-395 NB		617	26	23.6	807	26	31.1	920	25	36.8
	I-395 SB to King St WB		794	34	23.5	1,029	33	30.7	1,088	33	32.7
	I-395 SB to King St EB		728	31	23.6	565	31	18.1	556	31	17.9
	King St WB to I-395 SB		156	30	5.1	194	30	6.4	182	30	6.0
	King St EB to I-395 SB		301	29	10.5	426	31	13.7	435	31	14.0
Turkeycock Interchange Ramps	I-395 GP NB to I-395 HOV SB		716	39	18.1	673	39	17.4	705	39	18.3
	Seminary Rd to I-395 HOV/HOT SB		807	42	19.3	436	42	10.3	242	42	5.7

2040 Intersection Volume and MOEs Comparison

PM Peak Hour (4:30 PM - 5:30 PM)

#	Intersection	Approach	Movement	Existing PM				2040 No-Build PM				2040 Build PM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
401	Seminary Rd and I-395 Northbound Off-Ramp	NB	TH	53.2	41.2	D	D	57.0	43.3	E	D	56.9	43.3	E	D
			RT	8.1		A		11.9		B		11.2		B	
		EB	LT	5.6	5.3	A	A	6.6	7.0	A	A	6.2	6.9	A	A
			TH	4.9		A		7.4		A		7.6		A	
		Intersection		21.6		C		21.7		C		22.5		C	
402	Seminary Rd and I-395 Northbound On-Ramp	NB	LT	1.5	0.9	A	A	1.9	1.1	A	A	1.7	1.1	A	A
			TH	0.4		A		0.4		A		0.4		A	
		WB	TH	76.8	26.6	E	C	94.4	42.7	F	D	84.5	34.6	F	C
			RT	0.2		A		2.1		A		1.0		A	
		Intersection		10.0		A		19.0		B		16.3		B	
403	Seminary Rd and I-395 Southbound Off-Ramp	SB	TH	77.2	43.5	E	D	79.4	47.7	E	D	77.7	44.6	E	D
			RT	10.8		B		1.0		A		1.1		A	
		WB	LT	7.1	5.5	A	A	9.1	7.3	A	A	9.0	7.1	A	A
			TH	4.5		A		6.1		A		5.9		A	
		Intersection		19.3		B		21.0		C		19.7		B	
404	Seminary Rd and I-395 Southbound On-Ramp	SB	LT	4.0	4.3	A	A	5.5	3.4	A	A	5.5	3.4	A	A
			TH	4.7		A		0.6		A		0.7		A	
		EB	TH	60.4	28.7	E	C	65.5	28.6	E	C	64.3	31.3	E	C
			RT	0.6		A		0.5		A		0.4		A	
		Intersection		19.8		B		18.3		B		18.6		B	
405	Seminary Rd and I-395 Southbound HOV On-Ramp	EB	TH	1.4	1.5	A	A	2.5	2.5	A	A	3.3	3.5	A	A
			RT	1.9		A		2.6		A		4.0		A	
		WB	LT	4.5	29.5	A	C	2.8	0.6	A	A	3.3	1.2	A	A
			TH	31.7		C		0.0		A		0.0		A	
		Intersection		10.5		B		1.9		A		2.8		A	
411	Seminary Rd and Mark Center Ave	NB	LT	68.0	38.7	E	D	51.8	32.5	D	C	52.3	33.0	D	C
			TH	66.2		E		48.9		D		47.1		D	
			RT	34.8		C		29.7		C		29.9		C	
		SB	LT	53.1	40.4	D	D	55.0	37.7	D	D	56.5	37.8	E	D
			TH	51.6		D		57.3		E		59.4		E	
			RT	18.0		B		7.4		A		7.5		A	
		EB	LT	89.8	16.3	F	B	68.7	29.1	E	C	71.6	28.6	E	C
			TH	14.2		B		28.1		C		27.0		C	
			RT	10.5		B		19.4		B		21.8		C	
		WB	LT	65.0	62.1	E	E	69.1	28.1	E	C	66.2	27.8	E	C
			TH	63.9		E		28.3		C		28.1		C	
			RT	38.5		D		10.8		B		10.8		B	
		Intersection		38.7		D		30.3		C		30.1		C	
412	Seminary Rd and N. Beauregard St	NB	LT	70.1	36.2	E	D	Signal replaced with Ellipse in 2040							
			TH	48.3		D									
			RT	1.1		A									
		SB	LT	87.5	59.9	F	E								
			TH	52.0		D									
			RT	46.5		D									
		EB	LT	119.3	30.2	F	C								
			TH	36.4		D									
			RT	11.3		B									
		WB	LT	142.8	56.2	F	E								
			TH	18.8		B									
			RT	3.6		A									
		Intersection		44.1		D									
413	Seminary Road and N. Beauregard Street - Ellipse Intersection furthest West on Seminary	SB	LT	Signal not built in Existing Conditions.				30.8	13.5	C	B	30.6	13.4	C	B
			TH					12.1		B		12.4		B	
			RT					28.1		C		24.7		C	
		EB	TH					35.6	24.5	D	C	35.4	23.2	D	C
			RT					10.0		A		7.3		A	
		WB	TH					0.4	0.4	A	A	2.8	2.8	A	A
		Intersection						13.9		B		13.9		B	
414	Seminary Road and N. Beauregard Street - Ellipse Intersection south on Beauregard	NB	LT	Signal not built in Existing Conditions.				18.3	16.9	B	B	17.6	16.5	B	B
			TH					15.0		B		15.5		B	
			RT					16.9		B		16.4		B	
		EB	LT					37.8	37.8	D	D	39.3	39.3	D	D
		Intersection						17.8		B		17.6		B	
415	Seminary Road and N. Beauregard Street - Ellipse Intersection furthest East on Seminary	NB	LT	Signal not built in Existing Conditions.				32.9	26.0	C	C	32.6	26.1	C	C
			TH					48.7		D		48.3		D	
			RT					1.2		A		1.0		A	
		EB	TH					1.4	1.4	A	A	1.3	1.3	A	A
			LT					21.5	27.5	C	C	19.8	27.8	B	C
		WB	TH					32.6		C		33.8		C	
			RT					20.8		C		21.2		C	
		Intersection						20.1		C		20.5		C	
416	Seminary Road and N. Beauregard Street - Ellipse Intersection northeast on Beauregard	NB	LT	Signal not built in Existing Conditions.				14.7	16.0	B	B	17.5	16.6	B	B
			TH					15.8		B		16.4		B	
			RT					16.5		B		16.9		B	
		EB	LT					26.0	13.5	C	B	23.9	12.6	C	B
			TH					13.1		B		12.2		B	
		WB	TH					25.0	24.7	C	C	27.8	27.0	C	C
			RT					24.1		C		24.0		C	
		Intersection						17.4		B		18.1		B	

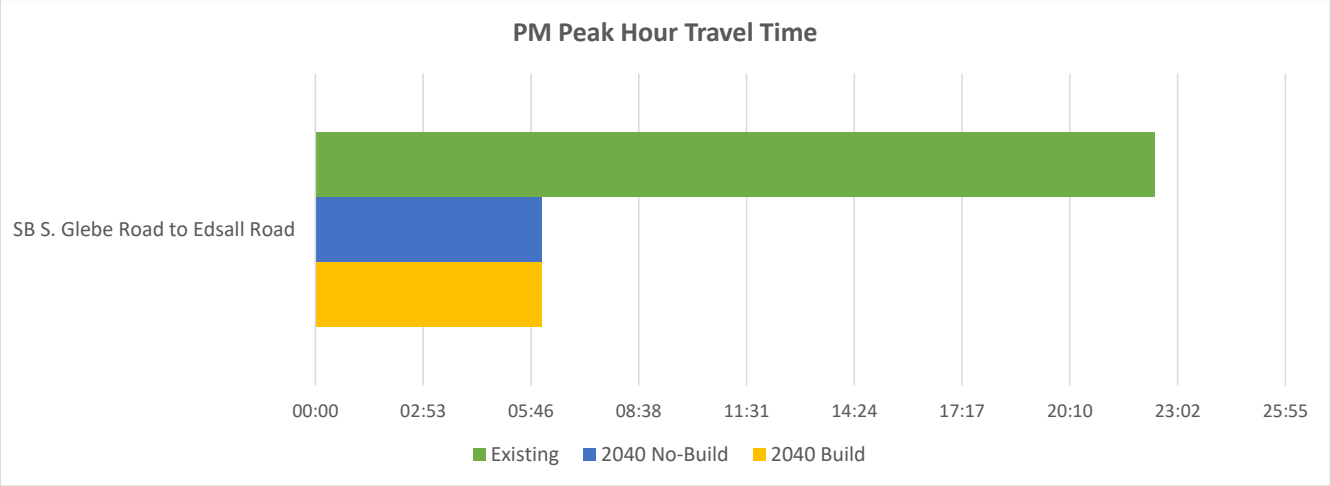
#	Intersection	Approach	Movement	Existing PM				2040 No-Build PM				2040 Build PM			
				Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS		Average Delay (sec/veh)		LOS	
417	Seminary Road and N. Beauregard Street - Ellipse Intersection northwest on Beauregard	NB	U	Signal not built in Existing Conditions.				58.7	58.7	E	E	54.1	54.1	D	D
		SB	LT					39.5	48.0	D	D	39.3	47.8	D	D
			TH					51.9		D		51.6		D	
		EB	TH					15.5	15.5	B	B	15.4	15.4	B	B
		WB	LT					16.9	16.2	B	B	16.6	16.0	B	B
			TH					3.5		A		3.1		A	
		Intersection						47.8		D		45.7		D	
421	Seminary Rd and Kenmore Ave-Library Lane	NB	LT	44.1	43.9	D	D	46.5	45.2	D	D	45.8	45.4	D	D
			TH	41.6		D		37.0		D		42.2		D	
			RT	45.3		D		43.1		D		45.2		D	
		SB	LT	54.9	54.0	D	D	59.0	59.3	E	E	77.5	77.1	E	E
			TH	49.3		D		60.5		E		78.2		E	
			RT	53.5		D		59.5		E		76.3		E	
		EB	LT	16.6	16.6	B	B	14.5	15.0	B	B	13.7	13.8	B	B
			TH	16.7		B		15.1		B		13.8		B	
			RT	10.2		B		13.0		B		11.9		B	
		WB	LT	12.8	9.2	B	A	12.6	7.1	B	A	11.0	7.2	B	A
			TH	9.1		A		6.9		A		7.1		A	
			RT	9.2		A		8.1		A		7.1		A	
		Intersection		17.0		B		17.0		B		18.6		B	
422	Seminary Rd and Seminary Rd - The Encore entrance	NB	RT	53.3	53.3	D	D	33.9	33.9	C	C	43.6	43.6	D	D
		SB	LT	56.7	25.3	E	C	48.1	22.8	D	C	46.8	21.6	D	C
			RT	7.9		A		8.6		A		8.7		A	
		EB	LT	22.0	22.5	C	C	17.5	17.0	B	B	23.1	15.0	C	B
			TH	22.5		C		17.0		B		14.9		B	
		WB	TH	1.3	1.3	A	A	1.3	1.3	A	A	1.2	1.2	A	A
			RT	1.2		A		1.3		A		1.5		A	
		Intersection		14.2		B		10.8		B		9.3		A	
423	Seminary Rd and N. Pickett St	NB	LT	51.8	38.0	D	D	53.0	37.5	D	D	52.9	38.4	D	D
			RT	12.4		B		12.4		B		13.2		B	
		EB	TH	19.1	19.0	B	B	16.9	16.7	B	B	16.3	16.1	B	B
			RT	18.3		B		15.3		B		14.9		B	
		WB	LT	17.6	5.6	B	A	18.0	5.6	B	A	17.0	5.3	B	A
			TH	4.3		A		4.0		A		3.9		A	
		Intersection		14.4		B		13.0		B		12.5		B	
424	Seminary Rd and N. Jordan St	NB	LT	46.7	42.7	D	D	46.9	43.6	D	D	46.2	42.7	D	D
			RT	7.0		A		6.6		A		8.0		A	
		EB	TH	14.2	13.2	B	B	14.2	13.5	B	B	14.5	13.6	B	B
			RT	10.9		B		11.7		B		11.5		B	
		WB	LT	30.3	7.3	C	A	28.5	7.0	C	A	25.6	6.7	C	A
			TH	5.0		A		4.6		A		4.7		A	
		Intersection		13.6		B		13.7		B		13.5		B	
425	Seminary Rd and N. Howard St	NB	LT	33.7	34.2	C	C	40.4	35.2	D	D	38.8	35.0	D	C
			TH	41.6		D		39.1		D		39.8		D	
			RT	24.2		C		23.3		C		22.8		C	
		SB	LT	38.8	71.5	D	E	86.0	102.8	F	F	100.7	108.6	F	F
			TH	98.6		F		117.6		F		122.4		F	
			RT	62.0		E		94.1		F		96.0		F	
		EB	LT	17.9	16.5	B	B	25.7	18.4	C	B	24.0	17.2	C	B
			TH	17.1		B		18.5		B		17.3		B	
			RT	11.8		B		12.3		B		12.1		B	
		WB	LT	18.4	14.6	B	B	21.0	15.8	C	B	18.9	15.2	B	B
			TH	14.3		B		15.5		B		15.0		B	
			RT	14.2		B		13.2		B		13.1		B	
		Intersection		30.6		C		38.9		D		39.6		D	
426	Seminary Rd and St. Stephens Rd	NB	LT	28.3	23.4	C	C	29.4	24.7	C	C	29.1	25.4	C	C
			RT	15.4		B		15.6		B		18.8		B	
		EB	TH	11.9	11.7	B	B	14.8	14.7	B	B	15.3	15.2	B	B
			RT	9.8		A		13.4		B		14.1		B	
		WB	LT	8.4	4.5	A	A	14.6	8.6	B	A	15.6	8.1	B	A
			TH	4.2		A		8.2		A		7.6		A	
		Intersection		10.1		B		13.3		B		13.3		B	
427	Seminary Rd and Fort Williams Pkwy	NB	LT	6.2	3.8	A	A	34.8	25.9	D	D	36.7	27.3	E	D
			RT	1.4		A		17.6		C		18.2		C	
		EB	TH	0.7	0.8	A	A	1.3	1.3	A	A	1.2	1.2	A	A
			RT	1.6		A		1.4		A		1.5		A	
		WB	LT	8.1	1.1	A	A	25.0	13.8	C	B	16.7	8.0	C	A
			TH	0.3		A		12.6		B		7.1		A	
		Intersection		1.0		A		7.8		A		5.3		A	
428	Seminary Rd and N. Quaker Lane	NB	LT	42.7	32.0	D	C	28.6	25.9	C	C	31.7	26.7	C	C
			TH	27.8		C		24.9		C		24.4		C	
			RT	23.6		C		19.3		B		21.1		C	
		SB	LT	69.2	45.2	E	D	41.9	34.6	D	C	41.8	33.3	D	C
			TH	36.6		D		31.6		C		30.7		C	
			RT	31.3		C		31.4		C		25.6		C	
		EB	LT	24.7	36.5	C	D	34.6	31.9	C	C	37.9	33.2	D	C
			TH	39.8		D		33.0		C		34.1		C	
			RT	35.2		D		28.2		C		28.9		C	
		WB	LT	26.7	24.0	C	C	39.9	19.4	D	B	38.0	19.9	D	B
			TH	29.7		C		26.0		C		26.8		C	
			RT	15.9		B		6.9		A		7.1		A	
		Intersection		36.1		D		28.9		C		29.0		C	

2040 Travel Time Comparison

PM Peak Hour (4:30 PM - 5:30 PM)

Segment ID: Description of Route	PM Peak Hour Travel Time				
	Existing VISSIM (MM:SS)	2040 No-Build VISSIM (MM:SS)	2040 Build VISSIM (MM:SS)	Difference between No-Build and Build (MM:SS)	Percent Difference between No-Build and Build
5: SB S. Glebe Road to Edsall Road*	22:26	06:03	06:04	00:01	0.3%
SB Total	**22:26**	**06:03**	**06:04**	**00:01**	**0.3%**

** As noted in the Calibration Memo, SB Travel Times in the PM were evaluated along the full corridor.*



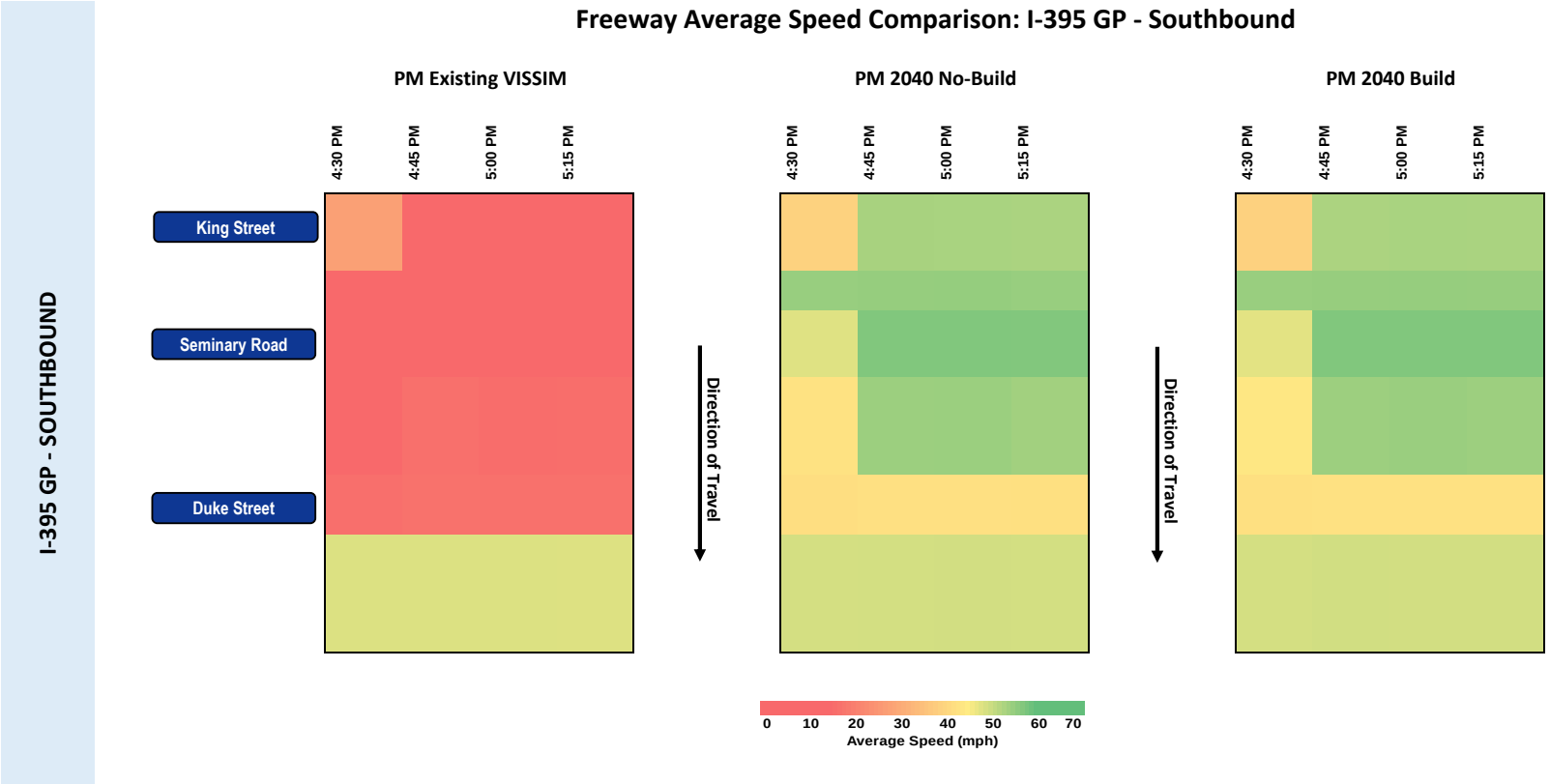
2040 Targeted Queue Location Comparison

PM Peak Hour (4:30 PM - 5:30 PM)

Interchange	Location	Approximate Storage (feet)	PM Vissim Max Queue Length (feet)		
			Existing	2040 No-Build	2040 Build
Duke Street	Ramp from Duke Street westbound to I-395 southbound	2,500	1,423	0	0
Seminary Road	Ramp from Seminary Road westbound to I-395 southbound	1,300	1,361	0	0
	Ramp from Seminary Road to I-395 HOV southbound	1,100	119	290	270
	Ramp from I-395 HOV southbound to Seminary Road	2,600	0	0	0

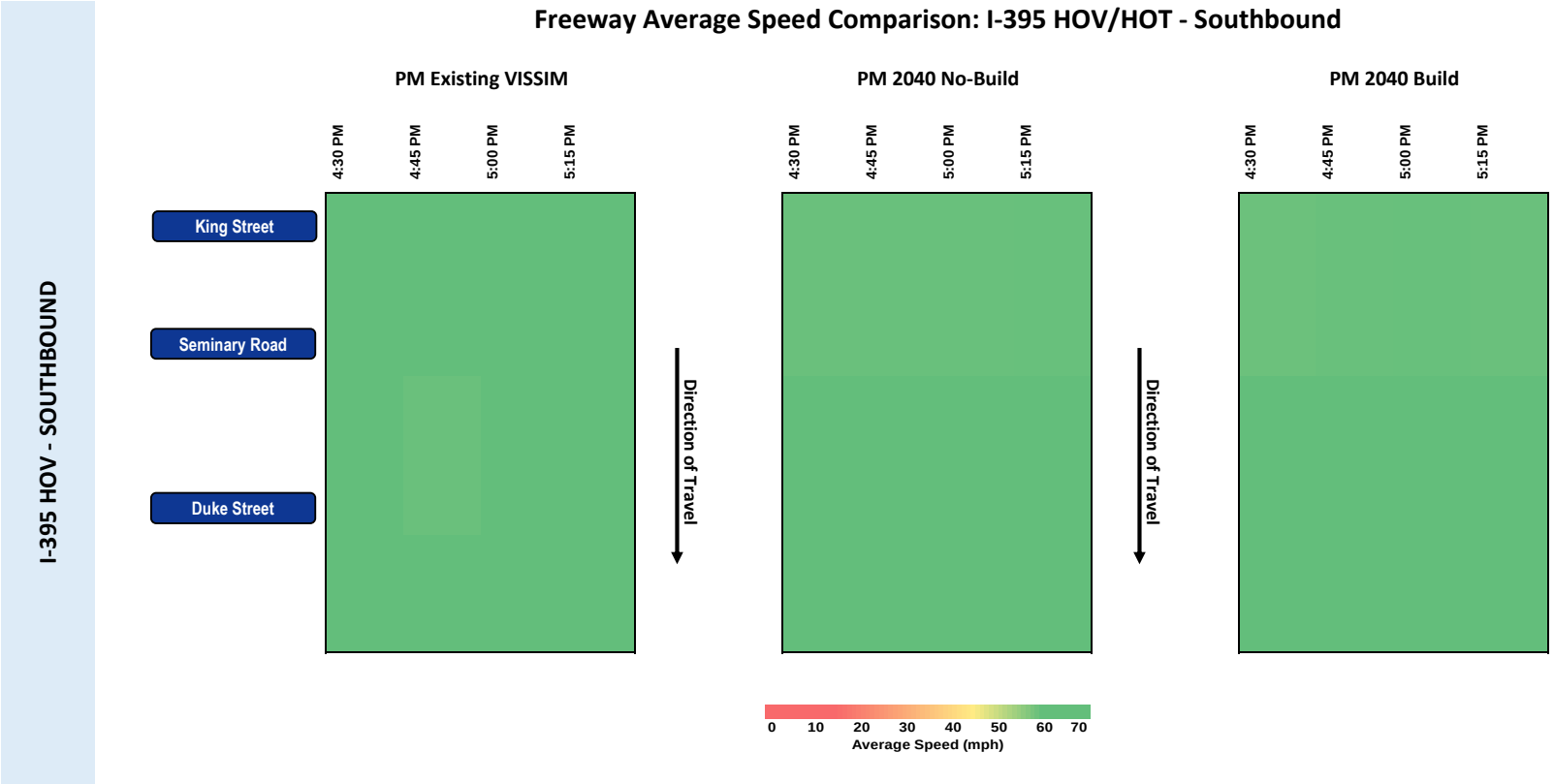
2040 Speed Heat Map Comparison

PM Peak Hour (4:30 PM - 5:30 PM)



2040 Speed Heat Map Comparison

PM Peak Hour (4:30 PM - 5:30 PM)



APPENDIX L: RAW TRAFFIC COUNT DATA

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 1. Duke Street @ Beauregard St
Site Code : 001
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	Beauregard Street From North					Duke Street From East					Beauregard Street From South					Duke Street From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	155	19	26	0	200	6	203	156	1	366	30	23	19	0	72	71	203	4	0	278	916
07:15 AM	150	5	47	0	202	9	229	155	0	393	16	12	14	0	42	97	309	14	2	422	1059
07:30 AM	182	11	53	0	246	14	248	131	0	393	23	19	18	0	60	92	266	8	0	366	1065
07:45 AM	182	3	32	0	217	3	315	180	0	498	24	10	11	0	45	68	286	7	2	363	1123
Total	669	38	158	0	865	32	995	622	1	1650	93	64	62	0	219	328	1064	33	4	1429	4163
08:00 AM	178	10	39	0	227	16	263	138	0	417	16	16	12	0	44	75	235	7	1	318	1006
08:15 AM	145	8	46	0	199	12	337	169	0	518	22	20	11	0	53	72	246	2	2	322	1092
08:30 AM	151	10	30	0	191	16	223	185	0	424	15	20	19	0	54	89	212	11	1	313	982
08:45 AM	121	10	30	0	161	11	260	154	0	425	25	23	20	0	68	83	271	7	2	363	1017
Total	595	38	145	0	778	55	1083	646	0	1784	78	79	62	0	219	319	964	27	6	1316	4097
09:00 AM	88	10	22	0	120	11	191	103	0	305	22	17	20	0	59	45	188	7	0	240	724
09:15 AM	97	5	15	0	117	13	226	83	0	322	22	10	13	0	45	60	253	12	1	326	810
09:30 AM	115	20	19	0	154	19	175	71	4	269	19	29	10	0	58	52	222	5	0	279	760
09:45 AM	99	14	19	0	132	11	171	87	3	272	22	25	16	0	63	56	230	6	0	292	759
Total	399	49	75	0	523	54	763	344	7	1168	85	81	59	0	225	213	893	30	1	1137	3053
10:00 AM	110	15	18	0	143	19	175	67	2	263	30	22	20	0	72	60	201	5	0	266	744
10:15 AM	117	14	21	0	152	15	150	67	4	236	24	17	12	0	53	45	199	4	1	249	690
10:30 AM	97	12	13	0	122	18	159	76	3	256	15	21	20	0	56	50	226	5	0	281	715
10:45 AM	74	14	13	0	101	21	185	80	2	288	13	25	29	0	67	49	187	7	0	243	699
Total	398	55	65	0	518	73	669	290	11	1043	82	85	81	0	248	204	813	21	1	1039	2848
11:00 AM	91	16	12	0	119	20	187	75	1	283	13	25	29	0	67	31	184	8	0	223	692
11:15 AM	89	9	11	0	109	14	209	88	4	315	13	15	16	0	44	50	194	3	0	247	715
11:30 AM	96	12	19	0	127	20	223	98	6	347	20	14	30	0	64	55	184	10	0	249	787
11:45 AM	89	18	28	0	135	18	217	101	4	340	24	32	25	0	81	65	200	8	1	274	830
Total	365	55	70	0	490	72	836	362	15	1285	70	86	100	0	256	201	762	29	1	993	3024
12:00 PM	80	25	32	0	137	15	248	95	3	361	29	40	18	0	87	79	169	11	1	260	845
12:15 PM	120	19	31	0	170	13	230	88	1	332	24	31	27	0	82	65	198	9	1	273	857
12:30 PM	121	8	38	0	167	17	251	76	0	344	24	23	19	0	66	59	190	5	0	254	831
12:45 PM	145	28	51	0	224	22	236	93	3	354	26	36	17	0	79	62	203	9	0	274	931
Total	466	80	152	0	698	67	965	352	7	1391	103	130	81	0	314	265	760	34	2	1061	3464
01:00 PM	152	29	37	0	218	17	243	80	8	348	25	46	25	0	96	71	177	8	0	256	918
01:15 PM	160	15	58	0	233	20	229	95	7	351	30	23	34	0	87	63	221	6	1	291	962
01:30 PM	123	13	47	0	183	19	223	83	8	333	29	32	29	0	90	58	188	8	0	254	860
01:45 PM	127	10	59	0	196	27	218	114	8	367	28	25	22	0	75	51	172	3	0	226	864
Total	562	67	201	0	830	83	913	372	31	1399	112	126	110	0	348	243	758	25	1	1027	3604
02:00 PM	153	19	58	0	230	23	231	87	5	346	25	40	25	0	90	56	203	10	0	269	935
02:15 PM	138	24	79	0	241	22	231	118	4	375	24	32	27	0	83	64	191	7	0	262	961
02:30 PM	154	21	42	0	217	25	240	116	1	382	26	37	17	0	80	60	180	12	0	252	931
02:45 PM	146	17	42	0	205	15	251	110	4	380	32	33	19	0	84	59	181	5	0	245	914
Total	591	81	221	0	893	85	953	431	14	1483	107	142	88	0	337	239	755	34	0	1028	3741
03:00 PM	129	20	32	0	181	26	299	106	8	439	22	22	24	0	68	55	215	8	0	278	966
03:15 PM	171	15	28	0	214	21	281	133	0	435	23	23	18	0	64	46	214	8	0	268	981
03:30 PM	199	12	53	0	264	26	262	111	1	400	37	30	39	0	106	57	180	2	0	239	1009
03:45 PM	192	15	43	0	250	28	289	110	3	430	22	23	28	0	73	59	230	8	1	298	1051
Total	691	62	156	0	909	101	1131	460	12	1704	104	98	109	0	311	217	839	26	1	1083	4007
04:00 PM	195	14	61	0	270	16	295	101	1	413	27	17	17	0	61	59	235	10	1	305	1049

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 1. Duke Street @ Beauregard St
Site Code : 001
Start Date : 11/1/2018
Page No : 2

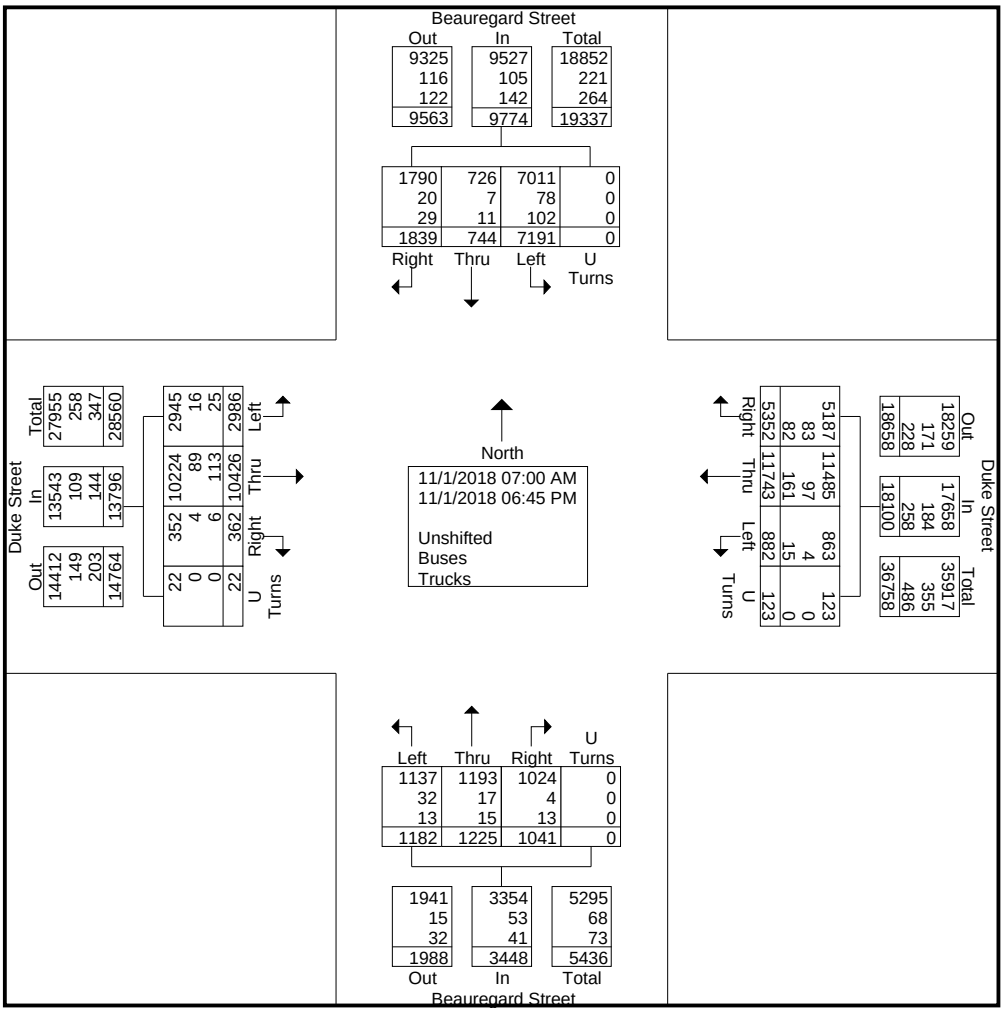
Groups Printed- Unshifted - Buses - Trucks

	Beauregard Street From North					Duke Street From East					Beauregard Street From South					Duke Street From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	255	6	72	0	333	19	275	112	0	406	23	22	23	0	68	53	222	5	0	280	1087
04:30 PM	193	15	50	0	258	26	257	99	3	385	32	31	27	0	90	67	237	4	0	308	1041
04:45 PM	175	12	42	0	229	29	313	137	0	479	26	35	20	0	81	69	248	16	0	333	1122
Total	818	47	225	0	1090	90	1140	449	4	1683	108	105	87	0	300	248	942	35	1	1226	4299
05:00 PM	241	25	37	0	303	17	262	123	2	404	40	25	21	0	86	62	211	9	0	282	1075
05:15 PM	222	16	35	0	273	18	265	125	2	410	37	36	36	0	109	47	229	6	0	282	1074
05:30 PM	203	18	65	0	286	26	288	131	2	447	33	31	27	0	91	89	260	8	1	358	1182
05:45 PM	201	26	55	0	282	23	291	129	3	446	24	26	21	0	71	50	223	8	0	281	1080
Total	867	85	192	0	1144	84	1106	508	9	1707	134	118	105	0	357	248	923	31	1	1203	4411
06:00 PM	228	23	57	0	308	23	257	143	3	426	23	27	24	0	74	70	221	7	1	299	1107
06:15 PM	194	18	45	0	257	22	310	105	4	441	33	36	23	0	92	72	248	6	1	327	1117
06:30 PM	167	21	31	0	219	19	306	124	5	454	30	22	23	0	75	58	259	11	1	329	1077
06:45 PM	181	25	46	0	252	22	316	144	0	482	20	26	27	0	73	61	225	13	0	299	1106
Total	770	87	179	0	1036	86	1189	516	12	1803	106	111	97	0	314	261	953	37	3	1254	4407
Grand Total	7191	744	1839	0	9774	882	11743	5352	123	18100	1182	1225	1041	0	3448	2986	10426	362	22	13796	45118
Apprch %	73.6	7.6	18.8	0		4.9	64.9	29.6	0.7		34.3	35.5	30.2	0		21.6	75.6	2.6	0.2		
Total %	15.9	1.6	4.1	0	21.7	2	26	11.9	0.3	40.1	2.6	2.7	2.3	0	7.6	6.6	23.1	0.8	0	30.6	
Unshifted	7011	726	1790	0	9527	863	11485	5187	123	17658	1137	1193	1024	0	3354	2945	10224	352	22	13543	44082
% Unshifted	97.5	97.6	97.3	0	97.5	97.8	97.8	96.9	100	97.6	96.2	97.4	98.4	0	97.3	98.6	98.1	97.2	100	98.2	97.7
Buses	78	7	20	0	105	4	97	83	0	184	32	17	4	0	53	16	89	4	0	109	451
% Buses	1.1	0.9	1.1	0	1.1	0.5	0.8	1.6	0	1	2.7	1.4	0.4	0	1.5	0.5	0.9	1.1	0	0.8	1
Trucks	102	11	29	0	142	15	161	82	0	258	13	15	13	0	41	25	113	6	0	144	585
% Trucks	1.4	1.5	1.6	0	1.5	1.7	1.4	1.5	0	1.4	1.1	1.2	1.2	0	1.2	0.8	1.1	1.7	0	1	1.3

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 1. Duke Street @ Beauregard St
Site Code : 001
Start Date : 11/1/2018
Page No : 3

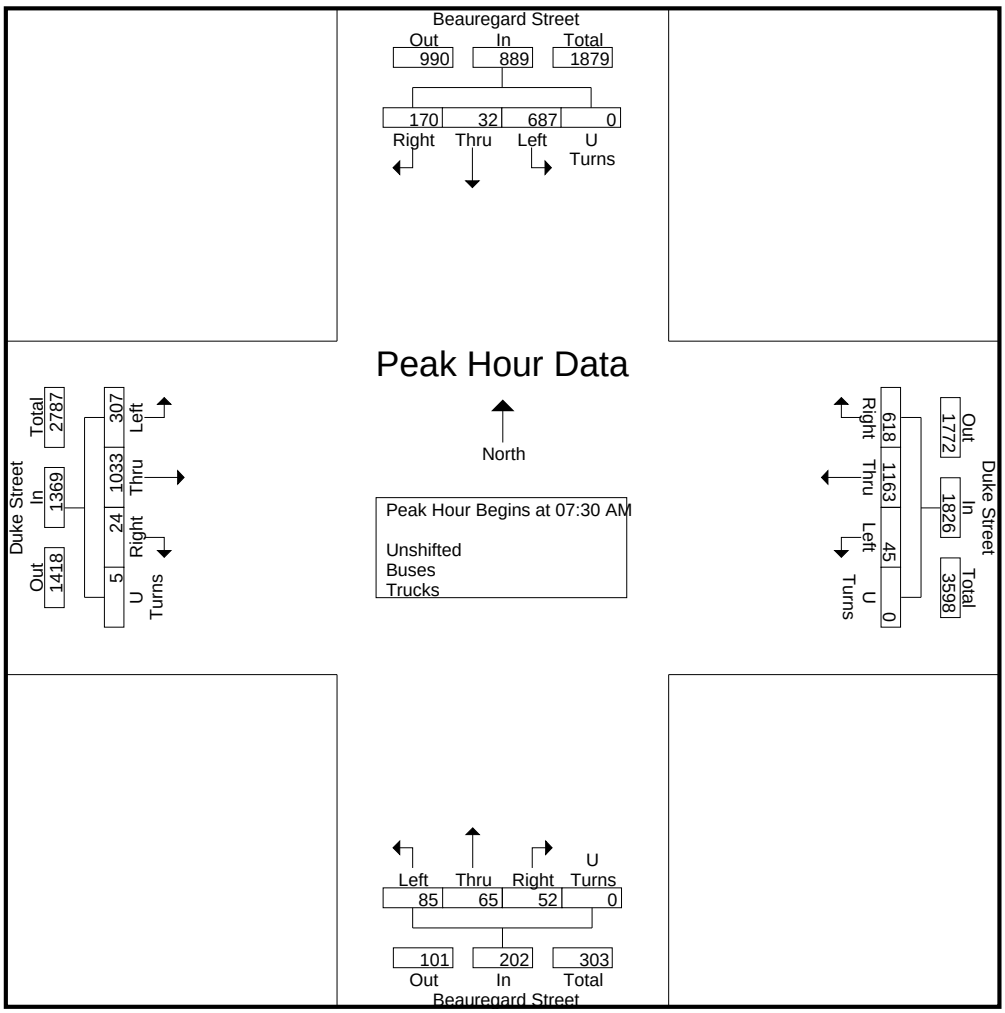


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 1. Duke Street @ Beauregard St
Site Code : 001
Start Date : 11/1/2018
Page No : 4

	Beauregard Street From North					Duke Street From East					Beauregard Street From South					Duke Street From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	**182**	**11**	**53**	0	**246**	14	248	131	0	393	23	19	**18**	0	**60**	**92**	266	**8**	0	**366**	1065
07:45 AM	182	3	32	0	217	3	315	**180**	0	498	**24**	10	11	0	45	68	**286**	7	**2**	363	**1123**
08:00 AM	178	10	39	0	227	**16**	263	138	0	417	16	16	12	0	44	75	235	7	1	318	1006
08:15 AM	145	8	46	0	199	12	**337**	169	0	**518**	22	**20**	11	0	53	72	246	2	2	322	1092
Total Volume	687	32	170	0	889	45	1163	618	0	1826	85	65	52	0	202	307	1033	24	5	1369	4286
% App. Total	77.3	3.6	19.1	0		2.5	63.7	33.8	0		42.1	32.2	25.7	0		22.4	75.5	1.8	0.4		
PHF	.944	.727	.802	.000	.903	.703	.863	.858	.000	.881	.885	.813	.722	.000	.842	.834	.903	.750	.625	.935	.954

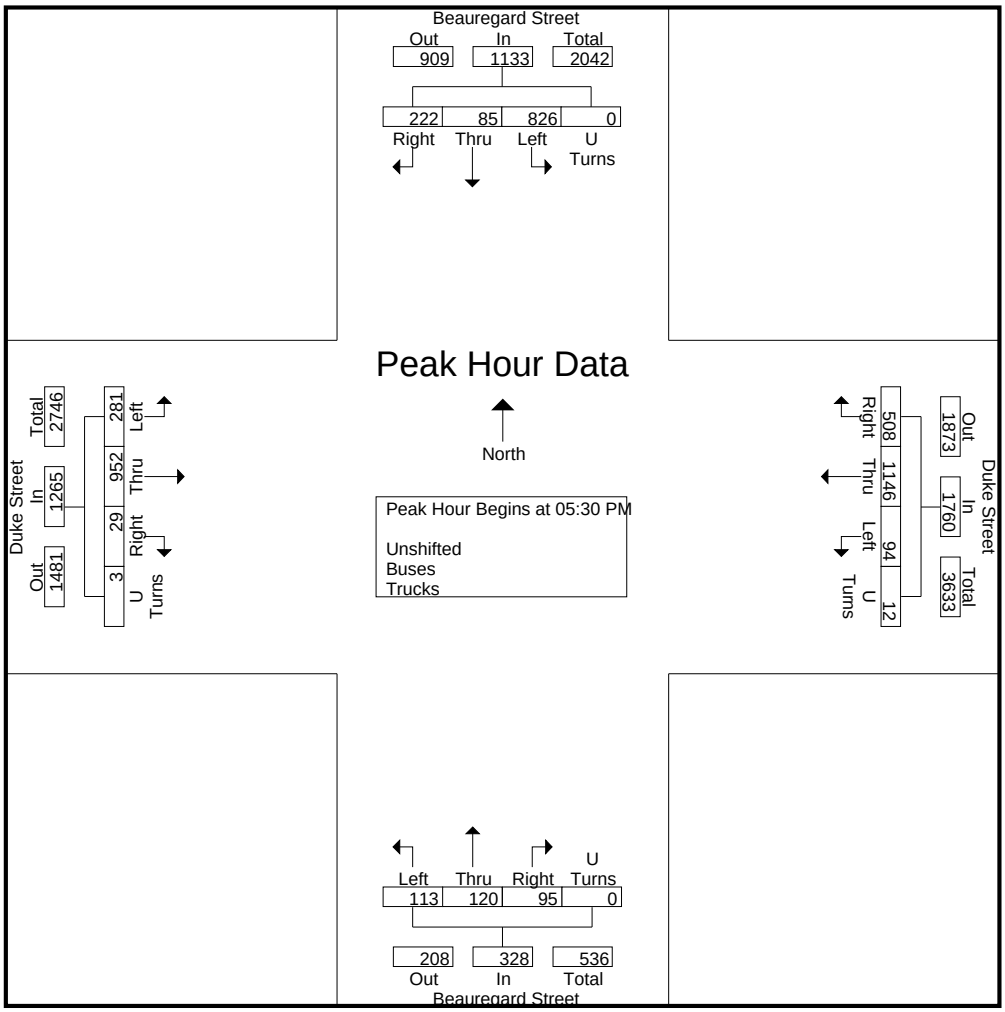


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 1. Duke Street @ Beauregard St
Site Code : 001
Start Date : 11/1/2018
Page No : 5

	Beauregard Street From North					Duke Street From East					Beauregard Street From South					Duke Street From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:30 PM																					
05:30 PM	203	18	**65**	0	286	**26**	288	131	2	**447**	**33**	31	**27**	0	91	**89**	**260**	**8**	**1**	**358**	**1182**
05:45 PM	201	**26**	55	0	282	23	291	129	3	446	24	26	21	0	71	50	223	8	0	281	1080
06:00 PM	**228**	23	57	0	**308**	23	257	**143**	3	426	23	27	24	0	74	70	221	7	1	299	1107
06:15 PM	194	18	45	0	257	22	**310**	105	**4**	441	33	**36**	23	0	**92**	72	248	6	1	327	1117
Total Volume	826	85	222	0	1133	94	1146	508	12	1760	113	120	95	0	328	281	952	29	3	1265	4486
% App. Total	72.9	7.5	19.6	0		5.3	65.1	28.9	0.7		34.5	36.6	29	0		22.2	75.3	2.3	0.2		
PHF	.906	.817	.854	.000	.920	.904	.924	.888	.750	.984	.856	.833	.880	.000	.891	.789	.915	.906	.750	.883	.949



File Name: 1. Duke Street @ Beauregard St - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 001
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	Beauregard Street From North				Duke Street From East				Beauregard Street From South				Duke Street From West			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	3
07:30 AM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	5
07:45 AM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	1	0	0	0	4	0	0	0	5
08:15 AM	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	4	0	0	0	1	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	5
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5
09:15 AM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	3
09:30 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	2	0	0	0	5	0	0	0	6
10:00 AM	0	0	0	0	0	0	0	3	0	0	0	2	0	0	0	3
10:15 AM	0	0	0	0	0	0	0	4	0	0	0	3	0	0	0	2
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
10:45 AM	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2
11:15 AM	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	3
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	2	0	0	0	4	0	0	0	2
12:00 PM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	9
12:15 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
01:30 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	1
01:45 PM	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	1
02:00 PM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
02:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	4
02:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0

03:15 PM	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	3
03:30 PM	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	2
03:45 PM	0	0	0	0	0	0	0	4	0	0	0	1	0	0	0	2
04:00 PM	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
04:30 PM	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	4
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	6
05:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	4
05:15 PM	0	0	0	0	0	0	0	2	0	0	0	4	0	0	0	1
05:30 PM	0	0	0	1	0	0	0	1	0	0	0	3	0	0	0	4
05:45 PM	0	0	0	7	0	0	0	0	0	0	0	4	0	0	0	2
06:00 PM	0	0	0	3	0	0	0	4	0	0	0	3	0	0	0	2
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0
06:30 PM	0	0	0	1	0	0	0	1	0	0	0	5	0	0	0	0
06:45 PM	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 2. Duke Street @ Oasis Drive
Site Code : 002
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	Shopping Plaza From North					Duke Street From East					Oasis Drive From South					Duke Street From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	0	0	1	0	1	21	385	26	0	432	0	0	37	0	37	0	351	2	0	353	823
07:15 AM	0	0	0	0	0	15	385	19	0	419	0	0	33	0	33	0	459	2	0	461	913
07:30 AM	0	0	4	0	4	20	423	34	0	477	0	0	34	0	34	0	449	4	0	453	968
07:45 AM	0	0	3	0	3	17	478	27	0	522	0	0	25	0	25	0	477	3	0	480	1030
Total	0	0	8	0	8	73	1671	106	0	1850	0	0	129	0	129	0	1736	11	0	1747	3734
08:00 AM	0	0	3	0	3	32	442	18	0	492	0	0	30	0	30	0	409	4	0	413	938
08:15 AM	0	0	3	0	3	36	523	33	0	592	0	0	27	0	27	0	377	2	0	379	1001
08:30 AM	0	0	5	0	5	31	413	35	0	479	0	0	32	0	32	0	378	3	0	381	897
08:45 AM	0	0	7	0	7	48	386	30	0	464	0	0	29	0	29	0	393	5	0	398	898
Total	0	0	18	0	18	147	1764	116	0	2027	0	0	118	0	118	0	1557	14	0	1571	3734
09:00 AM	0	0	5	0	5	40	312	34	0	386	0	0	28	0	28	0	303	1	0	304	723
09:15 AM	0	0	22	0	22	43	313	50	0	406	0	0	34	0	34	0	340	4	0	344	806
09:30 AM	0	0	15	0	15	47	257	54	0	358	0	0	25	0	25	0	346	5	0	351	749
09:45 AM	0	0	17	0	17	36	274	47	0	357	0	0	35	0	35	0	343	3	0	346	755
Total	0	0	59	0	59	166	1156	185	0	1507	0	0	122	0	122	0	1332	13	0	1345	3033
10:00 AM	0	0	19	0	19	54	259	50	0	363	0	0	31	0	31	0	315	3	0	318	731
10:15 AM	0	0	18	0	18	40	225	61	0	326	0	0	40	0	40	0	334	3	0	337	721
10:30 AM	0	0	28	0	28	36	245	50	0	331	0	0	39	0	39	0	327	6	0	333	731
10:45 AM	0	0	33	0	33	58	278	73	0	409	0	0	37	0	37	0	277	2	0	279	758
Total	0	0	98	0	98	188	1007	234	0	1429	0	0	147	0	147	0	1253	14	0	1267	2941
11:00 AM	0	0	31	0	31	45	254	62	0	361	0	0	47	0	47	0	287	6	0	293	732
11:15 AM	0	0	34	0	34	45	307	68	0	420	0	0	39	0	39	0	306	4	0	310	803
11:30 AM	0	0	39	0	39	58	311	73	0	442	0	0	42	0	42	0	300	7	0	307	830
11:45 AM	0	0	33	0	33	58	322	84	0	464	0	0	53	0	53	0	259	7	0	266	816
Total	0	0	137	0	137	206	1194	287	0	1687	0	0	181	0	181	0	1152	24	0	1176	3181
12:00 PM	0	0	34	0	34	82	350	70	0	502	0	0	60	0	60	0	325	6	0	331	927
12:15 PM	0	0	39	0	39	60	295	103	0	458	0	0	47	0	47	0	311	10	0	321	865
12:30 PM	0	0	49	0	49	65	317	80	0	462	0	0	42	0	42	0	353	10	0	363	916
12:45 PM	0	0	44	0	44	73	303	73	0	449	0	0	56	0	56	0	340	12	0	352	901
Total	0	0	166	0	166	280	1265	326	0	1871	0	0	205	0	205	0	1329	38	0	1367	3609
01:00 PM	0	0	42	0	42	76	309	83	0	468	0	0	60	0	60	0	393	8	0	401	971
01:15 PM	0	0	46	0	46	51	309	88	0	448	0	0	37	0	37	0	335	10	0	345	876
01:30 PM	0	0	54	0	54	65	280	84	0	429	0	0	72	0	72	0	317	8	0	325	880
01:45 PM	0	0	52	0	52	46	330	81	0	457	0	0	53	0	53	0	373	4	0	377	939
Total	0	0	194	0	194	238	1228	336	0	1802	0	0	222	0	222	0	1418	30	0	1448	3666
02:00 PM	0	0	38	0	38	50	312	70	0	432	0	0	33	0	33	0	341	6	0	347	850
02:15 PM	0	0	42	0	42	57	348	72	0	477	0	0	53	0	53	0	347	1	0	348	920
02:30 PM	0	0	21	0	21	61	360	78	0	499	0	0	41	0	41	0	339	6	0	345	906
02:45 PM	0	0	27	0	27	41	371	80	0	492	0	0	42	0	42	0	375	6	0	381	942
Total	0	0	128	0	128	209	1391	300	0	1900	0	0	169	0	169	0	1402	19	0	1421	3618
03:00 PM	0	0	43	0	43	51	395	79	0	525	0	0	40	0	40	0	389	2	0	391	999
03:15 PM	0	0	27	0	27	60	429	60	0	549	0	0	51	0	51	0	390	5	0	395	1022
03:30 PM	0	0	20	0	20	70	392	65	0	527	0	0	46	0	46	0	435	4	0	439	1032
03:45 PM	0	0	20	0	20	58	427	84	0	569	0	0	44	0	44	0	438	5	0	443	1076
Total	0	0	110	0	110	239	1643	288	0	2170	0	0	181	0	181	0	1652	16	0	1668	4129
04:00 PM	0	0	26	0	26	51	382	62	0	495	0	0	39	0	39	0	453	8	0	461	1021

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 2. Duke Street @ Oasis Drive
Site Code : 002
Start Date : 11/1/2018
Page No : 2

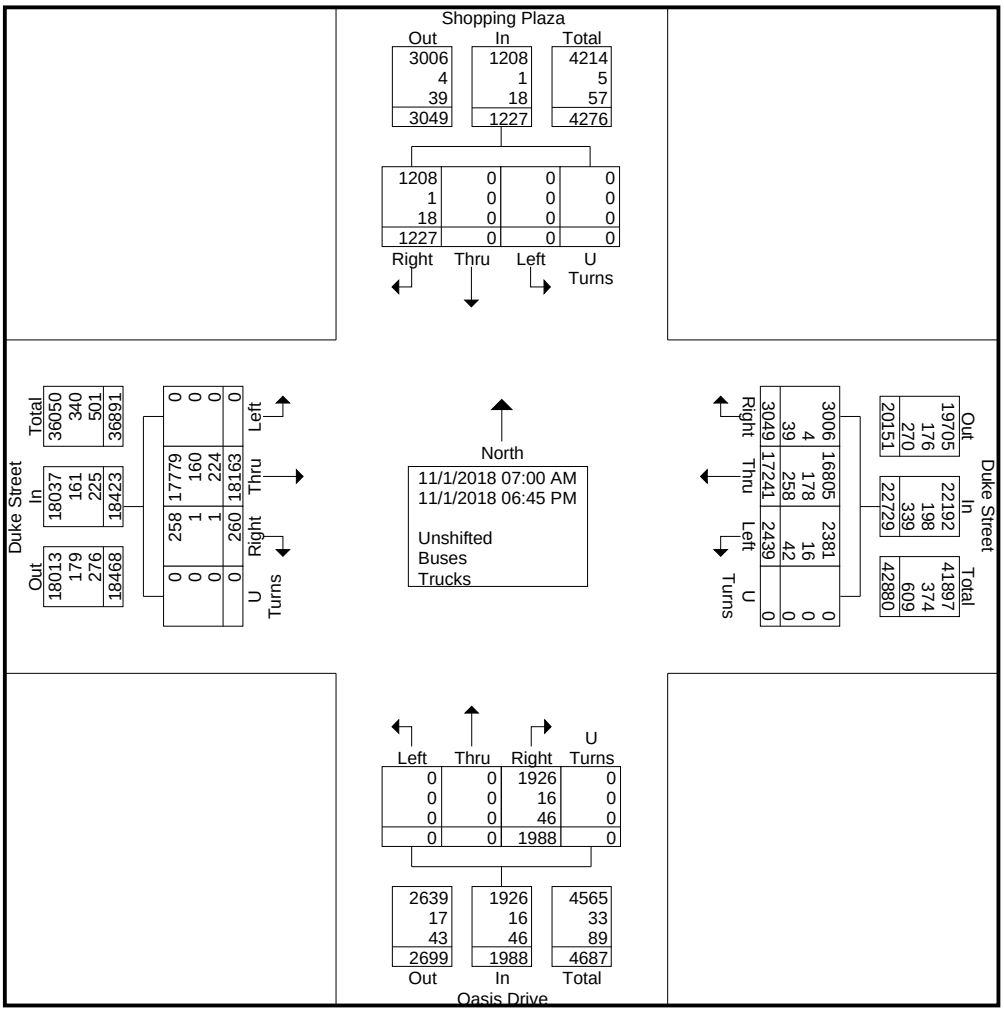
Groups Printed- Unshifted - Buses - Trucks

	Shopping Plaza From North					Duke Street From East					Oasis Drive From South					Duke Street From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	0	0	18	0	18	66	392	66	0	524	0	0	55	0	55	0	455	6	0	461	1058
04:30 PM	0	0	21	0	21	56	388	78	0	522	0	0	44	0	44	0	417	4	0	421	1008
04:45 PM	0	0	23	0	23	63	438	88	0	589	0	0	42	0	42	0	475	1	0	476	1130
Total	0	0	88	0	88	236	1600	294	0	2130	0	0	180	0	180	0	1800	19	0	1819	4217
05:00 PM	0	0	46	0	46	54	371	66	0	491	0	0	34	0	34	0	451	5	0	456	1027
05:15 PM	0	0	19	0	19	59	401	75	0	535	0	0	48	0	48	0	458	4	0	462	1064
05:30 PM	0	0	24	0	24	49	411	63	0	523	0	0	31	0	31	0	478	9	0	487	1065
05:45 PM	0	0	29	0	29	52	407	72	0	531	0	0	36	0	36	0	411	5	0	416	1012
Total	0	0	118	0	118	214	1590	276	0	2080	0	0	149	0	149	0	1798	23	0	1821	4168
06:00 PM	0	0	20	0	20	46	415	79	0	540	0	0	54	0	54	0	435	6	0	441	1055
06:15 PM	0	0	39	0	39	63	437	70	0	570	0	0	47	0	47	0	449	12	0	461	1117
06:30 PM	0	0	19	0	19	64	415	73	0	552	0	0	38	0	38	0	438	10	0	448	1057
06:45 PM	0	0	25	0	25	70	465	79	0	614	0	0	46	0	46	0	412	11	0	423	1108
Total	0	0	103	0	103	243	1732	301	0	2276	0	0	185	0	185	0	1734	39	0	1773	4337
Grand Total	0	0	1227	0	1227	2439	17241	3049	0	22729	0	0	1988	0	1988	0	18163	260	0	18423	44367
Apprch %	0	0	100	0		10.7	75.9	13.4	0		0	0	100	0		0	98.6	1.4	0		
Total %	0	0	2.8	0	2.8	5.5	38.9	6.9	0	51.2	0	0	4.5	0	4.5	0	40.9	0.6	0	41.5	
Unshifted	0	0	1208	0	1208	2381	16805	3006	0	22192	0	0	1926	0	1926	0	17779	258	0	18037	43363
% Unshifted	0	0	98.5	0	98.5	97.6	97.5	98.6	0	97.6	0	0	96.9	0	96.9	0	97.9	99.2	0	97.9	97.7
Buses	0	0	1	0	1	16	178	4	0	198	0	0	16	0	16	0	160	1	0	161	376
% Buses	0	0	0.1	0	0.1	0.7	1	0.1	0	0.9	0	0	0.8	0	0.8	0	0.9	0.4	0	0.9	0.8
Trucks	0	0	18	0	18	42	258	39	0	339	0	0	46	0	46	0	224	1	0	225	628
% Trucks	0	0	1.5	0	1.5	1.7	1.5	1.3	0	1.5	0	0	2.3	0	2.3	0	1.2	0.4	0	1.2	1.4

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 2. Duke Street @ Oasis Drive
Site Code : 002
Start Date : 11/1/2018
Page No : 3

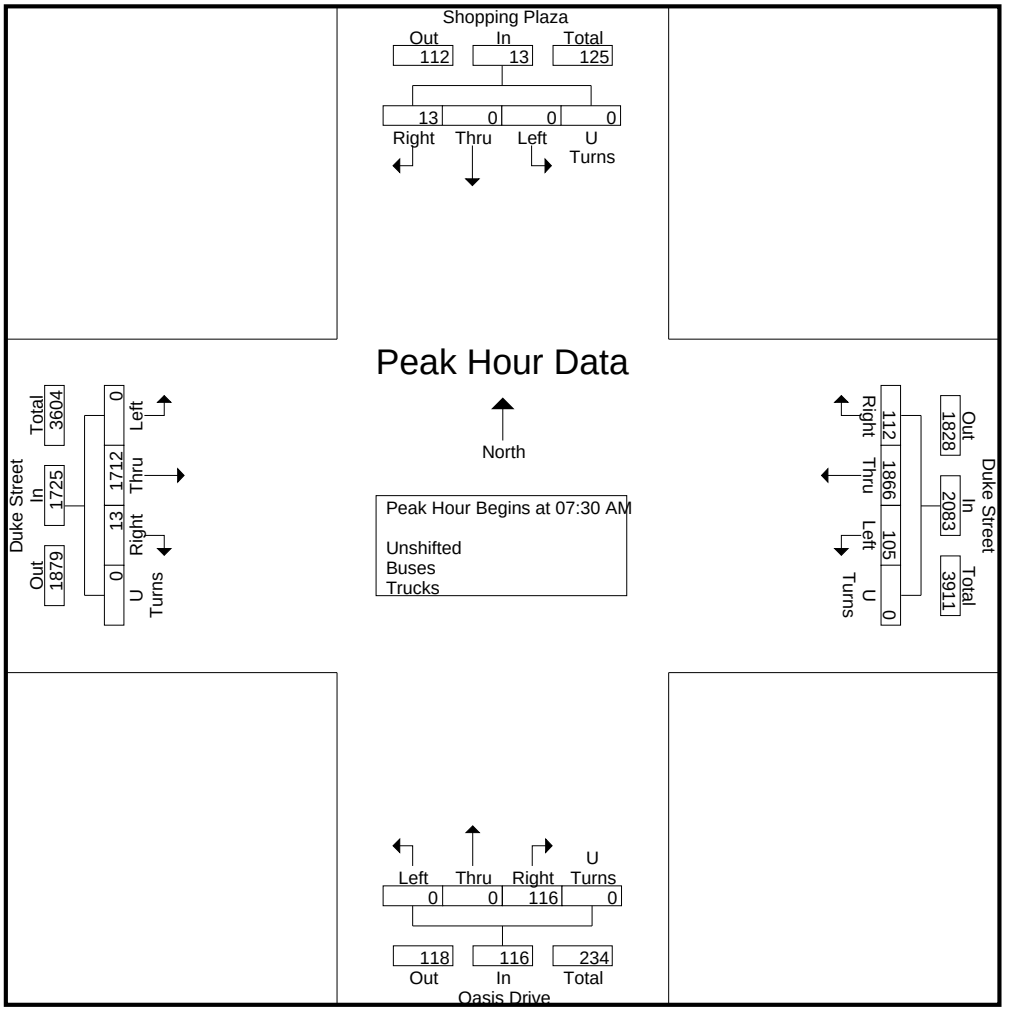


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 2. Duke Street @ Oasis Drive
Site Code : 002
Start Date : 11/1/2018
Page No : 4

	Shopping Plaza From North					Duke Street From East					Oasis Drive From South					Duke Street From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	**4**	0	**4**	20	423	**34**	0	477	0	0	**34**	0	**34**	0	449	**4**	0	453	968
07:45 AM	0	0	3	0	3	17	478	27	0	522	0	0	25	0	25	0	**477**	3	0	**480**	**1030**
08:00 AM	0	0	3	0	3	32	442	18	0	492	0	0	30	0	30	0	409	4	0	413	938
08:15 AM	0	0	3	0	3	**36**	**523**	33	0	**592**	0	0	27	0	27	0	377	2	0	379	1001
Total Volume	0	0	13	0	13	105	1866	112	0	2083	0	0	116	0	116	0	1712	13	0	1725	3937
% App. Total	0	0	100	0		5	89.6	5.4	0		0	0	100	0		0	99.2	0.8	0		
PHF	.000	.000	.813	.000	.813	.729	.892	.824	.000	.880	.000	.000	.853	.000	.853	.000	.897	.813	.000	.898	.956

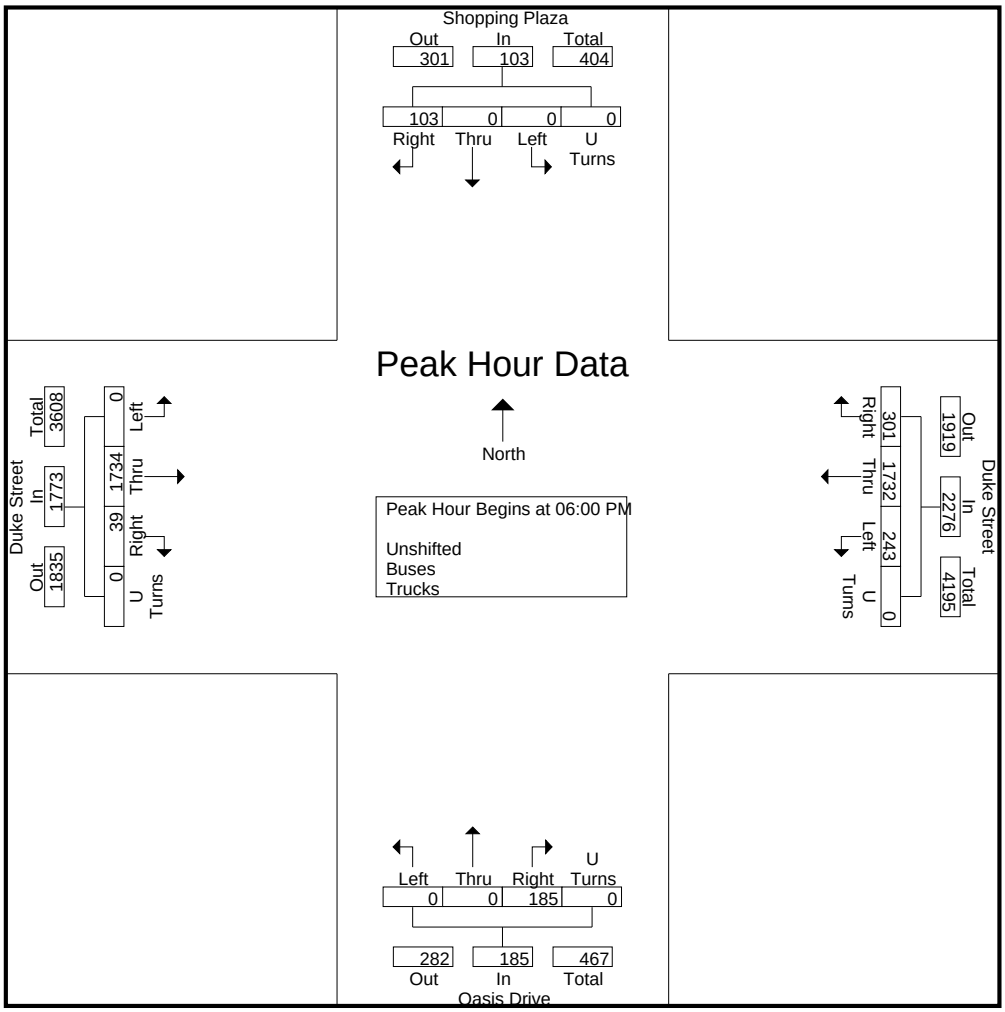


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 2. Duke Street @ Oasis Drive
Site Code : 002
Start Date : 11/1/2018
Page No : 5

	Shopping Plaza From North					Duke Street From East					Oasis Drive From South					Duke Street From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:00 PM																					
06:00 PM	0	0	20	0	20	46	415	**79**	0	540	0	0	**54**	0	**54**	0	435	6	0	441	1055
06:15 PM	0	0	**39**	0	**39**	63	437	70	0	570	0	0	47	0	47	0	**449**	**12**	0	**461**	**1117**
06:30 PM	0	0	19	0	19	64	415	73	0	552	0	0	38	0	38	0	438	10	0	448	1057
06:45 PM	0	0	25	0	25	**70**	**465**	79	0	**614**	0	0	46	0	46	0	412	11	0	423	1108
Total Volume	0	0	103	0	103	243	1732	301	0	2276	0	0	185	0	185	0	1734	39	0	1773	4337
% App. Total	0	0	100	0		10.7	76.1	13.2	0		0	0	100	0		0	97.8	2.2	0		
PHF	.000	.000	.660	.000	.660	.868	.931	.953	.000	.927	.000	.000	.856	.000	.856	.000	.965	.813	.000	.961	.971



File Name: 2. Duke Street @ Oasis Drive - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 002
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	Shopping Plaza From North				Duke Street From East				Oasis Drive From South				Duke Street From West			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
07:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	13
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
08:15 AM	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	11
08:30 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	14
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
09:00 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	14
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
09:45 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	15
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
10:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	9
10:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	18
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
11:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	15
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
11:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	12
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
12:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	26
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
12:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	15
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
01:15 PM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	30
01:30 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	18
01:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	24
02:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	21
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
02:30 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	20
02:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	14
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30

03:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	19
03:30 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	31
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
04:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	24
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
05:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	23
05:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	30
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 3. Duke Street @ Walker Street
Site Code : 003
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	Mall Exit From North					Duke Street From East					Walker Street From South					Duke Street From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	0	0	4	0	4	6	313	0	0	319	158	0	27	0	185	0	265	55	0	320	828
07:15 AM	1	0	10	0	11	4	282	0	0	286	173	0	42	0	215	0	327	83	0	410	922
07:30 AM	1	0	5	0	6	11	318	0	0	329	157	0	30	0	187	0	346	66	0	412	934
07:45 AM	1	0	4	0	5	17	339	0	0	356	150	0	29	0	179	0	397	68	0	465	1005
Total	3	0	23	0	26	38	1252	0	0	1290	638	0	128	0	766	0	1335	272	0	1607	3689
08:00 AM	0	0	4	0	4	12	341	0	0	353	135	0	33	0	168	0	374	100	0	474	999
08:15 AM	3	1	3	0	7	11	325	0	0	336	145	0	27	0	172	0	355	62	0	417	932
08:30 AM	1	1	24	0	26	17	307	0	0	324	137	0	21	0	158	0	410	78	0	488	996
08:45 AM	0	0	10	0	10	13	272	0	0	285	158	0	29	0	187	1	354	99	0	454	936
Total	4	2	41	0	47	53	1245	0	0	1298	575	0	110	0	685	1	1493	339	0	1833	3863
09:00 AM	4	1	10	0	15	5	273	0	0	278	105	0	23	0	128	0	264	94	0	358	779
09:15 AM	1	0	6	0	7	10	318	0	0	328	99	0	19	0	118	0	276	82	0	358	811
09:30 AM	5	1	8	0	14	12	298	0	0	310	121	0	24	0	145	0	268	90	0	358	827
09:45 AM	2	1	24	0	27	21	297	0	0	318	130	0	26	0	156	0	317	100	0	417	918
Total	12	3	48	0	63	48	1186	0	0	1234	455	0	92	0	547	0	1125	366	0	1491	3335
10:00 AM	0	0	9	0	9	16	287	0	0	303	131	0	27	0	158	1	259	93	1	354	824
10:15 AM	2	0	8	0	10	21	261	0	0	282	141	0	19	0	160	0	278	100	0	378	830
10:30 AM	2	0	7	0	9	12	259	0	0	271	111	0	23	0	134	0	264	105	0	369	783
10:45 AM	7	1	11	0	19	15	244	0	0	259	119	0	19	0	138	0	290	98	2	390	806
Total	11	1	35	0	47	64	1051	0	0	1115	502	0	88	0	590	1	1091	396	3	1491	3243
11:00 AM	5	0	8	0	13	10	239	0	0	249	113	0	19	0	132	0	286	107	0	393	787
11:15 AM	2	0	9	0	11	25	270	0	0	295	125	0	31	0	156	0	312	116	0	428	890
11:30 AM	2	2	17	0	21	11	265	0	0	276	137	0	22	0	159	0	299	116	1	416	872
11:45 AM	3	3	18	0	24	10	276	0	0	286	123	0	36	0	159	0	304	133	1	438	907
Total	12	5	52	0	69	56	1050	0	0	1106	498	0	108	0	606	0	1201	472	2	1675	3456
12:00 PM	5	8	21	0	34	23	251	0	0	274	114	0	20	0	134	0	341	112	0	453	895
12:15 PM	3	1	27	0	31	17	276	0	0	293	115	0	31	0	146	0	290	102	0	392	862
12:30 PM	5	1	17	0	23	23	247	0	0	270	117	0	30	0	147	0	260	100	0	360	800
12:45 PM	3	1	9	0	13	25	242	0	0	267	143	0	33	0	176	0	327	140	0	467	923
Total	16	11	74	0	101	88	1016	0	0	1104	489	0	114	0	603	0	1218	454	0	1672	3480
01:00 PM	3	1	13	0	17	28	277	1	0	306	73	0	25	0	98	0	318	148	0	466	887
01:15 PM	6	3	20	0	29	21	290	0	0	311	145	0	31	0	176	1	340	128	0	469	985
01:30 PM	4	3	15	0	22	16	276	0	0	292	128	0	33	0	161	0	308	128	0	436	911
01:45 PM	3	0	13	0	16	25	271	0	0	296	127	0	31	0	158	0	315	136	0	451	921
Total	16	7	61	0	84	90	1114	1	0	1205	473	0	120	0	593	1	1281	540	0	1822	3704
02:00 PM	6	3	4	0	13	25	286	0	0	311	140	0	28	0	168	0	326	128	0	454	946
02:15 PM	3	1	14	0	18	19	326	0	0	345	133	0	36	0	169	0	370	120	0	490	1022
02:30 PM	1	3	10	0	14	30	295	0	0	325	149	0	26	0	175	0	387	150	0	537	1051
02:45 PM	4	3	10	0	17	24	326	0	0	350	133	0	25	0	158	0	332	137	0	469	994
Total	14	10	38	0	62	98	1233	0	0	1331	555	0	115	0	670	0	1415	535	0	1950	4013
03:00 PM	2	0	11	0	13	24	314	1	0	339	142	0	41	0	183	0	326	157	0	483	1018
03:15 PM	2	5	14	0	21	21	380	0	0	401	122	0	25	0	147	0	321	142	0	463	1032
03:30 PM	5	6	10	0	21	16	342	1	0	359	159	0	19	0	178	0	270	171	0	441	999
03:45 PM	5	2	16	0	23	32	357	1	0	390	146	0	38	0	184	0	319	144	0	463	1060
Total	14	13	51	0	78	93	1393	3	0	1489	569	0	123	0	692	0	1236	614	0	1850	4109
04:00 PM	6	3	12	0	21	28	347	1	0	376	134	0	28	0	162	0	312	139	0	451	1010

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 3. Duke Street @ Walker Street
Site Code : 003
Start Date : 11/1/2018
Page No : 2

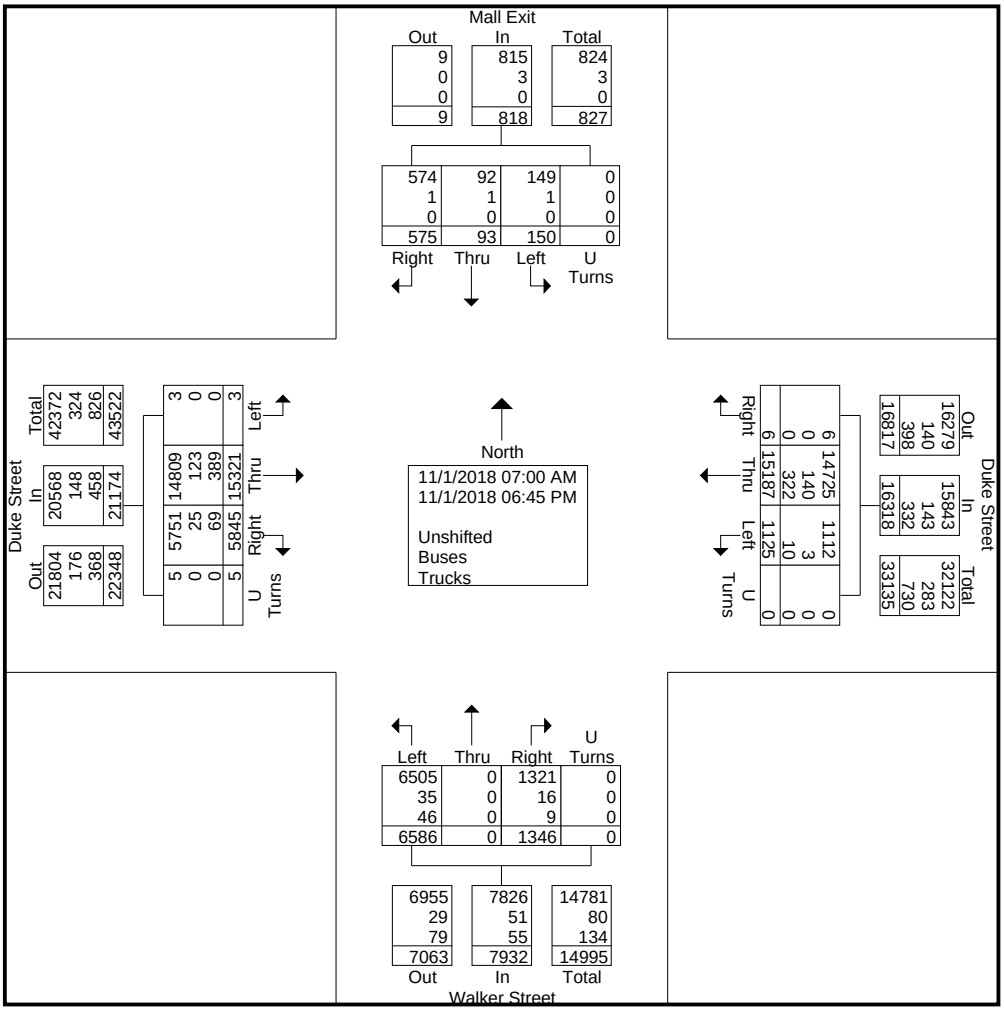
Groups Printed- Unshifted - Buses - Trucks

	Mall Exit From North					Duke Street From East					Walker Street From South					Duke Street From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	7	5	5	0	17	45	361	0	0	406	122	0	30	0	152	0	333	145	0	478	1053
04:30 PM	5	5	11	0	21	37	416	0	0	453	173	0	33	0	206	0	288	117	0	405	1085
04:45 PM	2	3	10	0	15	46	439	0	0	485	163	0	34	0	197	0	271	136	0	407	1104
Total	20	16	38	0	74	156	1563	1	0	1720	592	0	125	0	717	0	1204	537	0	1741	4252
05:00 PM	5	3	16	0	24	50	454	0	0	504	162	0	29	0	191	0	312	117	0	429	1148
05:15 PM	2	1	16	0	19	45	451	0	0	496	180	0	32	0	212	0	351	139	0	490	1217
05:30 PM	2	4	11	0	17	41	439	0	0	480	142	0	34	0	176	0	342	165	0	507	1180
05:45 PM	3	5	13	0	21	53	375	1	0	429	138	0	26	0	164	0	266	148	0	414	1028
Total	12	13	56	0	81	189	1719	1	0	1909	622	0	121	0	743	0	1271	569	0	1840	4573
06:00 PM	3	3	12	0	18	43	378	0	0	421	145	0	26	0	171	0	311	170	0	481	1091
06:15 PM	2	3	12	0	17	47	325	0	0	372	152	0	27	0	179	0	370	180	0	550	1118
06:30 PM	10	1	14	0	25	30	309	0	0	339	176	0	27	0	203	0	349	198	0	547	1114
06:45 PM	1	5	20	0	26	32	353	0	0	385	145	0	22	0	167	0	421	203	0	624	1202
Total	16	12	58	0	86	152	1365	0	0	1517	618	0	102	0	720	0	1451	751	0	2202	4525
Grand Total	150	93	575	0	818	1125	15187	6	0	16318	6586	0	1346	0	7932	3	15321	5845	5	21174	46242
Apprch %	18.3	11.4	70.3	0		6.9	93.1	0	0		83	0	17	0		0	72.4	27.6	0		
Total %	0.3	0.2	1.2	0	1.8	2.4	32.8	0	0	35.3	14.2	0	2.9	0	17.2	0	33.1	12.6	0	45.8	
Unshifted	149	92	574	0	815	1112	14725	6	0	15843	6505	0	1321	0	7826	3	14809	5751	5	20568	45052
% Unshifted	99.3	98.9	99.8	0	99.6	98.8	97	100	0	97.1	98.8	0	98.1	0	98.7	100	96.7	98.4	100	97.1	97.4
Buses	1	1	1	0	3	3	140	0	0	143	35	0	16	0	51	0	123	25	0	148	345
% Buses	0.7	1.1	0.2	0	0.4	0.3	0.9	0	0	0.9	0.5	0	1.2	0	0.6	0	0.8	0.4	0	0.7	0.7
Trucks	0	0	0	0	0	10	322	0	0	332	46	0	9	0	55	0	389	69	0	458	845
% Trucks	0	0	0	0	0	0.9	2.1	0	0	2	0.7	0	0.7	0	0.7	0	2.5	1.2	0	2.2	1.8

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 3. Duke Street @ Walker Street
Site Code : 003
Start Date : 11/1/2018
Page No : 3

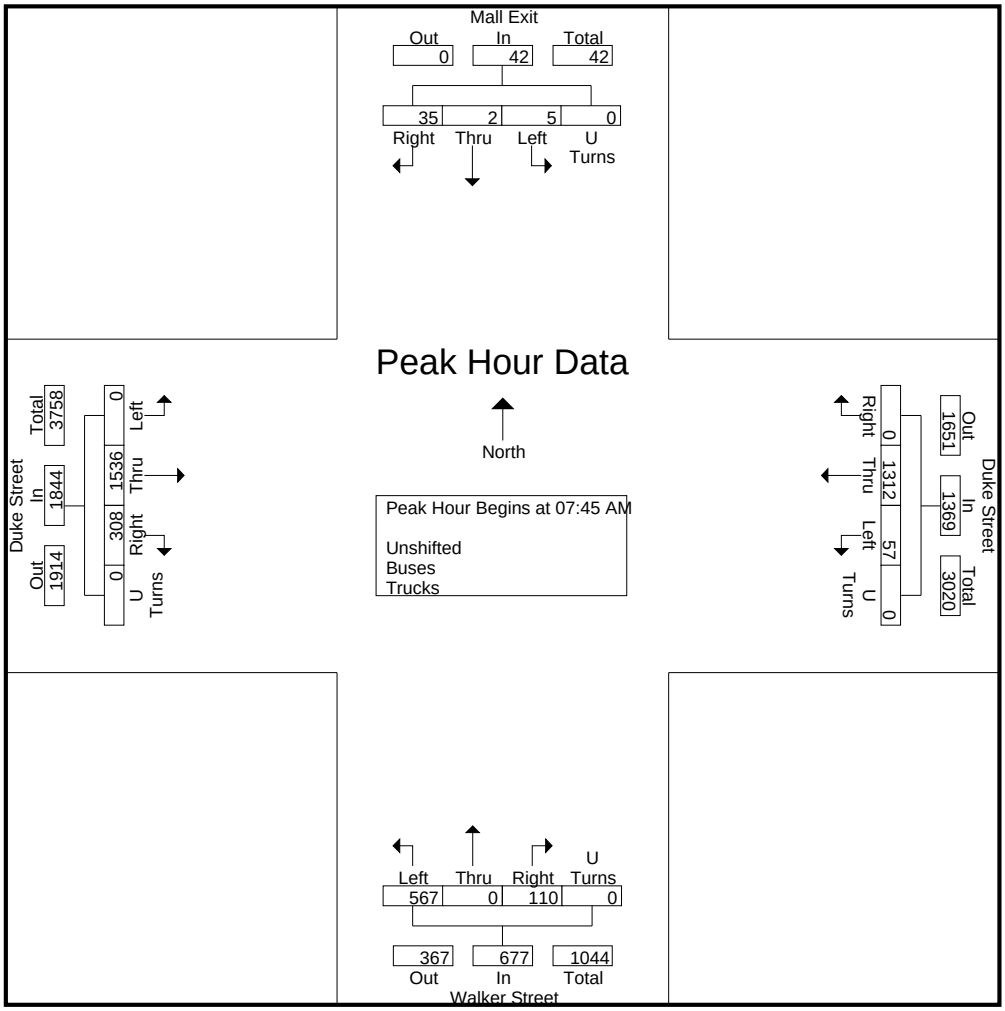


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 3. Duke Street @ Walker Street
Site Code : 003
Start Date : 11/1/2018
Page No : 4

	Mall Exit From North					Duke Street From East					Walker Street From South					Duke Street From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	1	0	4	0	5	**17**	339	0	0	**356**	**150**	0	29	0	**179**	0	397	68	0	465	**1005**
08:00 AM	0	0	4	0	4	12	**341**	0	0	353	135	0	**33**	0	168	0	374	**100**	0	474	999
08:15 AM	**3**	**1**	3	0	7	11	325	0	0	336	145	0	27	0	172	0	355	62	0	417	932
08:30 AM	1	1	**24**	0	**26**	17	307	0	0	324	137	0	21	0	158	0	**410**	78	0	**488**	996
Total Volume	5	2	35	0	42	57	1312	0	0	1369	567	0	110	0	677	0	1536	308	0	1844	3932
% App. Total	11.9	4.8	83.3	0		4.2	95.8	0	0		83.8	0	16.2	0		0	83.3	16.7	0		
PHF	.417	.500	.365	.000	.404	.838	.962	.000	.000	.961	.945	.000	.833	.000	.946	.000	.937	.770	.000	.945	.978

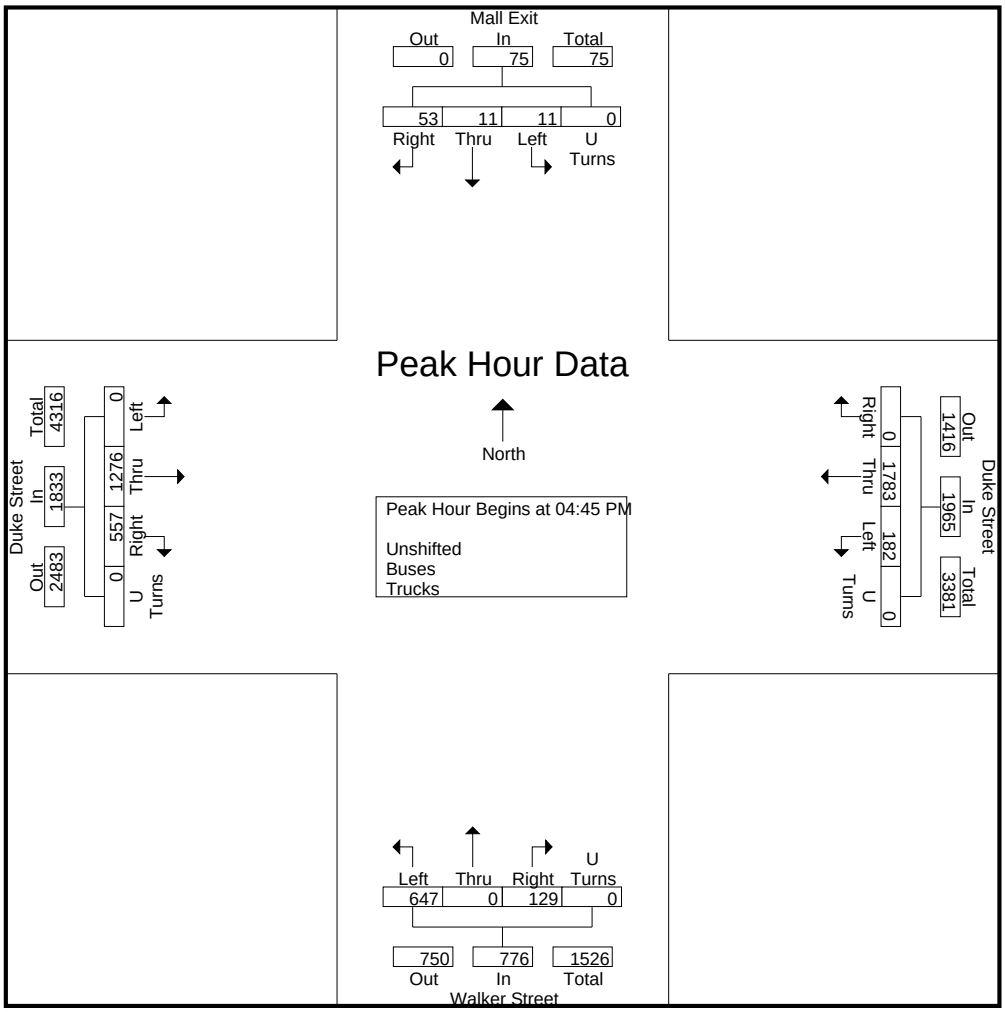


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 3. Duke Street @ Walker Street
Site Code : 003
Start Date : 11/1/2018
Page No : 5

	Mall Exit From North					Duke Street From East					Walker Street From South					Duke Street From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	2	3	10	0	15	46	439	0	0	485	163	0	**34**	0	197	0	271	136	0	407	1104
05:00 PM	**5**	3	**16**	0	**24**	**50**	**454**	0	0	**504**	162	0	29	0	191	0	312	117	0	429	1148
05:15 PM	2	1	16	0	19	45	451	0	0	496	**180**	0	32	0	**212**	0	**351**	139	0	490	**1217**
05:30 PM	2	**4**	11	0	17	41	439	0	0	480	142	0	34	0	176	0	342	**165**	0	**507**	1180
Total Volume	11	11	53	0	75	182	1783	0	0	1965	647	0	129	0	776	0	1276	557	0	1833	4649
% App. Total	14.7	14.7	70.7	0		9.3	90.7	0	0		83.4	0	16.6	0		0	69.6	30.4	0		
PHF	.550	.688	.828	.000	.781	.910	.982	.000	.000	.975	.899	.000	.949	.000	.915	.000	.909	.844	.000	.904	.955



File Name: 3. Duke Street @ Walker Street - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 003
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	Mall Exit From North				Duke Street From East				Walker Street From South				Duke Street From West			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
09:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
11:00 AM	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	2	0	0	0	5	0	0	0	1	0	0	0	0
11:30 AM	0	0	0	1	0	0	0	2	0	0	0	1	0	0	0	0
11:45 AM	0	0	0	3	0	0	0	2	0	0	0	1	0	0	0	0
12:00 PM	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	2	0	0	0	5	0	0	0	1	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	3	0	0	0	2	0	0	0	0
01:15 PM	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0
01:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0
02:00 PM	0	0	0	1	0	0	0	3	0	0	0	1	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

03:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
03:30 PM	0	0	0	3	0	0	0	5	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 4. Seminary Rd @ Pickett St
Site Code : 004
Start Date : 11/8/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	Pickett Street From North					Seminary Rd From East					Pickett Street From South					Seminary Rd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	3	0	1	0	4	8	307	0	0	315	15	0	10	0	25	0	121	13	0	134	478
07:15 AM	0	0	1	0	1	11	293	0	0	304	23	0	12	0	35	1	178	19	0	198	538
07:30 AM	0	0	2	0	2	17	355	1	0	373	29	0	25	0	54	0	231	43	0	274	703
07:45 AM	0	1	0	0	1	21	332	0	0	353	32	0	28	0	60	0	235	42	0	277	691
Total	3	1	4	0	8	57	1287	1	0	1345	99	0	75	0	174	1	765	117	0	883	2410
08:00 AM	0	0	0	0	0	23	342	0	0	365	29	0	20	0	49	0	178	38	0	216	630
08:15 AM	0	1	0	0	1	17	354	0	0	371	25	0	27	0	52	0	219	27	0	246	670
08:30 AM	0	0	1	0	1	12	302	0	0	314	10	0	11	0	21	0	154	7	0	161	497
08:45 AM	0	0	0	0	0	7	301	0	0	308	12	0	6	0	18	0	175	11	0	186	512
Total	0	1	1	0	2	59	1299	0	0	1358	76	0	64	0	140	0	726	83	0	809	2309
09:00 AM	0	0	0	0	0	8	255	0	0	263	17	0	6	0	23	0	142	14	0	156	442
09:15 AM	0	0	0	0	0	5	254	0	0	259	13	0	5	0	18	0	170	11	0	181	458
09:30 AM	0	0	1	0	1	6	216	1	0	223	13	0	9	0	22	0	135	12	0	147	393
09:45 AM	0	0	0	0	0	10	148	0	0	158	10	0	9	0	19	0	152	10	0	162	339
Total	0	0	1	0	1	29	873	1	0	903	53	0	29	0	82	0	599	47	0	646	1632
10:00 AM	0	0	0	0	0	5	185	0	0	190	8	0	7	0	15	0	126	8	0	134	339
10:15 AM	0	0	2	0	2	5	176	1	0	182	9	0	2	0	11	0	146	7	0	153	348
10:30 AM	0	0	1	0	1	1	161	0	0	162	10	0	5	0	15	1	145	12	0	158	336
10:45 AM	0	0	0	0	0	5	173	0	0	178	9	0	5	0	14	0	170	10	0	180	372
Total	0	0	3	0	3	16	695	1	0	712	36	0	19	0	55	1	587	37	0	625	1395
11:00 AM	0	0	0	0	0	6	135	0	0	141	11	0	4	0	15	1	169	8	0	178	334
11:15 AM	1	0	0	0	1	7	142	0	0	149	14	0	4	0	18	0	144	13	0	157	325
11:30 AM	0	0	0	0	0	7	149	0	0	156	12	0	8	1	21	0	147	8	0	155	332
11:45 AM	0	0	0	0	0	4	180	0	0	184	7	0	14	0	21	0	151	6	0	157	362
Total	1	0	0	0	1	24	606	0	0	630	44	0	30	1	75	1	611	35	0	647	1353
12:00 PM	0	0	0	0	0	10	156	0	0	166	9	0	6	0	15	0	137	6	0	143	324
12:15 PM	0	0	2	0	2	7	162	1	0	170	7	0	7	0	14	0	159	12	0	171	357
12:30 PM	0	0	0	0	0	9	161	0	0	170	11	0	5	0	16	0	181	16	0	197	383
12:45 PM	0	0	1	0	1	10	148	0	0	158	9	0	9	1	19	0	192	19	0	211	389
Total	0	0	3	0	3	36	627	1	0	664	36	0	27	1	64	0	669	53	0	722	1453
01:00 PM	0	0	0	0	0	3	152	0	0	155	5	0	4	0	9	1	163	10	0	174	338
01:15 PM	0	0	0	0	0	11	173	0	0	184	13	0	9	0	22	0	155	16	0	171	377
01:30 PM	0	0	0	0	0	7	149	0	0	156	7	0	4	0	11	0	185	14	0	199	366
01:45 PM	0	0	0	0	0	11	158	1	0	170	11	0	8	0	19	0	174	12	0	186	375
Total	0	0	0	0	0	32	632	1	0	665	36	0	25	0	61	1	677	52	0	730	1456
02:00 PM	0	0	0	0	0	5	174	0	0	179	10	0	13	0	23	0	187	24	0	211	413
02:15 PM	0	0	0	0	0	8	145	1	0	154	13	0	10	0	23	0	245	23	0	268	445
02:30 PM	0	0	0	0	0	15	177	0	0	192	11	0	11	0	22	0	213	22	0	235	449
02:45 PM	0	0	0	0	0	7	191	1	0	199	17	0	13	0	30	0	225	28	0	253	482
Total	0	0	0	0	0	35	687	2	0	724	51	0	47	0	98	0	870	97	0	967	1789
03:00 PM	0	0	0	0	0	17	179	0	0	196	16	0	17	0	33	0	265	33	0	298	527
03:15 PM	0	0	0	0	0	13	160	0	0	173	35	0	25	0	60	1	241	39	0	281	514
03:30 PM	1	0	0	0	1	18	212	0	0	230	25	0	24	0	49	0	285	32	0	317	597
03:45 PM	0	0	2	0	2	27	196	0	0	223	15	0	11	0	26	0	228	19	0	247	498
Total	1	0	2	0	3	75	747	0	0	822	91	0	77	0	168	1	1019	123	0	1143	2136
04:00 PM	0	0	0	0	0	23	160	1	0	184	13	0	9	0	22	0	234	26	0	260	466

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 4. Seminary Rd @ Pickett St
Site Code : 004
Start Date : 11/8/2018
Page No : 2

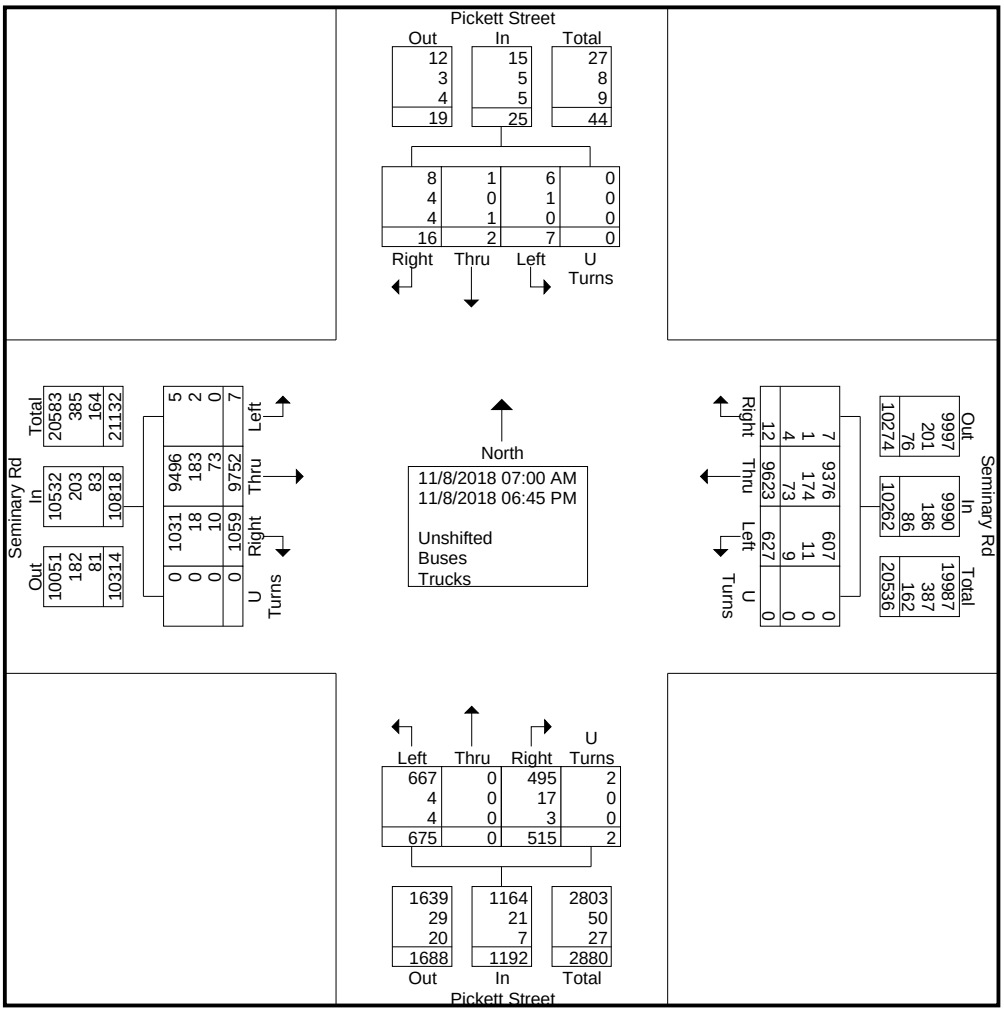
Groups Printed- Unshifted - Buses - Trucks

	Pickett Street From North					Seminary Rd From East					Pickett Street From South					Seminary Rd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	0	0	0	0	0	32	177	0	0	209	16	0	13	0	29	0	291	51	0	342	580
04:30 PM	0	0	0	0	0	25	209	0	0	234	9	0	10	0	19	0	267	27	0	294	547
04:45 PM	0	0	0	0	0	36	214	1	0	251	18	0	7	0	25	0	289	33	0	322	598
Total	0	0	0	0	0	116	760	2	0	878	56	0	39	0	95	0	1081	137	0	1218	2191
05:00 PM	0	0	0	0	0	27	208	1	0	236	16	0	9	0	25	0	270	44	0	314	575
05:15 PM	0	0	1	0	1	18	185	0	0	203	13	0	9	0	22	0	273	37	0	310	536
05:30 PM	0	0	0	0	0	14	200	0	0	214	7	0	5	0	12	0	251	36	0	287	513
05:45 PM	0	0	0	0	0	30	152	0	0	182	8	0	11	0	19	0	275	31	0	306	507
Total	0	0	1	0	1	89	745	1	0	835	44	0	34	0	78	0	1069	148	0	1217	2131
06:00 PM	1	0	0	0	1	12	177	1	0	190	21	0	14	0	35	0	243	39	0	282	508
06:15 PM	0	0	1	0	1	17	151	1	0	169	12	0	12	0	24	0	278	38	0	316	510
06:30 PM	1	0	0	0	1	13	166	0	0	179	13	0	7	0	20	0	275	30	0	305	505
06:45 PM	0	0	0	0	0	17	171	0	0	188	7	0	16	0	23	2	283	23	0	308	519
Total	2	0	1	0	3	59	665	2	0	726	53	0	49	0	102	2	1079	130	0	1211	2042
Grand Total	7	2	16	0	25	627	9623	12	0	10262	675	0	515	2	1192	7	9752	1059	0	10818	22297
Apprch %	28	8	64	0		6.1	93.8	0.1	0		56.6	0	43.2	0.2		0.1	90.1	9.8	0		
Total %	0	0	0.1	0	0.1	2.8	43.2	0.1	0	46	3	0	2.3	0	5.3	0	43.7	4.7	0	48.5	
Unshifted	6	1	8	0	15	607	9376	7	0	9990	667	0	495	2	1164	5	9496	1031	0	10532	21701
% Unshifted	85.7	50	50	0	60	96.8	97.4	58.3	0	97.3	98.8	0	96.1	100	97.7	71.4	97.4	97.4	0	97.4	97.3
Buses	1	0	4	0	5	11	174	1	0	186	4	0	17	0	21	2	183	18	0	203	415
% Buses	14.3	0	25	0	20	1.8	1.8	8.3	0	1.8	0.6	0	3.3	0	1.8	28.6	1.9	1.7	0	1.9	1.9
Trucks	0	1	4	0	5	9	73	4	0	86	4	0	3	0	7	0	73	10	0	83	181
% Trucks	0	50	25	0	20	1.4	0.8	33.3	0	0.8	0.6	0	0.6	0	0.6	0	0.7	0.9	0	0.8	0.8

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 4. Seminary Rd @ Pickett St
Site Code : 004
Start Date : 11/8/2018
Page No : 3

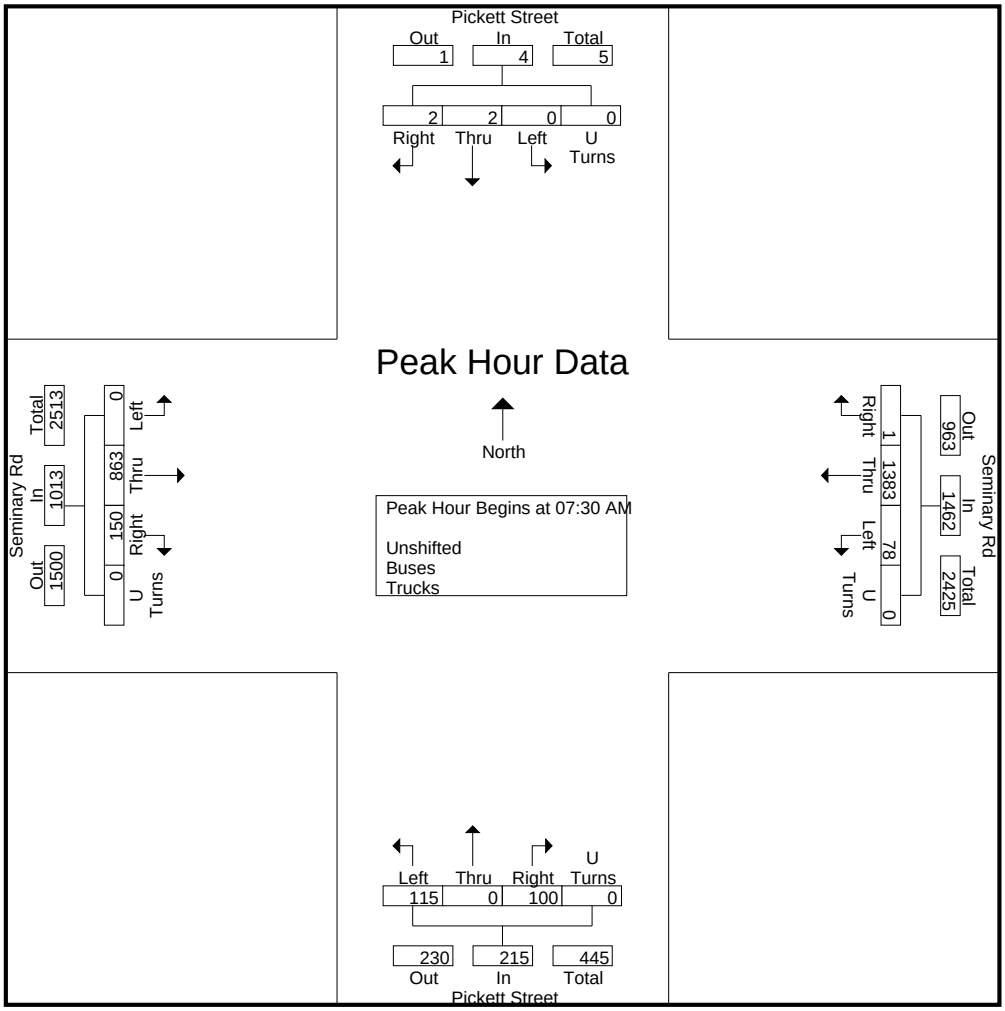


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 4. Seminary Rd @ Pickett St
Site Code : 004
Start Date : 11/8/2018
Page No : 4

	Pickett Street From North					Seminary Rd From East					Pickett Street From South					Seminary Rd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	**2**	0	**2**	17	**355**	**1**	0	**373**	29	0	25	0	54	0	231	**43**	0	274	**703**
07:45 AM	0	**1**	0	0	1	21	332	0	0	353	**32**	0	**28**	0	**60**	0	**235**	42	0	**277**	691
08:00 AM	0	0	0	0	0	**23**	342	0	0	365	29	0	20	0	49	0	178	38	0	216	630
08:15 AM	0	1	0	0	1	17	354	0	0	371	25	0	27	0	52	0	219	27	0	246	670
Total Volume	0	2	2	0	4	78	1383	1	0	1462	115	0	100	0	215	0	863	150	0	1013	2694
% App. Total	0	50	50	0		5.3	94.6	0.1	0		53.5	0	46.5	0		0	85.2	14.8	0		
PHF	.000	.500	.250	.000	.500	.848	.974	.250	.000	.980	.898	.000	.893	.000	.896	.000	.918	.872	.000	.914	.958

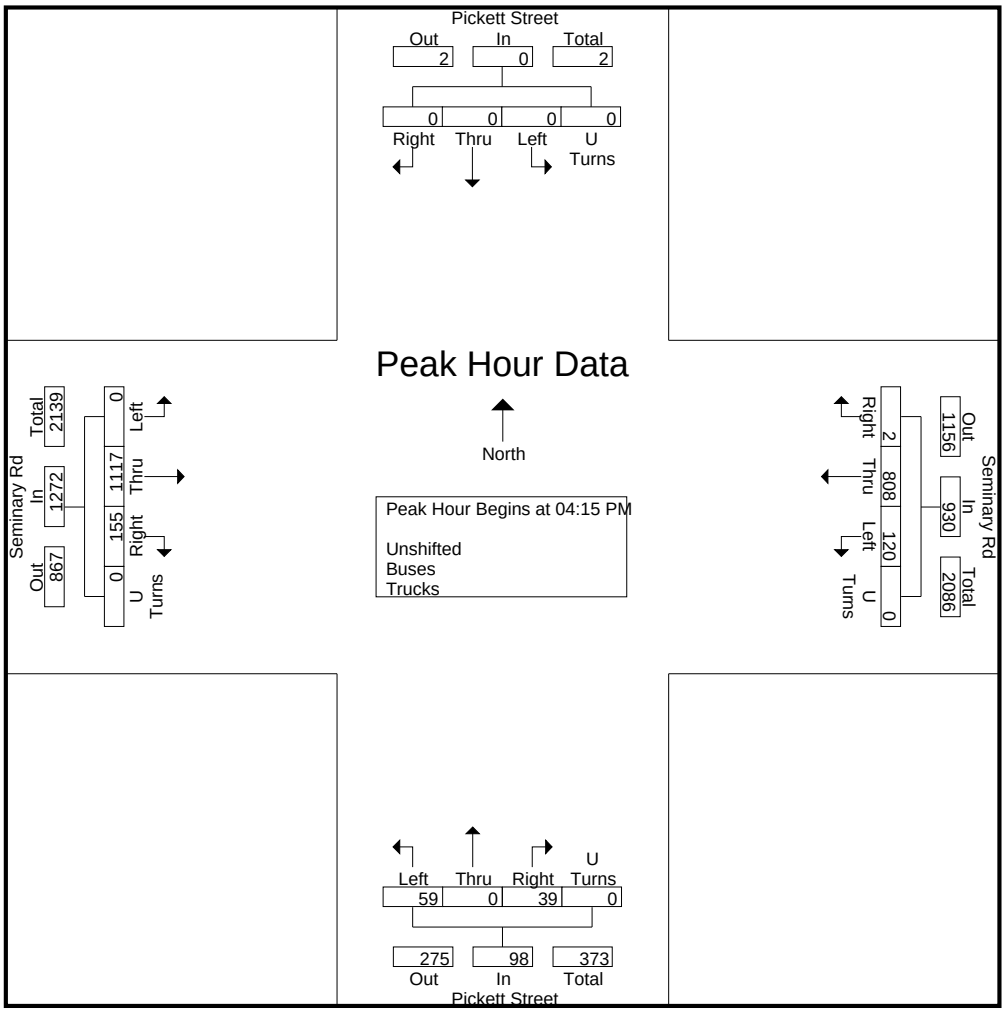


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 4. Seminary Rd @ Pickett St
Site Code : 004
Start Date : 11/8/2018
Page No : 5

	Pickett Street From North					Seminary Rd From East					Pickett Street From South					Seminary Rd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	0	0	0	32	177	0	0	209	16	0	**13**	0	**29**	0	**291**	**51**	0	**342**	580
04:30 PM	0	0	0	0	0	25	209	0	0	234	9	0	10	0	19	0	267	27	0	294	547
04:45 PM	0	0	0	0	0	**36**	**214**	**1**	0	**251**	**18**	0	7	0	25	0	289	33	0	322	**598**
05:00 PM	0	0	0	0	0	27	208	1	0	236	16	0	9	0	25	0	270	44	0	314	575
Total Volume	0	0	0	0	0	120	808	2	0	930	59	0	39	0	98	0	1117	155	0	1272	2300
% App. Total	0	0	0	0		12.9	86.9	0.2	0		60.2	0	39.8	0		0	87.8	12.2	0		
PHF	.000	.000	.000	.000	.000	.833	.944	.500	.000	.926	.819	.000	.750	.000	.845	.000	.960	.760	.000	.930	.962



File Name: 4. Seminary Rd @ Pickett St - Pedestrians
Start Date: 11/8/2018
Start Time: 7:00:00 AM
Site Code: 004
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	Pickett Street From North				Seminary Rd From East				Pickett Street From South				Seminary Rd From West			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
07:45 AM	0	0	0	2	0	0	0	3	0	0	0	5	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	1	0	0	0	7	0	0	0	0
08:15 AM	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0
09:30 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
10:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
02:30 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
03:00 PM	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0

03:15 PM	0	0	0	1	0	0	0	0	0	0	0	11	0	0	0	0
03:30 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	0
04:30 PM	0	0	0	1	0	0	0	2	0	0	0	1	0	0	0	0
04:45 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 5. Seminary Rd @ Seminary Rd(The Encore Entrance)
Site Code : 005
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	Seminary Road From North					Seminary Road From East					Seminary Road From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	3	0	6	0	9	0	270	4	0	274	0	0	0	0	0	2	148	0	0	150	433
07:15 AM	0	0	6	0	6	0	308	2	0	310	1	0	0	0	1	0	197	0	0	197	514
07:30 AM	4	0	10	0	14	0	383	5	0	388	1	0	1	0	2	1	221	0	0	222	626
07:45 AM	4	0	8	0	12	0	311	6	0	317	19	0	10	0	29	0	243	0	1	244	602
Total	11	0	30	0	41	0	1272	17	0	1289	21	0	11	0	32	3	809	0	1	813	2175
08:00 AM	1	0	8	0	9	0	321	3	0	324	35	0	13	0	48	5	201	0	1	207	588
08:15 AM	0	0	9	0	9	0	360	5	0	365	33	1	19	0	53	2	181	0	0	183	610
08:30 AM	1	0	9	0	10	0	329	2	0	331	14	0	8	0	22	4	148	0	0	152	515
08:45 AM	2	0	5	0	7	0	262	1	0	263	1	0	1	0	2	5	198	0	0	203	475
Total	4	0	31	0	35	0	1272	11	0	1283	83	1	41	0	125	16	728	0	1	745	2188
09:00 AM	1	0	7	0	8	0	275	1	0	276	3	0	2	0	5	2	147	0	0	149	438
09:15 AM	3	0	4	0	7	0	248	0	0	248	4	0	2	0	6	3	155	0	0	158	419
09:30 AM	2	0	3	0	5	0	222	4	0	226	1	0	2	0	3	2	163	1	0	166	400
09:45 AM	0	0	3	0	3	0	196	0	0	196	3	0	1	0	4	0	146	0	0	146	349
Total	6	0	17	0	23	0	941	5	0	946	11	0	7	0	18	7	611	1	0	619	1606
10:00 AM	0	0	4	0	4	0	158	3	0	161	1	0	0	0	1	2	149	0	0	151	317
10:15 AM	2	0	3	0	5	0	168	4	0	172	1	0	0	0	1	1	145	0	0	146	324
10:30 AM	1	0	4	0	5	0	182	1	0	183	1	0	2	0	3	1	138	0	0	139	330
10:45 AM	0	0	5	0	5	0	171	3	0	174	1	0	1	0	2	1	168	0	0	169	350
Total	3	0	16	0	19	0	679	11	0	690	4	0	3	0	7	5	600	0	0	605	1321
11:00 AM	1	0	6	0	7	0	124	3	0	127	3	0	1	0	4	2	168	0	0	170	308
11:15 AM	0	0	6	0	6	0	139	0	0	139	4	0	1	0	5	4	164	0	0	168	318
11:30 AM	0	0	1	0	1	0	156	3	0	159	0	0	1	0	1	1	185	0	0	186	347
11:45 AM	1	0	3	0	4	0	139	2	0	141	1	0	0	0	1	3	167	1	0	171	317
Total	2	0	16	0	18	0	558	8	0	566	8	0	3	0	11	10	684	1	0	695	1290
12:00 PM	3	0	6	0	9	0	160	0	0	160	2	0	1	0	3	3	175	0	0	178	350
12:15 PM	0	0	5	0	5	0	169	2	0	171	1	0	1	0	2	2	143	0	1	146	324
12:30 PM	1	0	5	0	6	0	184	2	0	186	1	0	1	0	2	3	183	0	0	186	380
12:45 PM	0	0	3	0	3	0	139	0	0	139	0	0	0	0	0	2	195	0	0	197	339
Total	4	0	19	0	23	0	652	4	0	656	4	0	3	0	7	10	696	0	1	707	1393
01:00 PM	3	0	3	0	6	0	171	1	0	172	1	0	0	0	1	2	197	0	0	199	378
01:15 PM	2	0	5	0	7	0	152	0	0	152	2	0	1	0	3	5	194	0	0	199	361
01:30 PM	2	0	8	0	10	0	190	1	0	191	2	1	0	0	3	3	168	0	0	171	375
01:45 PM	1	0	4	0	5	0	188	3	0	191	3	0	1	0	4	4	195	0	0	199	399
Total	8	0	20	0	28	0	701	5	0	706	8	1	2	0	11	14	754	0	0	768	1513
02:00 PM	3	0	0	0	3	0	172	4	0	176	3	0	2	0	5	2	218	0	1	221	405
02:15 PM	1	0	5	0	6	0	185	2	0	187	2	0	1	0	3	9	226	0	0	235	431
02:30 PM	1	0	4	0	5	0	206	2	0	208	1	0	2	0	3	3	241	0	0	244	460
02:45 PM	0	0	4	0	4	0	201	4	0	205	3	0	0	0	3	1	263	0	0	264	476
Total	5	0	13	0	18	0	764	12	0	776	9	0	5	0	14	15	948	0	1	964	1772
03:00 PM	2	0	2	0	4	0	201	7	0	208	4	0	2	0	6	3	307	0	0	310	528
03:15 PM	4	0	4	0	8	0	228	7	0	235	5	0	2	0	7	3	273	0	1	277	527
03:30 PM	1	0	10	0	11	0	229	2	0	231	1	0	3	0	4	8	281	0	0	289	535
03:45 PM	1	0	4	0	5	0	187	3	0	190	8	0	2	0	10	7	299	0	0	306	511
Total	8	0	20	0	28	0	845	19	0	864	18	0	9	0	27	21	1160	0	1	1182	2101
04:00 PM	2	0	6	0	8	0	188	2	0	190	10	1	3	0	14	8	300	0	0	308	520

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 5. Seminary Rd @ Seminary Rd(The Encore Entrance)
Site Code : 005
Start Date : 11/1/2018
Page No : 2

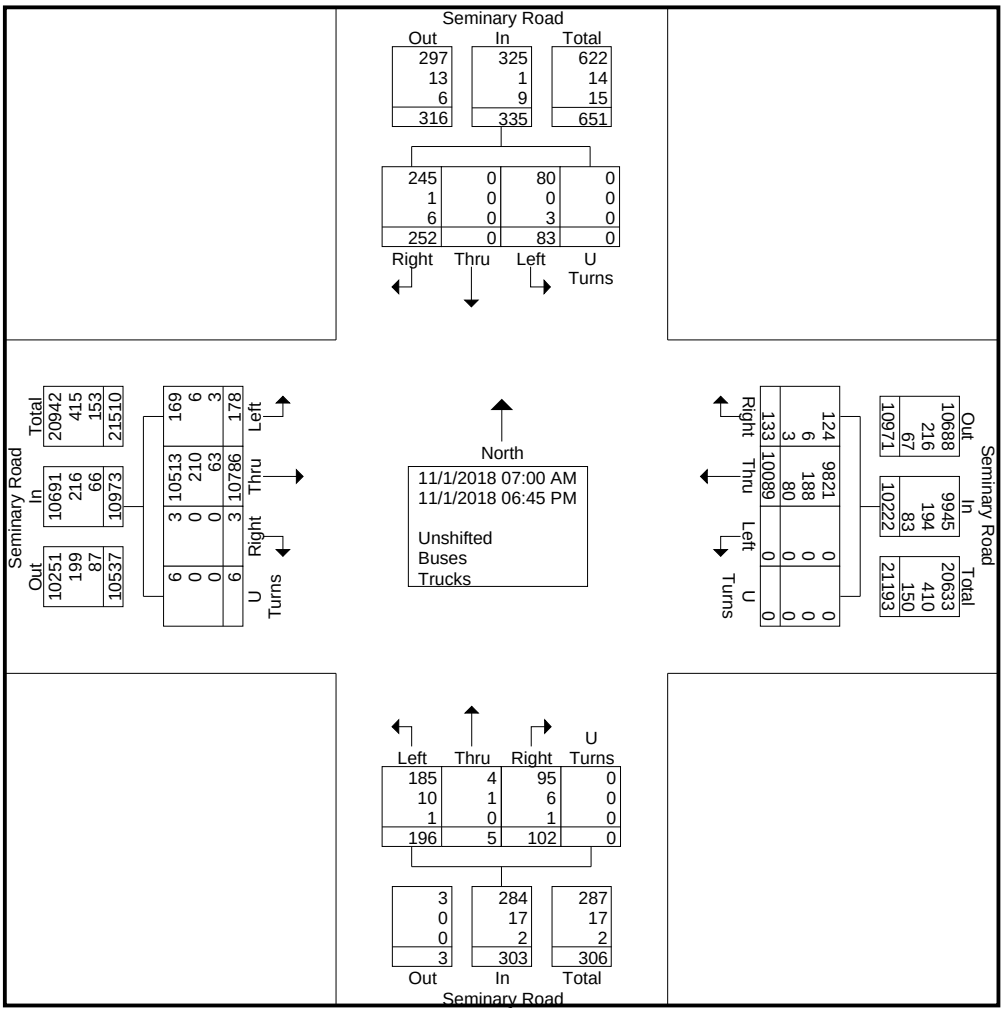
Groups Printed- Unshifted - Buses - Trucks

	Seminary Road From North					Seminary Road From East					Seminary Road From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	1	0	2	0	3	0	212	3	0	215	8	0	0	0	8	4	315	0	1	320	546
04:30 PM	6	0	9	0	15	0	229	5	0	234	2	0	1	0	3	4	289	0	0	293	545
04:45 PM	4	0	3	0	7	0	180	3	0	183	0	0	1	0	1	0	328	0	0	328	519
Total	13	0	20	0	33	0	809	13	0	822	20	1	5	0	26	16	1232	0	1	1249	2130
05:00 PM	5	0	4	0	9	0	211	2	0	213	0	0	0	0	0	7	342	0	0	349	571
05:15 PM	3	0	9	0	12	0	235	5	0	240	2	0	2	0	4	7	347	0	0	354	610
05:30 PM	1	0	8	0	9	0	239	6	0	245	1	0	1	0	2	13	342	0	0	355	611
05:45 PM	3	0	7	0	10	0	208	4	0	212	2	0	2	0	4	8	294	0	0	302	528
Total	12	0	28	0	40	0	893	17	0	910	5	0	5	0	10	35	1325	0	0	1360	2320
06:00 PM	0	0	5	0	5	0	209	1	0	210	3	2	2	0	7	6	325	1	0	332	554
06:15 PM	2	0	6	0	8	0	166	1	0	167	0	0	0	0	0	4	274	0	0	278	453
06:30 PM	2	0	5	0	7	0	176	6	0	182	1	0	4	0	5	10	332	0	0	342	536
06:45 PM	3	0	6	0	9	0	152	3	0	155	1	0	2	0	3	6	308	0	0	314	481
Total	7	0	22	0	29	0	703	11	0	714	5	2	8	0	15	26	1239	1	0	1266	2024
Grand Total	83	0	252	0	335	0	10089	133	0	10222	196	5	102	0	303	178	10786	3	6	10973	21833
Apprch %	24.8	0	75.2	0		0	98.7	1.3	0		64.7	1.7	33.7	0		1.6	98.3	0	0.1		
Total %	0.4	0	1.2	0	1.5	0	46.2	0.6	0	46.8	0.9	0	0.5	0	1.4	0.8	49.4	0	0	50.3	
Unshifted	80	0	245	0	325	0	9821	124	0	9945	185	4	95	0	284	169	10513	3	6	10691	21245
% Unshifted	96.4	0	97.2	0	97	0	97.3	93.2	0	97.3	94.4	80	93.1	0	93.7	94.9	97.5	100	100	97.4	97.3
Buses	0	0	1	0	1	0	188	6	0	194	10	1	6	0	17	6	210	0	0	216	428
% Buses	0	0	0.4	0	0.3	0	1.9	4.5	0	1.9	5.1	20	5.9	0	5.6	3.4	1.9	0	0	2	2
Trucks	3	0	6	0	9	0	80	3	0	83	1	0	1	0	2	3	63	0	0	66	160
% Trucks	3.6	0	2.4	0	2.7	0	0.8	2.3	0	0.8	0.5	0	1	0	0.7	1.7	0.6	0	0	0.6	0.7

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 5. Seminary Rd @ Seminary Rd(The Encore Entrance)
Site Code : 005
Start Date : 11/1/2018
Page No : 3

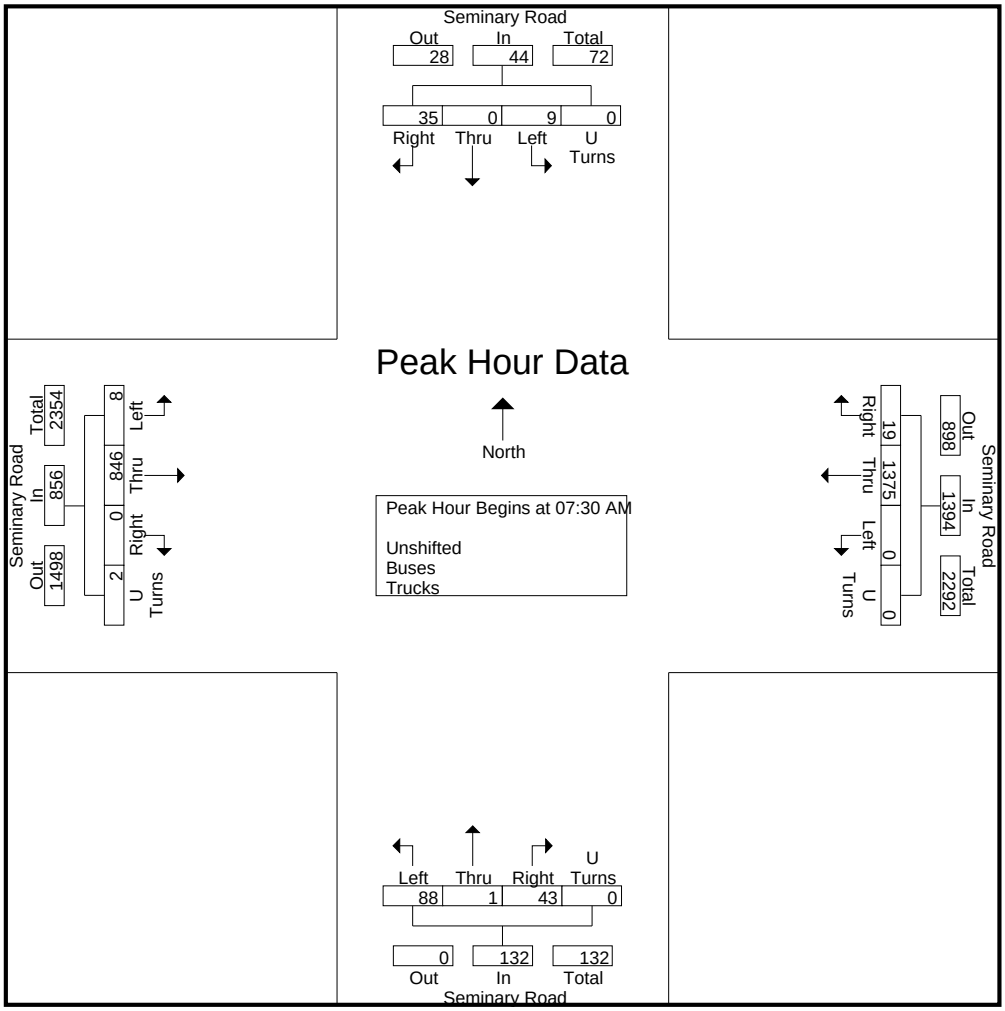


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 5. Seminary Rd @ Seminary Rd(The Encore Entrance)
Site Code : 005
Start Date : 11/1/2018
Page No : 4

	Seminary Road From North					Seminary Road From East					Seminary Road From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	**4**	0	**10**	0	**14**	0	**383**	5	0	**388**	1	0	1	0	2	1	221	0	0	222	**626**
07:45 AM	4	0	8	0	12	0	311	**6**	0	317	19	0	10	0	29	0	**243**	0	**1**	**244**	602
08:00 AM	1	0	8	0	9	0	321	3	0	324	**35**	0	13	0	48	**5**	201	0	1	207	588
08:15 AM	0	0	9	0	9	0	360	5	0	365	33	**1**	**19**	0	**53**	2	181	0	0	183	610
Total Volume	9	0	35	0	44	0	1375	19	0	1394	88	1	43	0	132	8	846	0	2	856	2426
% App. Total	20.5	0	79.5	0		0	98.6	1.4	0		66.7	0.8	32.6	0		0.9	98.8	0	0.2		
PHF	.563	.000	.875	.000	.786	.000	.898	.792	.000	.898	.629	.250	.566	.000	.623	.400	.870	.000	.500	.877	.969

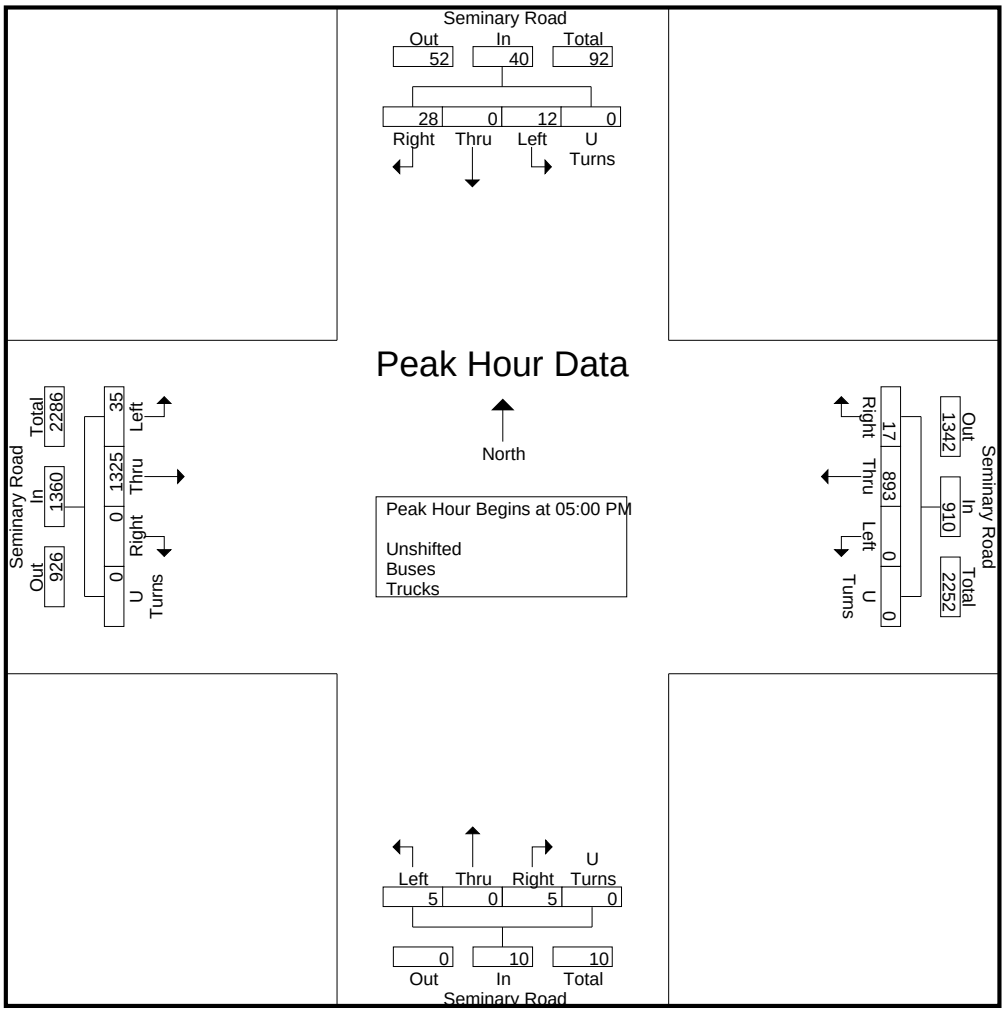


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 5. Seminary Rd @ Seminary Rd(The Encore Entrance)
Site Code : 005
Start Date : 11/1/2018
Page No : 5

	Seminary Road From North					Seminary Road From East					Seminary Road From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	**5**	0	4	0	9	0	211	2	0	213	0	0	0	0	0	7	342	0	0	349	571
05:15 PM	3	0	**9**	0	**12**	0	235	5	0	240	**2**	0	**2**	0	**4**	7	**347**	0	0	354	610
05:30 PM	1	0	8	0	9	0	**239**	**6**	0	**245**	1	0	1	0	2	**13**	342	0	0	**355**	**611**
05:45 PM	3	0	7	0	10	0	208	4	0	212	2	0	2	0	4	8	294	0	0	302	528
Total Volume	12	0	28	0	40	0	893	17	0	910	5	0	5	0	10	35	1325	0	0	1360	2320
% App. Total	30	0	70	0		0	98.1	1.9	0		50	0	50	0		2.6	97.4	0	0		
PHF	.600	.000	.778	.000	.833	.000	.934	.708	.000	.929	.625	.000	.625	.000	.625	.673	.955	.000	.000	.958	.949



File Name: 5. Seminary Rd @ Seminary Rd(The Encore Entrance) - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 005
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	Seminary Road From North				Seminary Road From East				Seminary Road From South				Seminary Road From West			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
07:15 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
07:45 AM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0
08:00 AM	0	0	0	2	0	0	0	4	0	0	0	2	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
08:45 AM	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
09:15 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
09:30 AM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0
09:45 AM	0	0	0	2	0	0	0	1	0	0	0	1	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
10:45 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	2	0	0	0	3	0	0	0	3	0	0	0	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
01:15 PM	0	0	0	2	0	0	0	1	0	0	0	2	0	0	0	0
01:30 PM	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0
01:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0
02:15 PM	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
02:45 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0

03:15 PM	0	0	0	4	0	0	0	4	0	0	0	1	0	0	0	0
03:30 PM	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0
03:45 PM	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	4	0	0	0	0	0	0	0	1	0	0	0	0
04:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	3	0	0	0	1	0	0	0	5	0	0	0	0
04:45 PM	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0
05:00 PM	0	0	0	2	0	0	0	6	0	0	0	2	0	0	0	0
05:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	1	0	0	0	2	0	0	0	4	0	0	0	0
05:45 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	3	0	0	0	2	0	0	0	0
06:15 PM	0	0	0	2	0	0	0	0	0	0	0	3	0	0	0	0
06:30 PM	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 6. Seminary Rd @ Kenmore Rd & Library Ln
Site Code : 006
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	Library Lane From North					Seminary Road From East					Kenmore Ave From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	4	3	8	0	15	3	257	5	0	265	8	1	1	0	10	24	141	2	2	169	459
07:15 AM	2	2	10	0	14	1	301	9	0	311	8	1	5	0	14	30	186	2	3	221	560
07:30 AM	12	1	9	0	22	3	345	12	0	360	15	2	1	0	18	41	204	1	3	249	649
07:45 AM	7	3	11	0	21	3	359	11	0	373	7	2	6	0	15	43	277	2	2	324	733
Total	25	9	38	0	72	10	1262	37	0	1309	38	6	13	0	57	138	808	7	10	963	2401
08:00 AM	14	1	9	0	24	9	299	24	0	332	15	4	5	0	24	42	213	3	6	264	644
08:15 AM	10	4	12	0	26	6	347	29	0	382	8	2	4	0	14	49	215	4	2	270	692
08:30 AM	9	2	9	0	20	3	356	29	0	388	6	3	1	0	10	50	150	1	0	201	619
08:45 AM	11	1	16	0	28	2	216	15	0	233	7	1	2	0	10	44	192	1	2	239	510
Total	44	8	46	0	98	20	1218	97	0	1335	36	10	12	0	58	185	770	9	10	974	2465
09:00 AM	19	3	12	0	34	4	276	27	0	307	9	0	2	0	11	40	138	1	2	181	533
09:15 AM	17	1	15	0	33	2	240	24	0	266	5	2	2	0	9	34	141	4	4	183	491
09:30 AM	11	0	8	0	19	2	206	23	0	231	7	1	3	0	11	46	146	6	1	199	460
09:45 AM	9	3	16	0	28	3	169	18	0	190	3	2	1	0	6	49	139	2	0	190	414
Total	56	7	51	0	114	11	891	92	0	994	24	5	8	0	37	169	564	13	7	753	1898
10:00 AM	11	2	11	0	24	2	151	10	0	163	3	0	0	0	3	55	142	1	5	203	393
10:15 AM	15	3	6	0	24	2	162	12	0	176	7	2	1	0	10	42	130	1	5	178	388
10:30 AM	21	0	19	0	40	2	145	20	0	167	6	1	0	0	7	46	140	1	0	187	401
10:45 AM	22	1	9	0	32	0	176	19	0	195	6	2	1	0	9	52	132	3	4	191	427
Total	69	6	45	0	120	6	634	61	0	701	22	5	2	0	29	195	544	6	14	759	1609
11:00 AM	22	1	8	0	31	3	114	13	0	130	3	0	2	0	5	31	155	4	0	190	356
11:15 AM	22	2	9	0	33	1	143	12	0	156	5	1	3	0	9	47	147	1	2	197	395
11:30 AM	17	0	17	0	34	3	138	10	0	151	4	0	3	0	7	50	167	3	0	220	412
11:45 AM	12	1	15	0	28	1	133	10	0	144	3	0	0	0	3	40	147	4	1	192	367
Total	73	4	49	0	126	8	528	45	0	581	15	1	8	0	24	168	616	12	3	799	1530
12:00 PM	15	1	16	0	32	7	137	15	0	159	2	2	1	0	5	40	156	0	4	200	396
12:15 PM	12	3	8	0	23	8	163	11	0	182	2	2	3	0	7	54	143	1	2	200	412
12:30 PM	19	4	10	0	33	2	168	25	0	195	2	1	1	0	4	57	163	4	1	225	457
12:45 PM	17	2	19	0	38	3	113	13	0	129	3	0	1	0	4	63	180	3	2	248	419
Total	63	10	53	0	126	20	581	64	0	665	9	5	6	0	20	214	642	8	9	873	1684
01:00 PM	21	2	4	0	27	5	164	14	0	183	9	1	1	0	11	49	175	1	0	225	446
01:15 PM	8	3	16	0	27	0	149	16	0	165	2	1	3	0	6	64	181	2	3	250	448
01:30 PM	11	4	17	0	32	2	172	17	0	191	4	1	0	0	5	48	156	2	2	208	436
01:45 PM	13	6	17	0	36	8	160	15	0	183	6	4	2	0	12	68	170	2	0	240	471
Total	53	15	54	0	122	15	645	62	0	722	21	7	6	0	34	229	682	7	5	923	1801
02:00 PM	19	2	10	0	31	6	147	19	0	172	8	0	5	0	13	61	213	2	1	277	493
02:15 PM	24	5	11	0	40	6	167	20	0	193	5	3	1	0	9	55	181	3	0	239	481
02:30 PM	19	3	11	0	33	6	183	18	0	207	7	1	1	0	9	46	251	1	0	298	547
02:45 PM	18	4	10	0	32	7	181	21	0	209	11	0	4	0	15	52	236	8	1	297	553
Total	80	14	42	0	136	25	678	78	0	781	31	4	11	0	46	214	881	14	2	1111	2074
03:00 PM	25	5	13	0	43	5	189	24	0	218	7	1	3	0	11	61	291	8	2	362	634
03:15 PM	22	6	14	0	42	3	207	24	0	234	11	6	2	0	19	35	231	9	2	277	572
03:30 PM	27	4	21	0	52	5	209	29	0	243	11	3	1	0	15	51	272	4	1	328	638
03:45 PM	25	4	16	0	45	5	179	16	0	200	5	1	1	0	7	52	280	5	1	338	590
Total	99	19	64	0	182	18	784	93	0	895	34	11	7	0	52	199	1074	26	6	1305	2434
04:00 PM	26	2	6	0	34	2	189	14	0	205	10	5	5	0	20	60	267	9	0	336	595

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 6. Seminary Rd @ Kenmore Rd & Library Ln
Site Code : 006
Start Date : 11/1/2018
Page No : 2

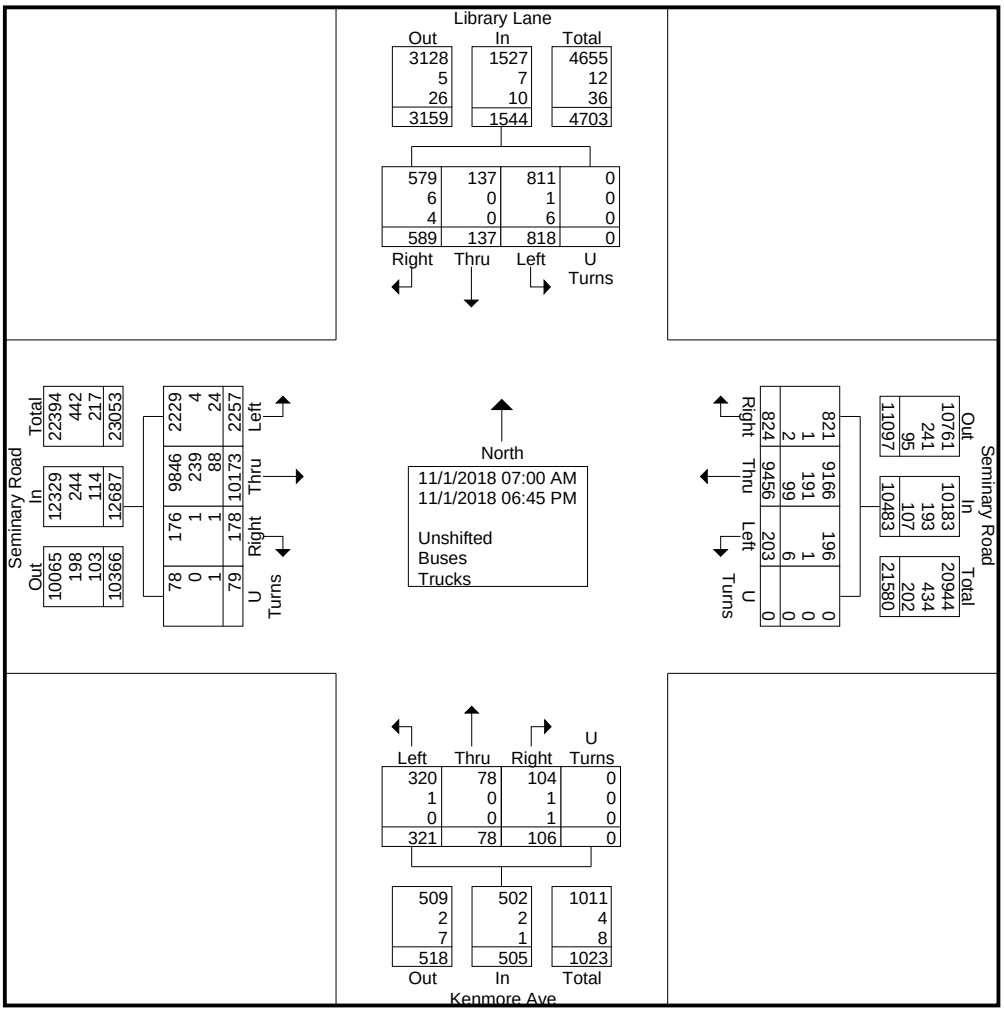
Groups Printed- Unshifted - Buses - Trucks

	Library Lane From North					Seminary Road From East					Kenmore Ave From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	22	5	10	0	37	5	188	10	0	203	7	2	4	0	13	44	263	7	1	315	568
04:30 PM	21	2	14	0	37	5	238	23	0	266	8	1	1	0	10	33	292	2	4	331	644
04:45 PM	21	2	16	0	39	3	151	18	0	172	12	2	2	0	16	44	307	6	2	359	586
Total	90	11	46	0	147	15	766	65	0	846	37	10	12	0	59	181	1129	24	7	1341	2393
05:00 PM	28	1	18	0	47	10	191	14	0	215	8	5	5	0	18	46	300	5	1	352	632
05:15 PM	21	4	15	0	40	6	209	25	0	240	11	1	3	0	15	45	338	6	2	391	686
05:30 PM	25	5	13	0	43	11	226	20	0	257	5	1	2	0	8	50	346	6	0	402	710
05:45 PM	27	5	9	0	41	9	190	10	0	209	4	1	4	0	9	56	275	9	1	341	600
Total	101	15	55	0	171	36	816	69	0	921	28	8	14	0	50	197	1259	26	4	1486	2628
06:00 PM	25	2	10	0	37	5	182	18	0	205	8	2	3	0	13	40	330	10	2	382	637
06:15 PM	16	5	17	0	38	5	168	14	0	187	7	1	1	0	9	42	269	6	0	317	551
06:30 PM	12	7	7	0	26	4	156	16	0	176	5	1	3	0	9	37	319	2	0	358	569
06:45 PM	12	5	12	0	29	5	147	13	0	165	6	2	0	0	8	49	286	8	0	343	545
Total	65	19	46	0	130	19	653	61	0	733	26	6	7	0	39	168	1204	26	2	1400	2302
Grand Total	818	137	589	0	1544	203	9456	824	0	10483	321	78	106	0	505	2257	10173	178	79	12687	25219
Apprch %	53	8.9	38.1	0		1.9	90.2	7.9	0		63.6	15.4	21	0		17.8	80.2	1.4	0.6		
Total %	3.2	0.5	2.3	0	6.1	0.8	37.5	3.3	0	41.6	1.3	0.3	0.4	0	2	8.9	40.3	0.7	0.3	50.3	
Unshifted	811	137	579	0	1527	196	9166	821	0	10183	320	78	104	0	502	2229	9846	176	78	12329	24541
% Unshifted	99.1	100	98.3	0	98.9	96.6	96.9	99.6	0	97.1	99.7	100	98.1	0	99.4	98.8	96.8	98.9	98.7	97.2	97.3
Buses	1	0	6	0	7	1	191	1	0	193	1	0	1	0	2	4	239	1	0	244	446
% Buses	0.1	0	1	0	0.5	0.5	2	0.1	0	1.8	0.3	0	0.9	0	0.4	0.2	2.3	0.6	0	1.9	1.8
Trucks	6	0	4	0	10	6	99	2	0	107	0	0	1	0	1	24	88	1	1	114	232
% Trucks	0.7	0	0.7	0	0.6	3	1	0.2	0	1	0	0	0.9	0	0.2	1.1	0.9	0.6	1.3	0.9	0.9

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 6. Seminary Rd @ Kenmore Rd & Library Ln
Site Code : 006
Start Date : 11/1/2018
Page No : 3

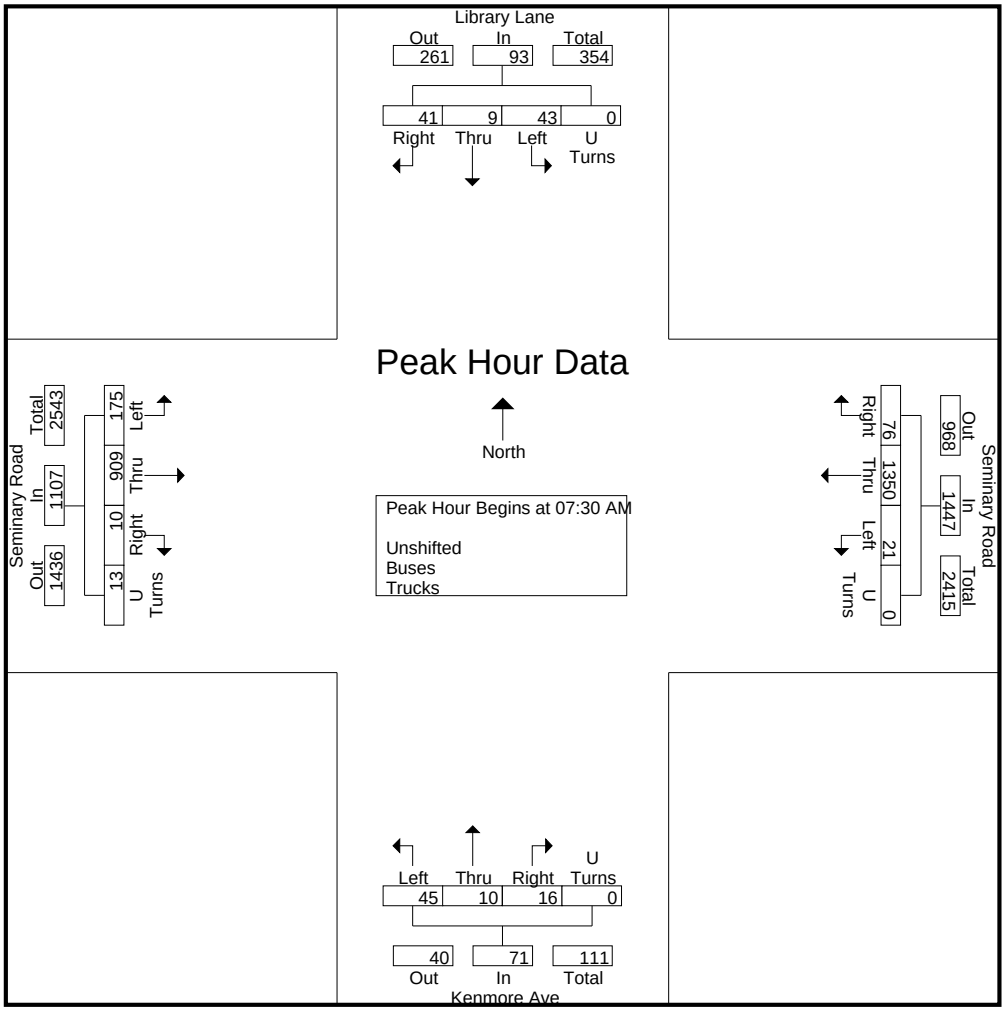


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 6. Seminary Rd @ Kenmore Rd & Library Ln
Site Code : 006
Start Date : 11/1/2018
Page No : 4

	Library Lane From North					Seminary Road From East					Kenmore Ave From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	12	1	9	0	22	3	345	12	0	360	**15**	2	1	0	18	41	204	1	3	249	649
07:45 AM	7	3	11	0	21	3	**359**	11	0	373	7	2	**6**	0	15	43	**277**	2	2	**324**	**733**
08:00 AM	**14**	1	9	0	24	**9**	299	24	0	332	15	**4**	5	0	**24**	42	213	3	**6**	264	644
08:15 AM	10	**4**	**12**	0	**26**	6	347	**29**	0	**382**	8	2	4	0	14	**49**	215	**4**	2	270	692
Total Volume	43	9	41	0	93	21	1350	76	0	1447	45	10	16	0	71	175	909	10	13	1107	2718
% App. Total	46.2	9.7	44.1	0		1.5	93.3	5.3	0		63.4	14.1	22.5	0		15.8	82.1	0.9	1.2		
PHF	.768	.563	.854	.000	.894	.583	.940	.655	.000	.947	.750	.625	.667	.000	.740	.893	.820	.625	.542	.854	.927

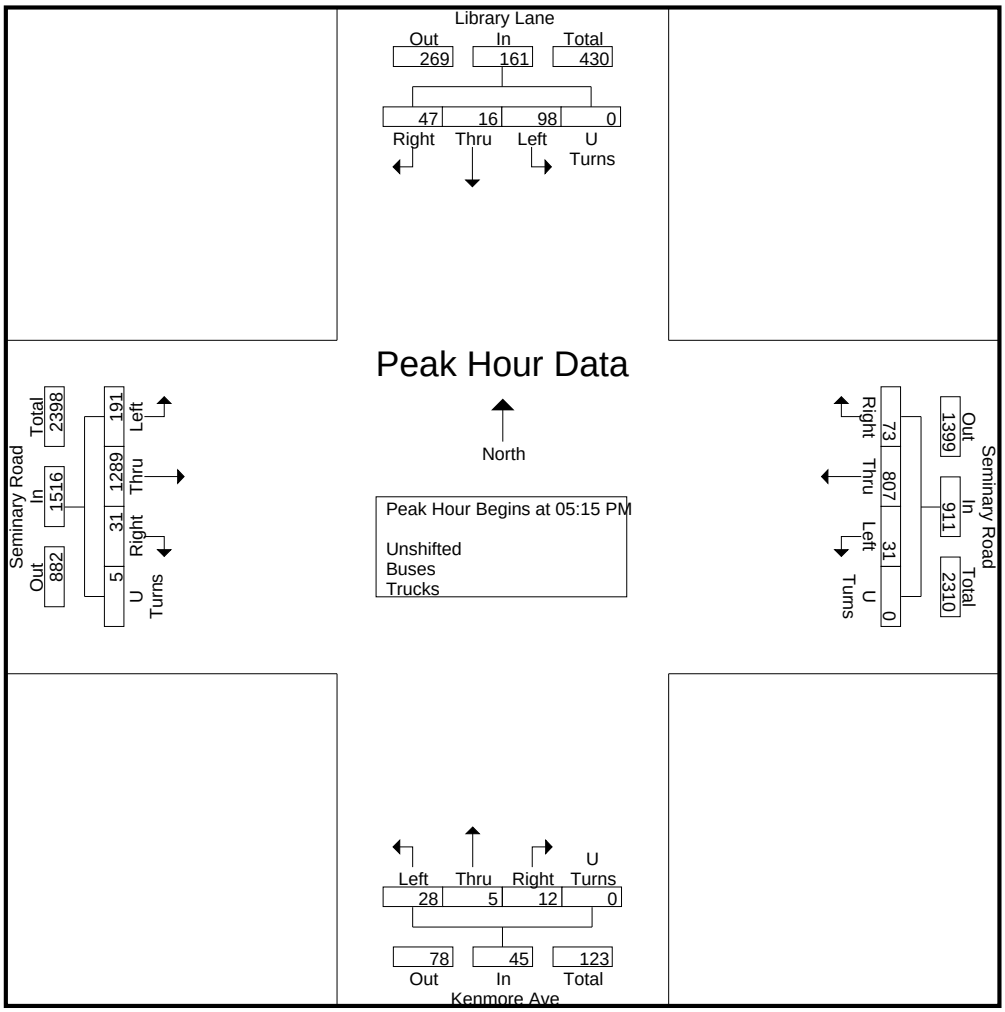


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 6. Seminary Rd @ Kenmore Rd & Library Ln
Site Code : 006
Start Date : 11/1/2018
Page No : 5

	Library Lane From North					Seminary Road From East					Kenmore Ave From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:15 PM																					
05:15 PM	21	4	**15**	0	40	6	209	**25**	0	240	**11**	1	3	0	**15**	45	338	6	**2**	391	686
05:30 PM	25	**5**	13	0	**43**	**11**	**226**	20	0	**257**	5	1	2	0	8	50	**346**	6	0	**402**	**710**
05:45 PM	**27**	5	9	0	41	9	190	10	0	209	4	1	**4**	0	9	**56**	275	9	1	341	600
06:00 PM	25	2	10	0	37	5	182	18	0	205	8	**2**	3	0	13	40	330	**10**	2	382	637
Total Volume	98	16	47	0	161	31	807	73	0	911	28	5	12	0	45	191	1289	31	5	1516	2633
% App. Total	60.9	9.9	29.2	0		3.4	88.6	8	0		62.2	11.1	26.7	0		12.6	85	2	0.3		
PHF	.907	.800	.783	.000	.936	.705	.893	.730	.000	.886	.636	.625	.750	.000	.750	.853	.931	.775	.625	.943	.927



File Name: 6. Seminary Rd @ Kenmore Rd & Library Ln - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 006
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	Library Lane From North				Seminary Road From East				Kenmore Ave From South				Seminary Road From West			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
07:00 AM	0	0	0	2	0	0	0	2	0	0	0	1	0	0	0	2
07:15 AM	0	0	0	3	0	0	0	1	0	0	0	2	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	6
07:45 AM	0	0	0	0	0	0	0	2	0	0	0	15	0	0	0	7
08:00 AM	0	0	0	4	0	0	0	11	0	0	0	31	0	0	0	16
08:15 AM	0	0	0	0	0	0	0	3	0	0	0	18	0	0	0	4
08:30 AM	0	0	0	1	0	0	0	3	0	0	0	8	0	0	0	8
08:45 AM	0	0	0	1	0	0	0	1	0	0	0	2	0	0	0	4
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	5
09:15 AM	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	4
09:30 AM	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	1
09:45 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	8
10:00 AM	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	6
10:15 AM	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	5
10:30 AM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	2
10:45 AM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	2
11:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	5
11:15 AM	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	4
11:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	6
11:45 AM	0	0	0	4	0	0	0	2	0	0	0	3	0	0	0	6
12:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	6
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	4
12:45 PM	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	2
01:00 PM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	6
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	5
01:30 PM	0	0	0	0	0	0	0	3	0	0	0	4	0	0	0	5
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	8
02:00 PM	0	0	0	1	0	0	0	4	0	0	0	2	0	0	0	6
02:15 PM	0	0	0	2	0	0	0	3	0	0	0	2	0	0	0	14
02:30 PM	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	4
02:45 PM	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0	5
03:00 PM	0	0	0	1	0	0	0	2	0	0	0	1	0	0	0	7

03:15 PM	0	0	0	2	0	0	0	42	0	0	0	49	0	0	0	24
03:30 PM	0	0	0	3	0	0	0	16	0	0	0	5	0	0	0	14
03:45 PM	0	0	0	0	0	0	0	9	0	0	0	2	0	0	0	11
04:00 PM	0	0	0	5	0	0	0	10	0	0	0	6	0	0	0	15
04:15 PM	0	0	0	3	0	0	0	17	0	0	0	8	0	0	0	16
04:30 PM	0	0	0	1	0	0	0	2	0	0	0	4	0	0	0	12
04:45 PM	0	0	0	0	0	0	0	4	0	0	0	7	0	0	0	7
05:00 PM	0	0	0	5	0	0	0	2	0	0	0	4	0	0	0	10
05:15 PM	0	0	0	1	0	0	0	6	0	0	0	6	0	0	0	17
05:30 PM	0	0	0	0	0	0	0	5	0	0	0	6	0	0	0	11
05:45 PM	0	0	0	5	0	0	0	3	0	0	0	8	0	0	0	13
06:00 PM	0	0	0	0	0	0	0	1	0	0	0	8	0	0	0	10
06:15 PM	0	0	0	0	0	0	0	12	0	0	0	7	0	0	0	14
06:30 PM	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0	9
06:45 PM	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	12

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 7. Seminary Rd @ I-395 NB HOV Off-Ramp
Site Code : 007
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	From North					Seminary Road From East					I-395 NB HOV Ramp From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	158	0	0	158	32	0	8	0	40	0	94	0	0	94	292
07:15 AM	0	0	0	0	0	0	180	0	0	180	59	0	17	0	76	0	123	0	0	123	379
07:30 AM	0	0	0	0	0	0	208	0	0	208	45	0	25	0	70	0	123	0	0	123	401
07:45 AM	0	0	0	0	0	0	177	0	0	177	63	0	26	0	89	0	163	0	0	163	429
Total	0	0	0	0	0	0	723	0	0	723	199	0	76	0	275	0	503	0	0	503	1501
08:00 AM	0	0	0	0	0	0	179	0	0	179	43	0	10	0	53	0	143	0	0	143	375
08:15 AM	0	0	0	0	0	0	243	0	0	243	41	0	13	0	54	0	154	0	0	154	451
08:30 AM	0	0	0	0	0	0	238	0	0	238	25	0	14	0	39	0	97	0	0	97	374
08:45 AM	0	0	0	0	0	0	170	0	0	170	16	0	5	0	21	0	119	0	0	119	310
Total	0	0	0	0	0	0	830	0	0	830	125	0	42	0	167	0	513	0	0	513	1510
09:00 AM	0	0	0	0	0	0	179	0	0	179	50	0	14	0	64	0	100	0	0	100	343
09:15 AM	0	0	0	0	0	0	144	0	0	144	53	0	12	0	65	0	115	0	0	115	324
09:30 AM	0	0	0	0	0	0	122	0	0	122	59	0	10	0	69	0	118	0	0	118	309
09:45 AM	0	0	0	0	0	0	101	0	0	101	44	0	12	0	56	0	93	0	0	93	250
Total	0	0	0	0	0	0	546	0	0	546	206	0	48	0	254	0	426	0	0	426	1226
10:00 AM	0	0	0	0	0	0	93	0	0	93	41	0	11	0	52	0	99	0	0	99	244
10:15 AM	0	0	0	0	0	0	99	0	0	99	32	0	11	0	43	0	96	0	0	96	238
10:30 AM	0	0	0	0	0	0	85	0	0	85	12	0	7	0	19	0	93	0	0	93	197
10:45 AM	0	0	0	0	0	0	125	0	0	125	23	0	6	0	29	0	96	0	0	96	250
Total	0	0	0	0	0	0	402	0	0	402	108	0	35	0	143	0	384	0	0	384	929
11:00 AM	0	0	0	0	0	0	81	0	0	81	10	0	2	0	12	0	97	0	0	97	190
11:15 AM	0	0	0	0	0	0	84	0	0	84	4	0	5	0	9	0	105	0	0	105	198
11:30 AM	0	0	0	0	0	0	92	0	0	92	0	0	0	0	0	0	132	0	0	132	224
11:45 AM	0	0	0	0	0	0	90	0	0	90	1	0	0	0	1	0	128	2	0	130	221
Total	0	0	0	0	0	0	347	0	0	347	15	0	7	0	22	0	462	2	0	464	833
12:00 PM	0	0	0	0	0	2	92	0	0	94	0	0	0	0	0	0	106	6	0	112	206
12:15 PM	0	0	0	0	0	0	93	0	0	93	0	0	0	0	0	0	109	15	0	124	217
12:30 PM	0	0	0	0	0	0	114	0	0	114	0	0	0	0	0	0	123	5	0	128	242
12:45 PM	0	0	0	0	0	0	80	0	0	80	0	0	0	0	0	0	143	7	0	150	230
Total	0	0	0	0	0	2	379	0	0	381	0	0	0	0	0	0	481	33	0	514	895
01:00 PM	0	0	0	0	0	3	97	0	0	100	0	0	0	0	0	0	137	10	0	147	247
01:15 PM	0	0	0	0	0	5	73	0	0	78	0	0	0	0	0	0	135	10	0	145	223
01:30 PM	0	0	0	0	0	4	108	0	0	112	0	0	0	0	0	0	121	13	0	134	246
01:45 PM	0	0	0	0	0	4	98	0	0	102	0	0	0	0	0	0	114	11	0	125	227
Total	0	0	0	0	0	16	376	0	0	392	0	0	0	0	0	0	507	44	0	551	943
02:00 PM	0	0	0	0	0	2	94	0	0	96	0	0	0	0	0	0	139	17	0	156	252
02:15 PM	0	0	0	0	0	3	118	0	0	121	0	0	0	0	0	0	121	19	0	140	261
02:30 PM	0	0	0	0	0	5	101	0	0	106	0	0	0	0	0	0	160	31	0	191	297
02:45 PM	0	0	0	0	0	1	98	0	0	99	0	0	0	0	0	0	195	43	0	238	337
Total	0	0	0	0	0	11	411	0	0	422	0	0	0	0	0	0	615	110	0	725	1147
03:00 PM	0	0	0	0	0	5	96	0	0	101	0	0	0	0	0	0	200	42	0	242	343
03:15 PM	0	0	0	0	0	13	125	0	0	138	0	0	0	0	0	0	204	46	0	250	388
03:30 PM	0	0	0	0	0	8	110	0	0	118	0	0	0	0	0	0	226	36	0	262	380
03:45 PM	0	0	0	0	0	6	119	0	0	125	0	0	0	0	0	0	203	37	0	240	365
Total	0	0	0	0	0	32	450	0	0	482	0	0	0	0	0	0	833	161	0	994	1476
04:00 PM	0	0	0	0	0	6	123	0	0	129	0	0	0	0	0	0	222	57	0	279	408

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 7. Seminary Rd @ I-395 NB HOV Off-Ramp
Site Code : 007
Start Date : 11/1/2018
Page No : 2

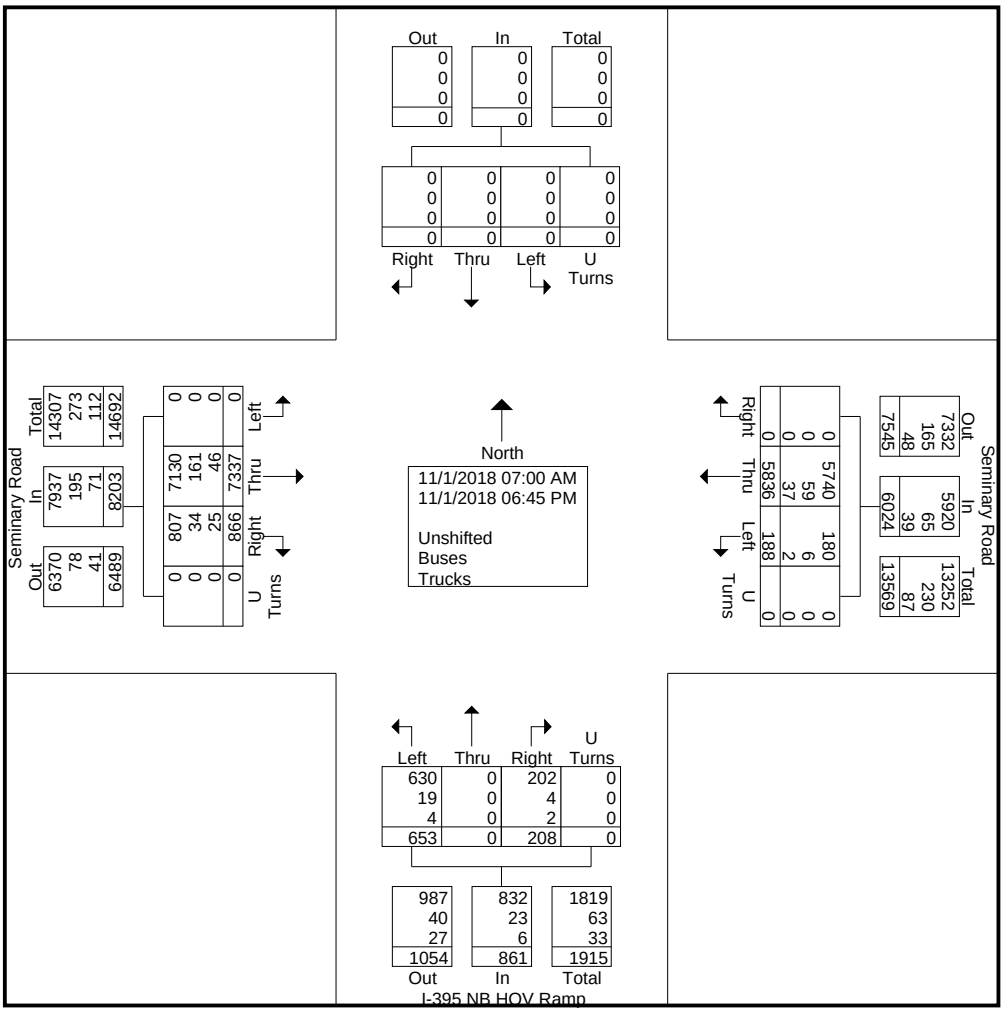
Groups Printed- Unshifted - Buses - Trucks

	From North					Seminary Road From East					I-395 NB HOV Ramp From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	0	0	0	0	0	11	123	0	0	134	0	0	0	0	0	0	211	35	0	246	380
04:30 PM	0	0	0	0	0	13	125	0	0	138	0	0	0	0	0	0	231	45	0	276	414
04:45 PM	0	0	0	0	0	6	92	0	0	98	0	0	0	0	0	0	241	48	0	289	387
Total	0	0	0	0	0	36	463	0	0	499	0	0	0	0	0	0	905	185	0	1090	1589
05:00 PM	0	0	0	0	0	16	130	0	0	146	0	0	0	0	0	0	248	40	0	288	434
05:15 PM	0	0	0	0	0	14	127	0	0	141	0	0	0	0	0	0	272	40	0	312	453
05:30 PM	0	0	0	0	0	15	137	0	0	152	0	0	0	0	0	0	242	54	0	296	448
05:45 PM	0	0	0	0	0	12	130	0	0	142	0	0	0	0	0	0	211	47	0	258	400
Total	0	0	0	0	0	57	524	0	0	581	0	0	0	0	0	0	973	181	0	1154	1735
06:00 PM	0	0	0	0	0	17	104	0	0	121	0	0	0	0	0	0	214	40	0	254	375
06:15 PM	0	0	0	0	0	4	105	0	0	109	0	0	0	0	0	0	176	48	0	224	333
06:30 PM	0	0	0	0	0	7	83	0	0	90	0	0	0	0	0	0	189	39	0	228	318
06:45 PM	0	0	0	0	0	6	93	0	0	99	0	0	0	0	0	0	156	23	0	179	278
Total	0	0	0	0	0	34	385	0	0	419	0	0	0	0	0	0	735	150	0	885	1304
Grand Total	0	0	0	0	0	188	5836	0	0	6024	653	0	208	0	861	0	7337	866	0	8203	15088
Apprch %	0	0	0	0		3.1	96.9	0	0		75.8	0	24.2	0		0	89.4	10.6	0		
Total %	0	0	0	0	0	1.2	38.7	0	0	39.9	4.3	0	1.4	0	5.7	0	48.6	5.7	0	54.4	
Unshifted	0	0	0	0	0	180	5740	0	0	5920	630	0	202	0	832	0	7130	807	0	7937	14689
% Unshifted	0	0	0	0	0	95.7	98.4	0	0	98.3	96.5	0	97.1	0	96.6	0	97.2	93.2	0	96.8	97.4
Buses	0	0	0	0	0	6	59	0	0	65	19	0	4	0	23	0	161	34	0	195	283
% Buses	0	0	0	0	0	3.2	1	0	0	1.1	2.9	0	1.9	0	2.7	0	2.2	3.9	0	2.4	1.9
Trucks	0	0	0	0	0	2	37	0	0	39	4	0	2	0	6	0	46	25	0	71	116
% Trucks	0	0	0	0	0	1.1	0.6	0	0	0.6	0.6	0	1	0	0.7	0	0.6	2.9	0	0.9	0.8

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 7. Seminary Rd @ I-395 NB HOV Off-Ramp
Site Code : 007
Start Date : 11/1/2018
Page No : 3

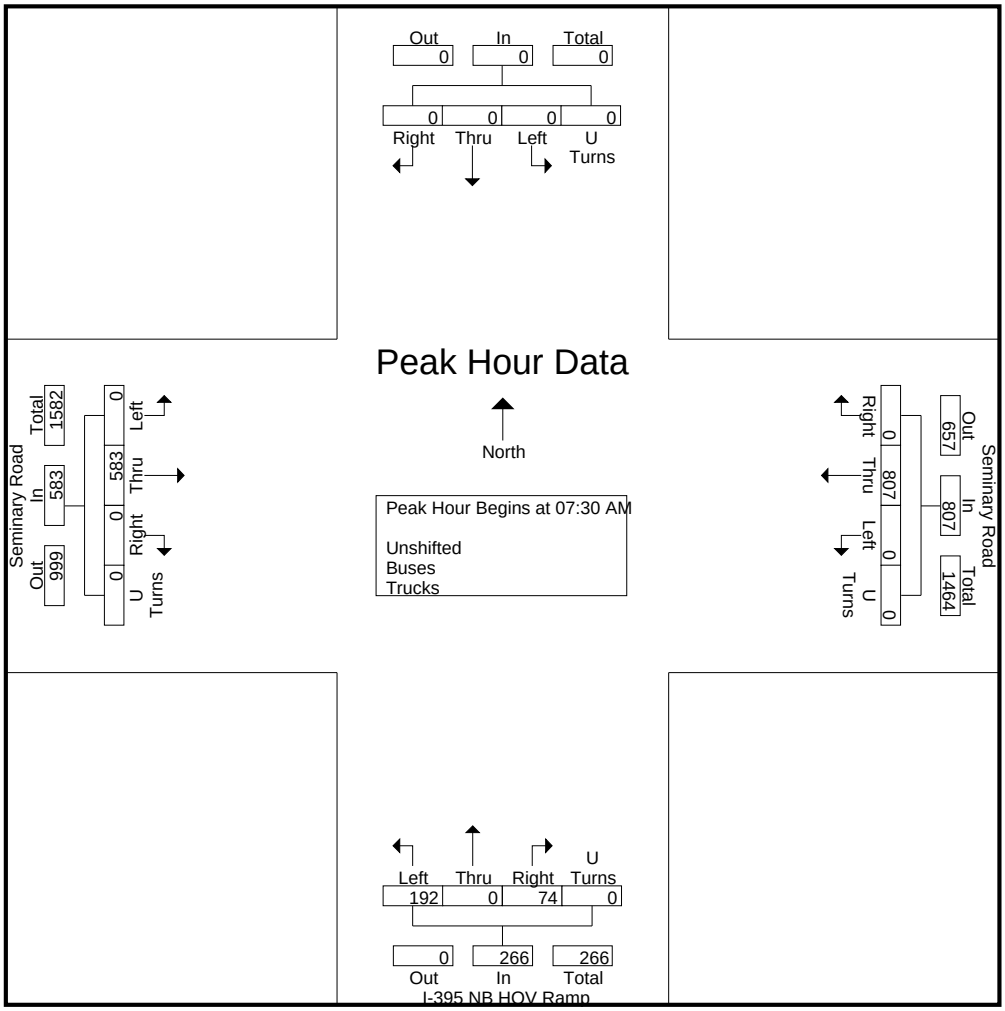


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 7. Seminary Rd @ I-395 NB HOV Off-Ramp
Site Code : 007
Start Date : 11/1/2018
Page No : 4

	From North					Seminary Road From East					I-395 NB HOV Ramp From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	0	208	0	0	208	45	0	25	0	70	0	123	0	0	123	401
07:45 AM	0	0	0	0	0	0	177	0	0	177	**63**	0	**26**	0	**89**	0	**163**	0	0	**163**	429
08:00 AM	0	0	0	0	0	0	179	0	0	179	43	0	10	0	53	0	143	0	0	143	375
08:15 AM	0	0	0	0	0	0	**243**	0	0	**243**	41	0	13	0	54	0	154	0	0	154	**451**
Total Volume	0	0	0	0	0	0	807	0	0	807	192	0	74	0	266	0	583	0	0	583	1656
% App. Total	0	0	0	0		0	100	0	0		72.2	0	27.8	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.830	.000	.000	.830	.762	.000	.712	.000	.747	.000	.894	.000	.000	.894	.918

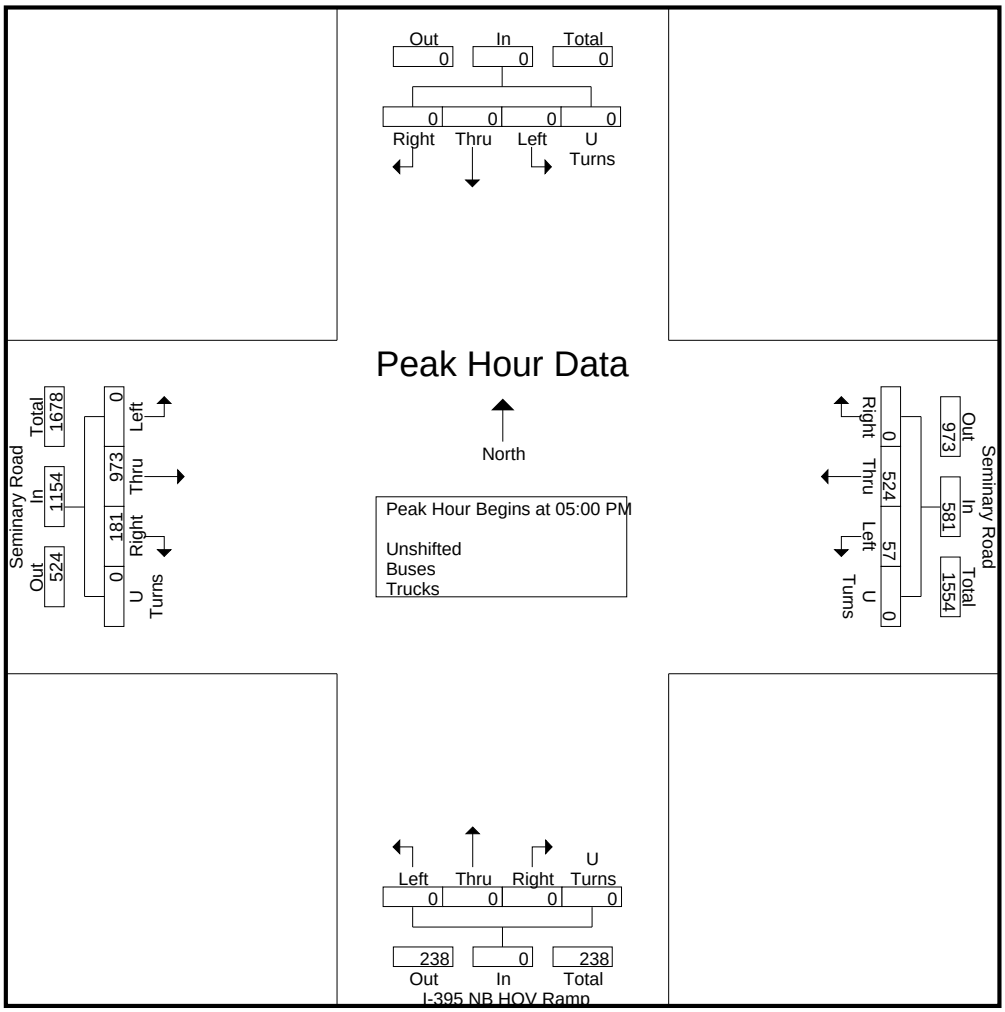


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 7. Seminary Rd @ I-395 NB HOV Off-Ramp
Site Code : 007
Start Date : 11/1/2018
Page No : 5

	From North					Seminary Road From East					I-395 NB HOV Ramp From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	**16**	130	0	0	146	0	0	0	0	0	0	248	40	0	288	434
05:15 PM	0	0	0	0	0	14	127	0	0	141	0	0	0	0	0	0	**272**	40	0	**312**	**453**
05:30 PM	0	0	0	0	0	15	**137**	0	0	**152**	0	0	0	0	0	0	242	**54**	0	296	448
05:45 PM	0	0	0	0	0	12	130	0	0	142	0	0	0	0	0	0	211	47	0	258	400
Total Volume	0	0	0	0	0	57	524	0	0	581	0	0	0	0	0	0	973	181	0	1154	1735
% App. Total	0	0	0	0		9.8	90.2	0	0		0	0	0	0		0	84.3	15.7	0		
PHF	.000	.000	.000	.000	.000	.891	.956	.000	.000	.956	.000	.000	.000	.000	.000	.000	.894	.838	.000	.925	.958



File Name: 7. Seminary Rd @ I-395 NB HOV Off-Ramp - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 007
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	From North				Seminary Road From East				I-395 NB HOV Ramp From South				Seminary Road From West			
Start Time	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 8. Seminary Rd @ I-395 NB Off- Ramp
Site Code : 008
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	I-395 NB Off Ramp From North					Seminary Road From East					I-395 NB Off Ramp From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	194	31	0	225	152	51	0	0	203	428
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	270	35	0	305	137	46	0	0	183	488
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	231	45	0	276	139	80	0	0	219	495
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	311	63	0	374	102	64	0	0	166	540
Total	0	0	0	0	0	0	0	0	0	0	0	1006	174	0	1180	530	241	0	0	771	1951
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	259	63	0	322	138	54	0	0	192	514
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	281	48	0	329	120	45	0	0	165	494
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	324	65	0	389	96	36	0	0	132	521
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	286	67	0	353	76	57	0	0	133	486
Total	0	0	0	0	0	0	0	0	0	0	0	1150	243	0	1393	430	192	0	0	622	2015
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	262	38	0	300	91	31	0	0	122	422
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	213	35	0	248	101	38	0	0	139	387
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	180	36	0	216	85	46	0	0	131	347
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	173	48	0	221	80	44	0	0	124	345
Total	0	0	0	0	0	0	0	0	0	0	0	828	157	0	985	357	159	0	0	516	1501
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	128	43	0	171	85	47	0	0	132	303
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	157	30	0	187	87	56	0	0	143	330
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	181	48	0	229	111	52	0	0	163	392
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	178	58	0	236	86	56	0	0	142	378
Total	0	0	0	0	0	0	0	0	0	0	0	644	179	0	823	369	211	0	0	580	1403
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	166	44	0	210	90	53	0	0	143	353
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	156	49	0	205	115	60	0	0	175	380
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	164	41	0	205	114	67	0	0	181	386
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	164	37	0	201	98	58	0	0	156	357
Total	0	0	0	0	0	0	0	0	0	0	0	650	171	0	821	417	238	0	0	655	1476
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	164	49	0	213	102	67	0	0	169	382
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	191	47	0	238	78	65	0	0	143	381
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	151	55	0	206	106	72	0	0	178	384
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	197	51	0	248	94	92	0	0	186	434
Total	0	0	0	0	0	0	0	0	0	0	0	703	202	0	905	380	296	0	0	676	1581
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	162	59	0	221	100	81	0	0	181	402
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	173	53	0	226	104	81	0	0	185	411
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	163	51	0	214	102	59	0	0	161	375
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	190	72	0	262	70	89	0	0	159	421
Total	0	0	0	0	0	0	0	0	0	0	0	688	235	0	923	376	310	0	0	686	1609
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	165	59	0	224	105	82	0	0	187	411
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	212	80	0	292	93	118	0	0	211	503
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	165	52	0	217	120	110	0	0	230	447
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	144	41	0	185	128	106	0	0	234	419
Total	0	0	0	0	0	0	0	0	0	0	0	686	232	0	918	446	416	0	0	862	1780
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	122	52	0	174	141	134	0	0	275	449
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	137	47	0	184	133	144	0	0	277	461
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	149	63	0	212	137	135	0	0	272	484
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	139	78	0	217	146	129	0	0	275	492
Total	0	0	0	0	0	0	0	0	0	0	0	547	240	0	787	557	542	0	0	1099	1886
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	122	52	0	174	164	129	0	0	293	467

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 8. Seminary Rd @ I-395 NB Off- Ramp
Site Code : 008
Start Date : 11/1/2018
Page No : 2

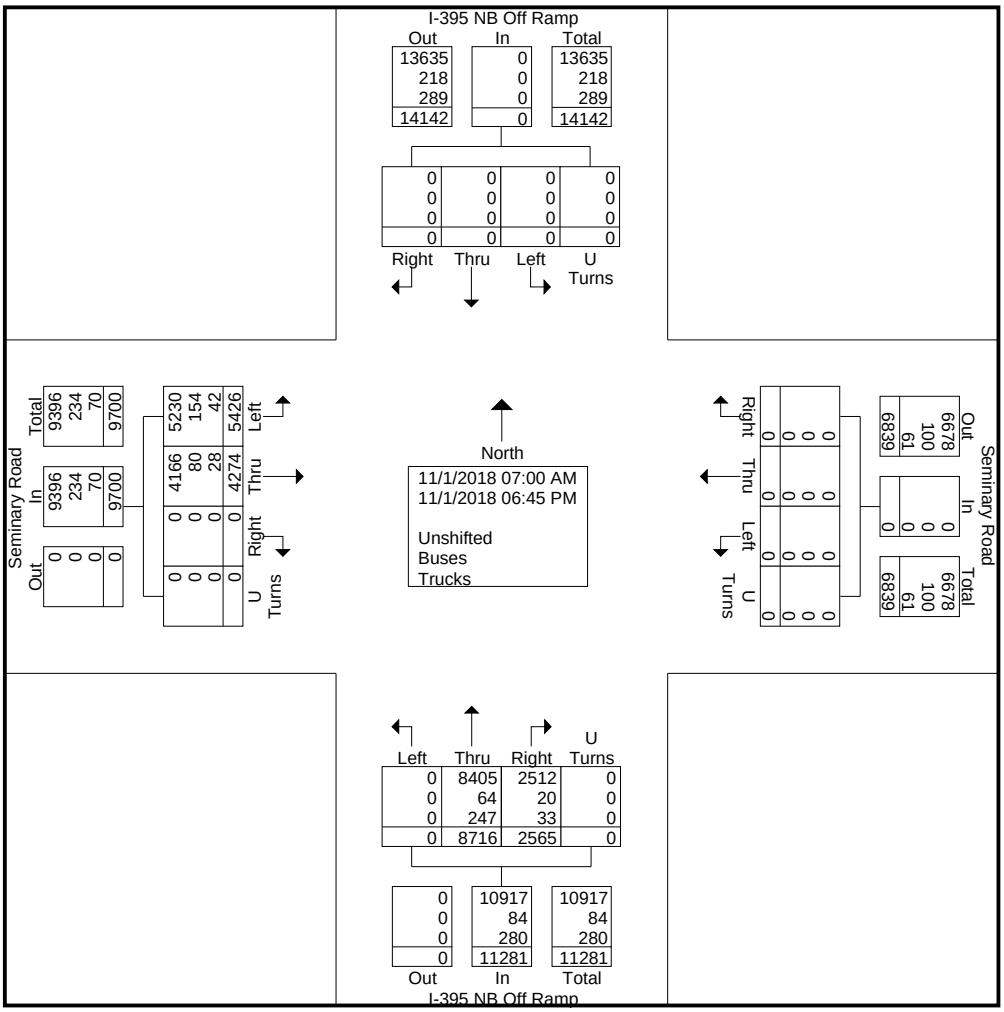
Groups Printed- Unshifted - Buses - Trucks

	I-395 NB Off Ramp From North					Seminary Road From East					I-395 NB Off Ramp From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	164	38	0	202	133	130	0	0	263	465
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	138	52	0	190	169	144	0	0	313	503
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	128	43	0	171	143	131	0	0	274	445
Total	0	0	0	0	0	0	0	0	0	0	0	552	185	0	737	609	534	0	0	1143	1880
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	151	53	0	204	149	116	0	0	265	469
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	157	65	0	222	145	141	0	0	286	508
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	163	57	0	220	145	124	0	0	269	489
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	152	63	0	215	106	136	0	0	242	457
Total	0	0	0	0	0	0	0	0	0	0	0	623	238	0	861	545	517	0	0	1062	1923
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	171	63	0	234	124	164	0	0	288	522
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	163	72	0	235	95	129	0	0	224	459
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	151	74	0	225	104	154	0	0	258	483
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	154	100	0	254	87	171	0	0	258	512
Total	0	0	0	0	0	0	0	0	0	0	0	639	309	0	948	410	618	0	0	1028	1976
Grand Total	0	0	0	0	0	0	0	0	0	0	0	8716	2565	0	11281	5426	4274	0	0	9700	20981
Apprch %	0	0	0	0		0	0	0	0		0	77.3	22.7	0		55.9	44.1	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	41.5	12.2	0	53.8	25.9	20.4	0	0	46.2	
Unshifted	0	0	0	0	0	0	0	0	0	0	0	8405	2512	0	10917	5230	4166	0	0	9396	20313
% Unshifted	0	0	0	0	0	0	0	0	0	0	0	96.4	97.9	0	96.8	96.4	97.5	0	0	96.9	96.8
Buses	0	0	0	0	0	0	0	0	0	0	0	64	20	0	84	154	80	0	0	234	318
% Buses	0	0	0	0	0	0	0	0	0	0	0	0.7	0.8	0	0.7	2.8	1.9	0	0	2.4	1.5
Trucks	0	0	0	0	0	0	0	0	0	0	0	247	33	0	280	42	28	0	0	70	350
% Trucks	0	0	0	0	0	0	0	0	0	0	0	2.8	1.3	0	2.5	0.8	0.7	0	0	0.7	1.7

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 8. Seminary Rd @ I-395 NB Off- Ramp
Site Code : 008
Start Date : 11/1/2018
Page No : 3

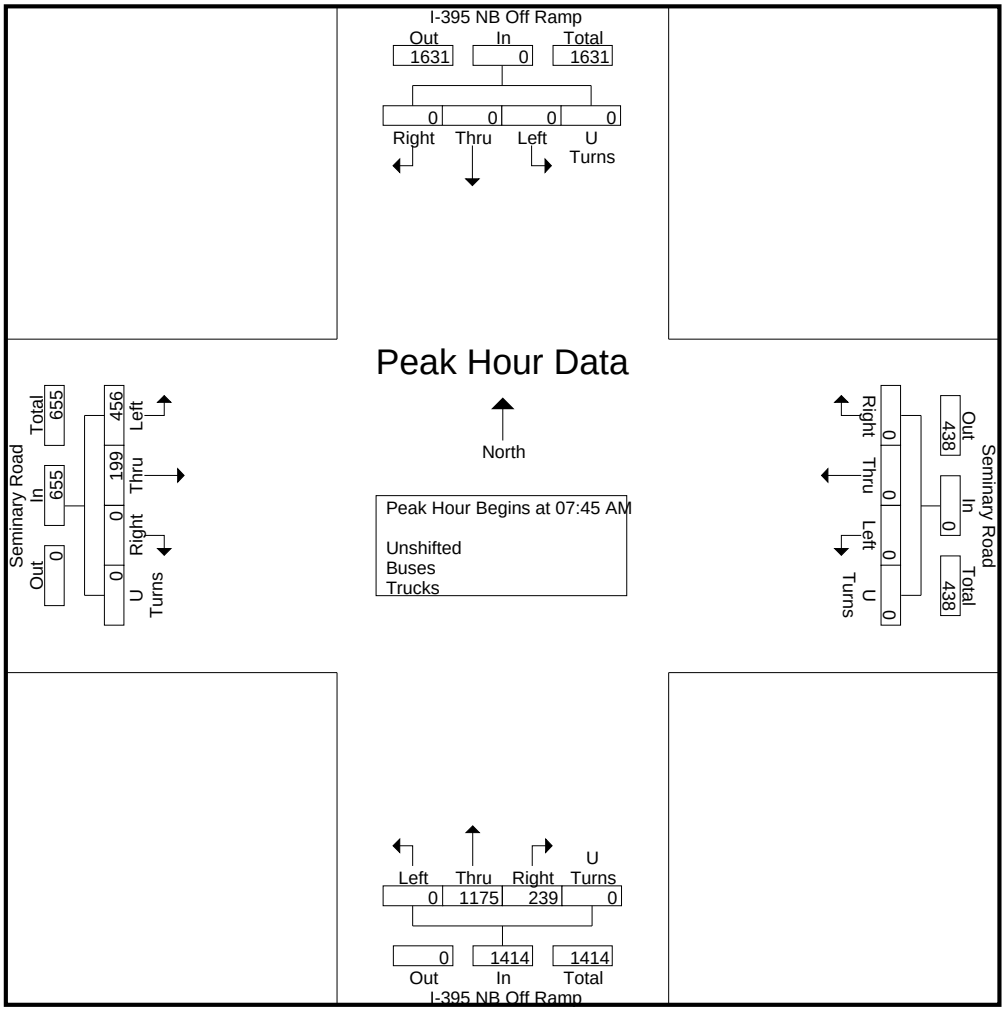


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 8. Seminary Rd @ I-395 NB Off- Ramp
Site Code : 008
Start Date : 11/1/2018
Page No : 4

	I-395 NB Off Ramp From North					Seminary Road From East					I-395 NB Off Ramp From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	311	63	0	374	102	**64**	0	0	166	**540**
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	259	63	0	322	**138**	54	0	0	**192**	514
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	281	48	0	329	120	45	0	0	165	494
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	**324**	**65**	0	**389**	96	36	0	0	132	521
Total Volume	0	0	0	0	0	0	0	0	0	0	0	1175	239	0	1414	456	199	0	0	655	2069
% App. Total	0	0	0	0		0	0	0	0		0	83.1	16.9	0		69.6	30.4	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.907	.919	.000	.909	.826	.777	.000	.000	.853	.958

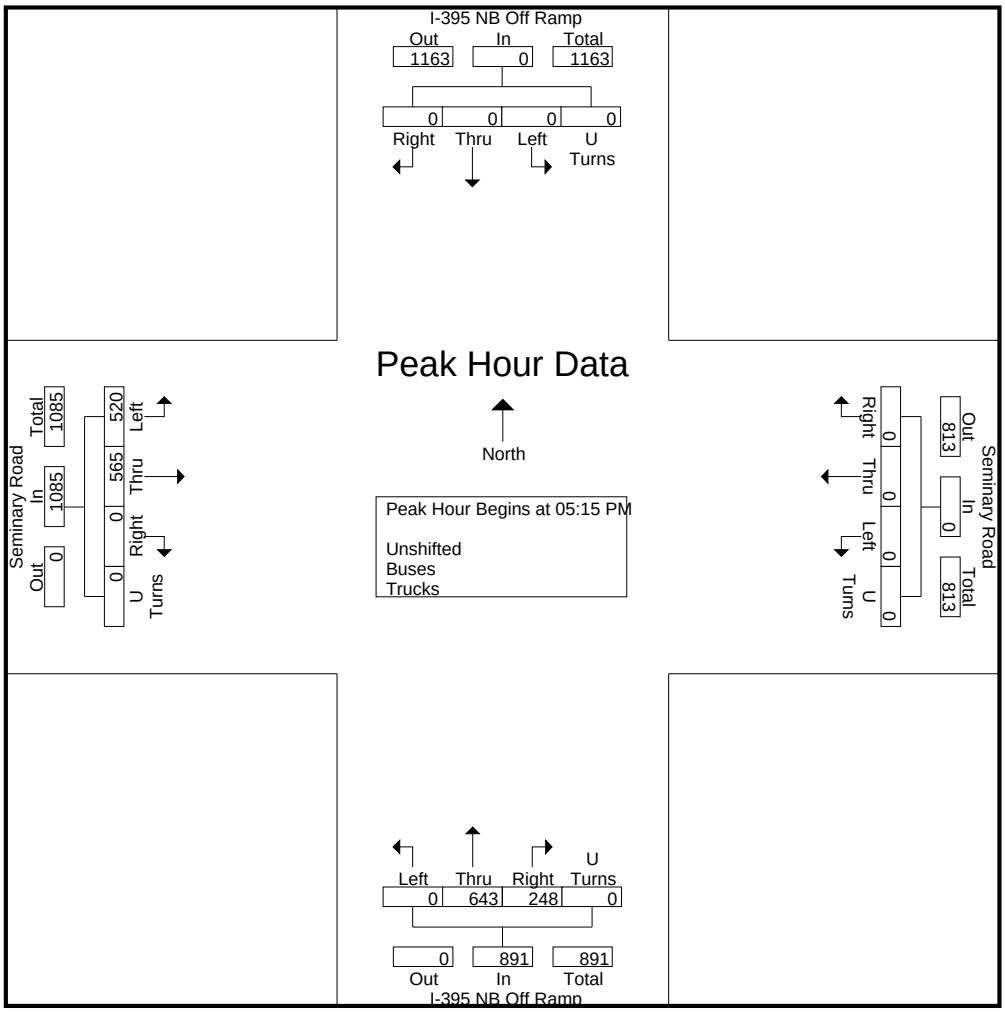


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 8. Seminary Rd @ I-395 NB Off- Ramp
Site Code : 008
Start Date : 11/1/2018
Page No : 5

	I-395 NB Off Ramp From North					Seminary Road From East					I-395 NB Off Ramp From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:15 PM																					
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	157	**65**	0	222	**145**	141	0	0	286	508
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	163	57	0	220	145	124	0	0	269	489
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	152	63	0	215	106	136	0	0	242	457
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	**171**	63	0	**234**	124	**164**	0	0	**288**	**522**
Total Volume	0	0	0	0	0	0	0	0	0	0	0	643	248	0	891	520	565	0	0	1085	1976
% App. Total	0	0	0	0		0	0	0	0		0	72.2	27.8	0		47.9	52.1	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.940	.954	.000	.952	.897	.861	.000	.000	.942	.946



File Name: 8. Seminary Rd @ I-395 NB Off- Ramp. - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 008
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	I-395 NB Off Ramp From North				Seminary Road From East				I-395 NB Off Ramp From South				Seminary Road From West			
Start Time	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 9. Seminary Rd @ I-395 NB On-Ramp
Site Code : 009
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	I-395 NB On Ramp From North					Seminary Road From East					I-395 NB On Ramp From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	94	176	0	270	159	183	0	0	342	0	0	0	0	0	612
07:15 AM	0	0	0	0	0	0	96	173	0	269	160	202	0	0	362	0	0	0	0	0	631
07:30 AM	0	0	0	0	0	0	116	187	0	303	205	187	0	0	392	0	0	0	0	0	695
07:45 AM	0	0	0	0	0	0	118	146	0	264	221	169	0	0	390	0	0	0	0	0	654
Total	0	0	0	0	0	0	424	682	0	1106	745	741	0	0	1486	0	0	0	0	0	2592
08:00 AM	0	0	0	0	0	0	144	121	0	265	199	179	0	0	378	0	0	0	0	0	643
08:15 AM	0	0	0	0	0	0	116	108	0	224	274	186	0	0	460	0	0	0	0	0	684
08:30 AM	0	0	0	0	0	0	125	103	0	228	265	127	0	0	392	0	0	0	0	0	620
08:45 AM	0	0	0	0	0	0	116	73	0	189	238	105	0	0	343	0	0	0	0	0	532
Total	0	0	0	0	0	0	501	405	0	906	976	597	0	0	1573	0	0	0	0	0	2479
09:00 AM	0	0	0	0	0	0	120	116	0	236	245	87	0	0	332	0	0	0	0	0	568
09:15 AM	0	0	0	0	0	0	90	120	0	210	217	85	0	0	302	0	0	0	0	0	512
09:30 AM	0	0	0	0	0	0	88	123	0	211	165	80	0	0	245	0	0	0	0	0	456
09:45 AM	0	0	0	0	0	0	79	83	0	162	183	84	0	0	267	0	0	0	0	0	429
Total	0	0	0	0	0	0	377	442	0	819	810	336	0	0	1146	0	0	0	0	0	1965
10:00 AM	0	0	0	0	0	0	78	91	0	169	138	65	0	0	203	0	0	0	0	0	372
10:15 AM	0	0	0	0	0	0	80	74	0	154	150	88	0	0	238	0	0	0	0	0	392
10:30 AM	0	0	0	0	0	0	94	81	0	175	176	112	0	0	288	0	0	0	0	0	463
10:45 AM	0	0	0	0	0	0	76	87	0	163	153	98	0	0	251	0	0	0	0	0	414
Total	0	0	0	0	0	0	328	333	0	661	617	363	0	0	980	0	0	0	0	0	1641
11:00 AM	0	0	0	0	0	0	71	70	0	141	127	110	0	0	237	0	0	0	0	0	378
11:15 AM	0	0	0	0	0	0	63	104	0	167	138	113	0	0	251	0	0	0	0	0	418
11:30 AM	0	0	0	0	0	0	73	67	0	140	118	158	0	0	276	0	0	0	0	0	416
11:45 AM	0	0	0	0	0	0	65	75	0	140	117	131	0	0	248	0	0	0	0	0	388
Total	0	0	0	0	0	0	272	316	0	588	500	512	0	0	1012	0	0	0	0	0	1600
12:00 PM	0	0	0	0	0	0	81	89	0	170	112	141	0	0	253	0	0	0	0	0	423
12:15 PM	0	0	0	0	0	0	72	100	0	172	137	120	0	0	257	0	0	0	0	0	429
12:30 PM	0	0	0	0	0	0	57	89	0	146	139	123	0	0	262	0	0	0	0	0	408
12:45 PM	0	0	0	0	0	0	50	74	0	124	165	141	0	0	306	0	0	0	0	0	430
Total	0	0	0	0	0	0	260	352	0	612	553	525	0	0	1078	0	0	0	0	0	1690
01:00 PM	0	0	0	0	0	0	78	107	0	185	105	132	0	0	237	0	0	0	0	0	422
01:15 PM	0	0	0	0	0	0	62	91	0	153	126	136	0	0	262	0	0	0	0	0	415
01:30 PM	0	0	0	0	0	0	67	95	0	162	104	140	0	0	244	0	0	0	0	0	406
01:45 PM	0	0	0	0	0	0	74	70	0	144	133	132	0	0	265	0	0	0	0	0	409
Total	0	0	0	0	0	0	281	363	0	644	468	540	0	0	1008	0	0	0	0	0	1652
02:00 PM	0	0	0	0	0	0	85	66	0	151	137	113	0	0	250	0	0	0	0	0	401
02:15 PM	0	0	0	0	0	0	83	78	0	161	108	163	0	0	271	0	0	0	0	0	432
02:30 PM	0	0	0	0	0	0	95	101	0	196	128	130	0	0	258	0	0	0	0	0	454
02:45 PM	0	0	0	0	0	0	80	101	0	181	148	111	0	0	259	0	0	0	0	0	440
Total	0	0	0	0	0	0	343	346	0	689	521	517	0	0	1038	0	0	0	0	0	1727
03:00 PM	0	0	0	0	0	0	166	95	0	261	104	160	0	0	264	0	0	0	0	0	525
03:15 PM	0	0	0	0	0	0	85	83	0	168	125	113	0	0	238	0	0	0	0	0	406
03:30 PM	0	0	0	0	0	0	81	119	0	200	154	131	0	0	285	0	0	0	0	0	485
03:45 PM	0	0	0	0	0	0	73	92	0	165	123	154	0	0	277	0	0	0	0	0	442
Total	0	0	0	0	0	0	405	389	0	794	506	558	0	0	1064	0	0	0	0	0	1858
04:00 PM	0	0	0	0	0	0	84	88	0	172	132	137	0	0	269	0	0	0	0	0	441

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 9. Seminary Rd @ I-395 NB On-Ramp
Site Code : 009
Start Date : 11/1/2018
Page No : 2

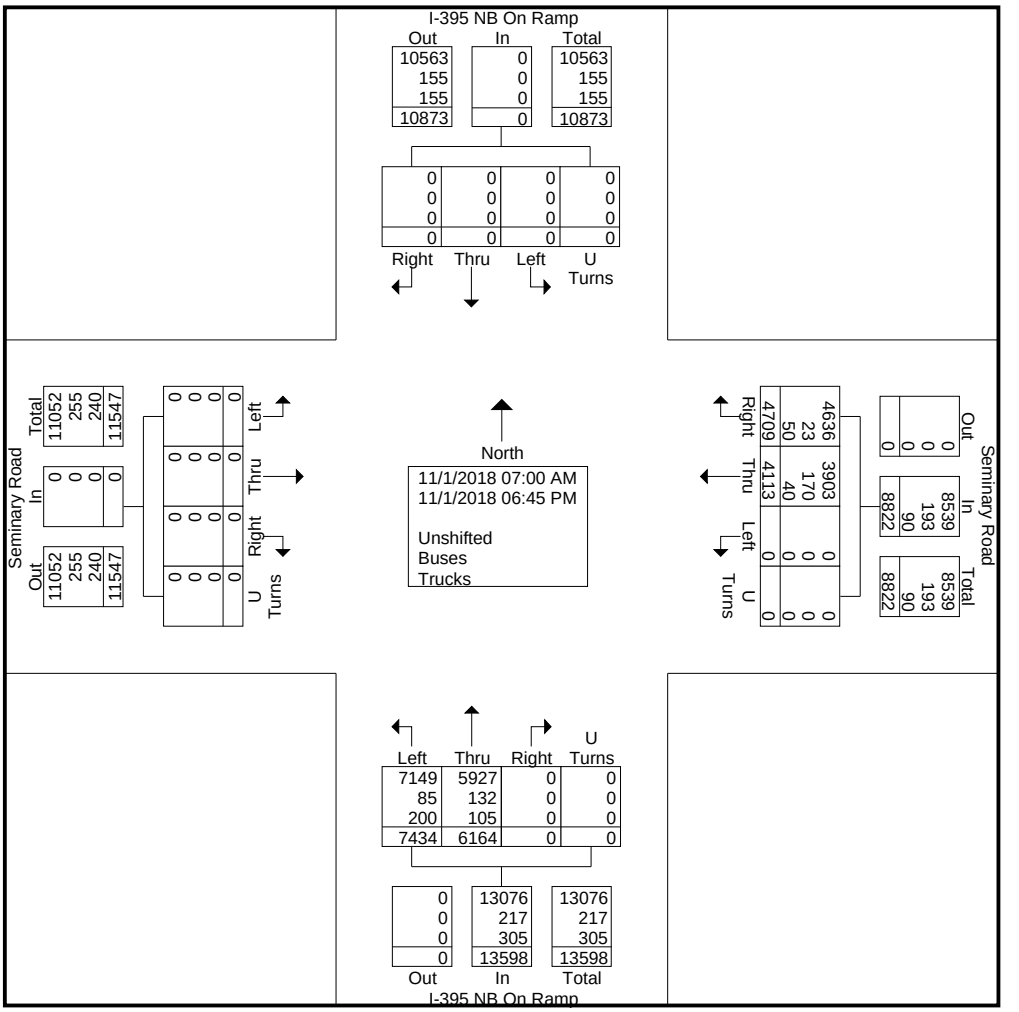
Groups Printed- Unshifted - Buses - Trucks

	I-395 NB On Ramp From North					Seminary Road From East					I-395 NB On Ramp From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	0	0	0	0	0	0	78	104	0	182	133	153	0	0	286	0	0	0	0	0	468
04:30 PM	0	0	0	0	0	0	98	122	0	220	145	128	0	0	273	0	0	0	0	0	493
04:45 PM	0	0	0	0	0	0	76	85	0	161	135	139	0	0	274	0	0	0	0	0	435
Total	0	0	0	0	0	0	336	399	0	735	545	557	0	0	1102	0	0	0	0	0	1837
05:00 PM	0	0	0	0	0	0	64	126	0	190	124	142	0	0	266	0	0	0	0	0	456
05:15 PM	0	0	0	0	0	0	95	91	0	186	143	139	0	0	282	0	0	0	0	0	468
05:30 PM	0	0	0	0	0	0	80	87	0	167	161	140	0	0	301	0	0	0	0	0	468
05:45 PM	0	0	0	0	0	0	77	69	0	146	159	102	0	0	261	0	0	0	0	0	407
Total	0	0	0	0	0	0	316	373	0	689	587	523	0	0	1110	0	0	0	0	0	1799
06:00 PM	0	0	0	0	0	0	77	76	0	153	170	115	0	0	285	0	0	0	0	0	438
06:15 PM	0	0	0	0	0	0	60	73	0	133	131	100	0	0	231	0	0	0	0	0	364
06:30 PM	0	0	0	0	0	0	69	88	0	157	153	89	0	0	242	0	0	0	0	0	399
06:45 PM	0	0	0	0	0	0	64	72	0	136	152	91	0	0	243	0	0	0	0	0	379
Total	0	0	0	0	0	0	270	309	0	579	606	395	0	0	1001	0	0	0	0	0	1580
Grand Total	0	0	0	0	0	0	4113	4709	0	8822	7434	6164	0	0	13598	0	0	0	0	0	22420
Apprch %	0	0	0	0		0	46.6	53.4	0		54.7	45.3	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	18.3	21	0	39.3	33.2	27.5	0	0	60.7	0	0	0	0	0	
Unshifted	0	0	0	0	0	0	3903	4636	0	8539	7149	5927	0	0	13076	0	0	0	0	0	21615
% Unshifted	0	0	0	0	0	0	94.9	98.4	0	96.8	96.2	96.2	0	0	96.2	0	0	0	0	0	96.4
Buses	0	0	0	0	0	0	170	23	0	193	85	132	0	0	217	0	0	0	0	0	410
% Buses	0	0	0	0	0	0	4.1	0.5	0	2.2	1.1	2.1	0	0	1.6	0	0	0	0	0	1.8
Trucks	0	0	0	0	0	0	40	50	0	90	200	105	0	0	305	0	0	0	0	0	395
% Trucks	0	0	0	0	0	0	1	1.1	0	1	2.7	1.7	0	0	2.2	0	0	0	0	0	1.8

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 9. Seminary Rd @ I-395 NB On-Ramp
Site Code : 009
Start Date : 11/1/2018
Page No : 3

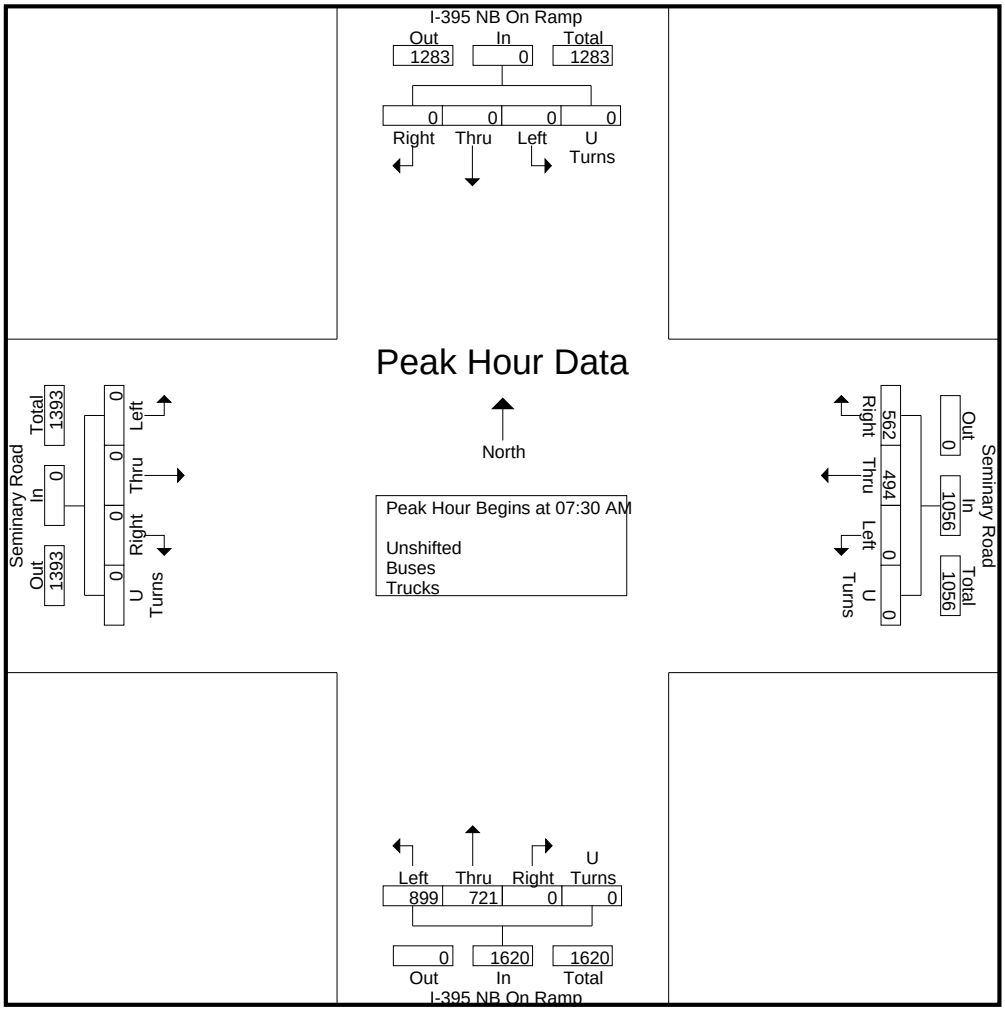


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 9. Seminary Rd @ I-395 NB On-Ramp
Site Code : 009
Start Date : 11/1/2018
Page No : 4

	I-395 NB On Ramp From North					Seminary Road From East					I-395 NB On Ramp From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	0	116	**187**	0	**303**	205	**187**	0	0	392	0	0	0	0	0	**695**
07:45 AM	0	0	0	0	0	0	118	146	0	264	221	169	0	0	390	0	0	0	0	0	654
08:00 AM	0	0	0	0	0	0	**144**	121	0	265	199	179	0	0	378	0	0	0	0	0	643
08:15 AM	0	0	0	0	0	0	116	108	0	224	**274**	186	0	0	**460**	0	0	0	0	0	684
Total Volume	0	0	0	0	0	0	494	562	0	1056	899	721	0	0	1620	0	0	0	0	0	2676
% App. Total	0	0	0	0		0	46.8	53.2	0		55.5	44.5	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.858	.751	.000	.871	.820	.964	.000	.000	.880	.000	.000	.000	.000	.000	.963

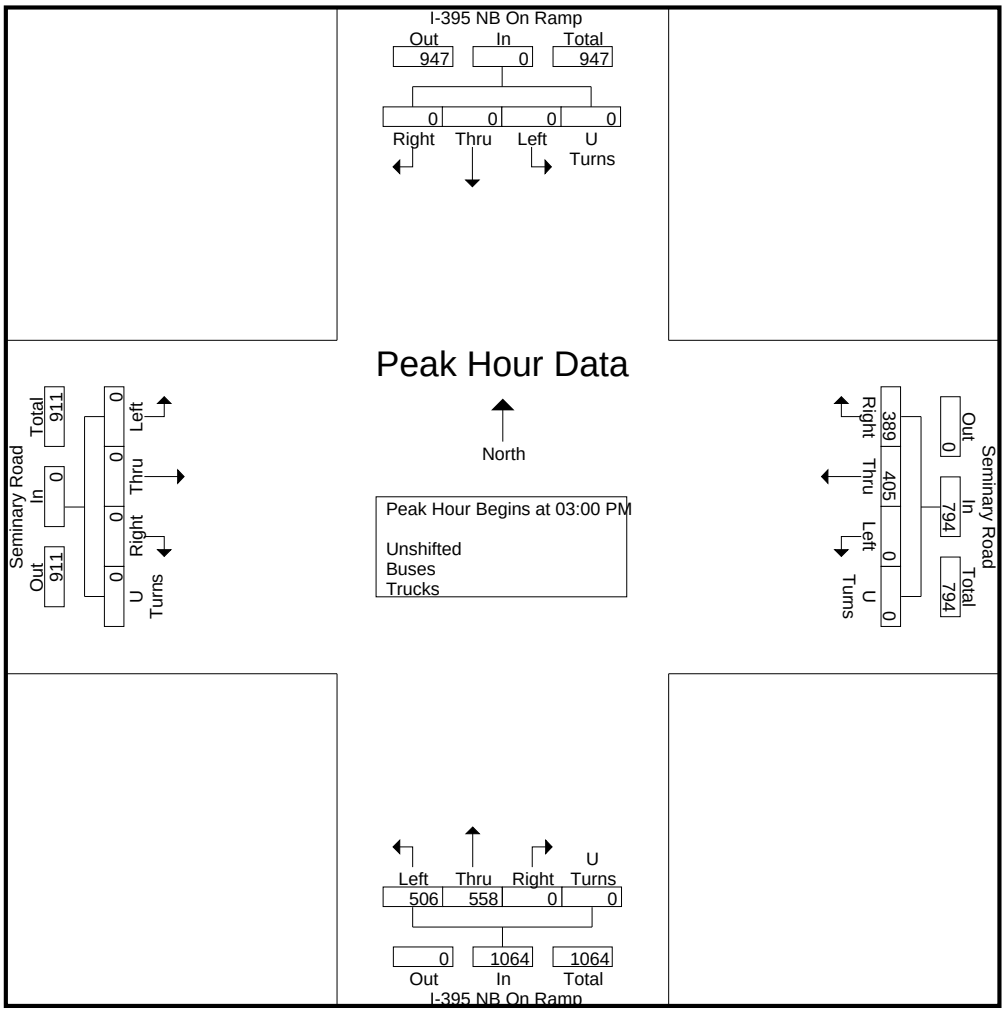


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 9. Seminary Rd @ I-395 NB On-Ramp
Site Code : 009
Start Date : 11/1/2018
Page No : 5

	I-395 NB On Ramp From North					Seminary Road From East					I-395 NB On Ramp From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	0	0	0	0	0	0	**166**	95	0	**261**	104	**160**	0	0	264	0	0	0	0	0	**525**
03:15 PM	0	0	0	0	0	0	85	83	0	168	125	113	0	0	238	0	0	0	0	0	406
03:30 PM	0	0	0	0	0	0	81	**119**	0	200	**154**	131	0	0	**285**	0	0	0	0	0	485
03:45 PM	0	0	0	0	0	0	73	92	0	165	123	154	0	0	277	0	0	0	0	0	442
Total Volume	0	0	0	0	0	0	405	389	0	794	506	558	0	0	1064	0	0	0	0	0	1858
% App. Total	0	0	0	0		0	51	49	0		47.6	52.4	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.610	.817	.000	.761	.821	.872	.000	.000	.933	.000	.000	.000	.000	.000	.885



File Name: 9. Seminary Rd @ I-395 NB On-Ramp - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 009
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	I-395 NB On Ramp From North				Seminary Road From East				I-395 NB On Ramp From South				Seminary Road From West			
Start Time	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 10. Seminary Rd @ I-395 SB Off-Ramp
Site Code : 010
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	I-395-SB Off Ramp From North					Seminary Road From East					From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	0	47	90	0	137	34	183	0	0	217	0	0	0	0	0	0	0	0	0	0	354
07:15 AM	0	46	113	0	159	49	186	0	0	235	0	0	0	0	0	0	0	0	0	0	394
07:30 AM	0	70	115	0	185	50	213	0	0	263	0	0	0	0	0	0	0	0	0	0	448
07:45 AM	0	58	125	0	183	72	264	0	0	336	0	0	0	0	0	0	0	0	0	0	519
Total	0	221	443	0	664	205	846	0	0	1051	0	0	0	0	0	0	0	0	0	0	1715
08:00 AM	0	53	109	0	162	67	233	0	0	300	0	0	0	0	0	0	0	0	0	0	462
08:15 AM	0	34	94	0	128	59	273	0	0	332	0	0	0	0	0	0	0	0	0	0	460
08:30 AM	0	37	100	0	137	58	299	0	0	357	0	0	0	0	0	0	0	0	0	0	494
08:45 AM	0	42	87	0	129	46	269	0	0	315	0	0	0	0	0	0	0	0	0	0	444
Total	0	166	390	0	556	230	1074	0	0	1304	0	0	0	0	0	0	0	0	0	0	1860
09:00 AM	0	32	90	0	122	47	249	0	0	296	0	0	0	0	0	0	0	0	0	0	418
09:15 AM	0	32	62	0	94	38	239	0	0	277	0	0	0	0	0	0	0	0	0	0	371
09:30 AM	0	43	70	0	113	44	202	0	0	246	0	0	0	0	0	0	0	0	0	0	359
09:45 AM	0	36	70	0	106	49	208	0	0	257	0	0	0	0	0	0	0	0	0	0	363
Total	0	143	292	0	435	178	898	0	0	1076	0	0	0	0	0	0	0	0	0	0	1511
10:00 AM	0	54	54	0	108	39	159	0	0	198	0	0	0	0	0	0	0	0	0	0	306
10:15 AM	0	50	81	0	131	41	171	0	0	212	0	0	0	0	0	0	0	0	0	0	343
10:30 AM	0	53	60	0	113	51	184	0	0	235	0	0	0	0	0	0	0	0	0	0	348
10:45 AM	0	53	59	0	112	35	184	0	0	219	0	0	0	0	0	0	0	0	0	0	331
Total	0	210	254	0	464	166	698	0	0	864	0	0	0	0	0	0	0	0	0	0	1328
11:00 AM	0	55	60	0	115	33	155	0	0	188	0	0	0	0	0	0	0	0	0	0	303
11:15 AM	0	55	69	0	124	35	160	0	0	195	0	0	0	0	0	0	0	0	0	0	319
11:30 AM	0	56	64	0	120	47	150	0	0	197	0	0	0	0	0	0	0	0	0	0	317
11:45 AM	0	43	76	0	119	41	160	0	0	201	0	0	0	0	0	0	0	0	0	0	320
Total	0	209	269	0	478	156	625	0	0	781	0	0	0	0	0	0	0	0	0	0	1259
12:00 PM	0	56	70	0	126	50	167	0	0	217	0	0	0	0	0	0	0	0	0	0	343
12:15 PM	0	50	67	0	117	58	185	0	0	243	0	0	0	0	0	0	0	0	0	0	360
12:30 PM	0	56	78	0	134	46	171	0	0	217	0	0	0	0	0	0	0	0	0	0	351
12:45 PM	0	85	83	0	168	32	202	0	0	234	0	0	0	0	0	0	0	0	0	0	402
Total	0	247	298	0	545	186	725	0	0	911	0	0	0	0	0	0	0	0	0	0	1456
01:00 PM	0	51	65	0	116	67	155	0	0	222	0	0	0	0	0	0	0	0	0	0	338
01:15 PM	0	58	87	0	145	63	175	0	0	238	0	0	0	0	0	0	0	0	0	0	383
01:30 PM	0	46	78	0	124	66	170	0	0	236	0	0	0	0	0	0	0	0	0	0	360
01:45 PM	0	60	70	0	130	74	194	0	0	268	0	0	0	0	0	0	0	0	0	0	398
Total	0	215	300	0	515	270	694	0	0	964	0	0	0	0	0	0	0	0	0	0	1479
02:00 PM	0	75	103	0	178	69	221	0	0	290	0	0	0	0	0	0	0	0	0	0	468
02:15 PM	0	76	98	0	174	102	197	0	0	299	0	0	0	0	0	0	0	0	0	0	473
02:30 PM	0	76	72	0	148	91	209	0	0	300	0	0	0	0	0	0	0	0	0	0	448
02:45 PM	0	83	68	0	151	85	211	0	0	296	0	0	0	0	0	0	0	0	0	0	447
Total	0	310	341	0	651	347	838	0	0	1185	0	0	0	0	0	0	0	0	0	0	1836
03:00 PM	0	76	90	0	166	102	182	0	0	284	0	0	0	0	0	0	0	0	0	0	450
03:15 PM	0	98	99	0	197	95	193	0	0	288	0	0	0	0	0	0	0	0	0	0	485
03:30 PM	0	89	112	0	201	88	246	0	0	334	0	0	0	0	0	0	0	0	0	0	535
03:45 PM	0	112	91	0	203	56	187	0	0	243	0	0	0	0	0	0	0	0	0	0	446
Total	0	375	392	0	767	341	808	0	0	1149	0	0	0	0	0	0	0	0	0	0	1916
04:00 PM	0	96	81	0	177	78	200	0	0	278	0	0	0	0	0	0	0	0	0	0	455

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 10. Seminary Rd @ I-395 SB Off-Ramp
Site Code : 010
Start Date : 11/1/2018
Page No : 2

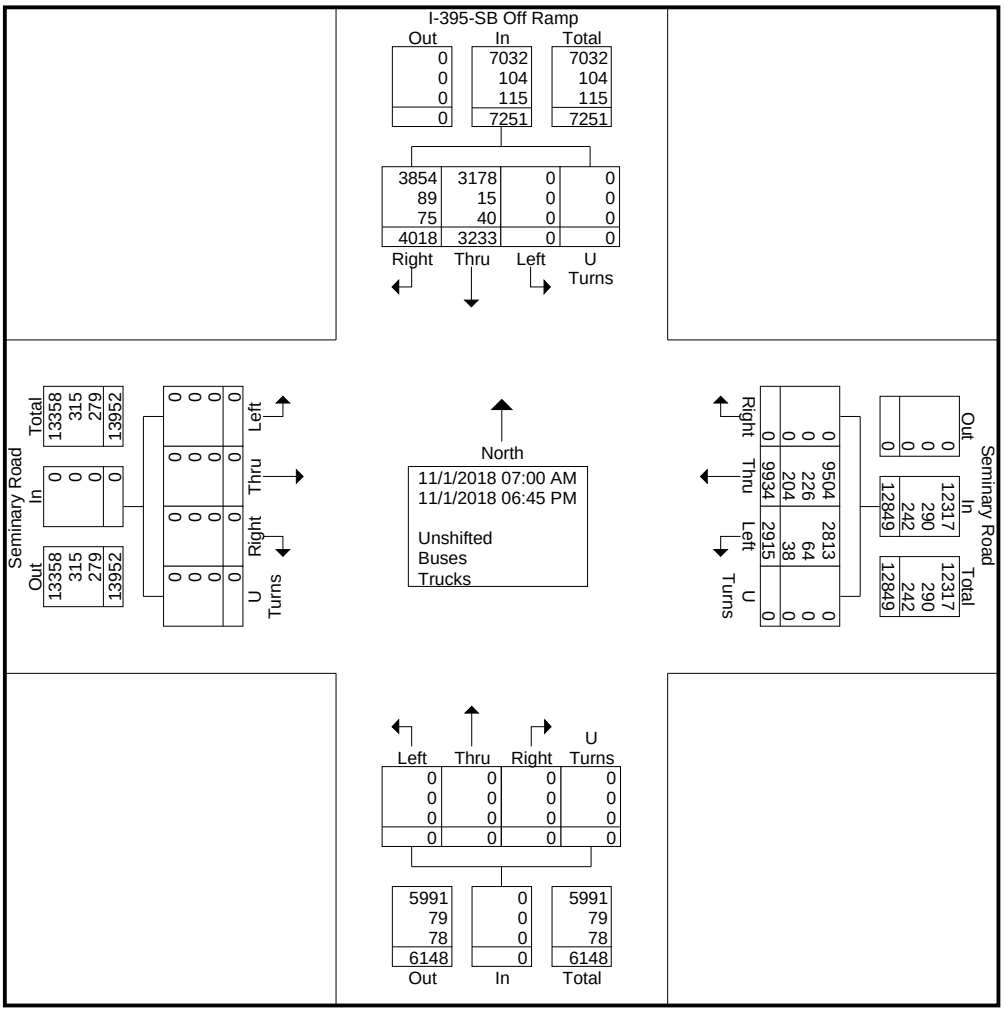
Groups Printed- Unshifted - Buses - Trucks

	I-395-SB Off Ramp From North					Seminary Road From East					From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	0	85	96	0	181	55	235	0	0	290	0	0	0	0	0	0	0	0	0	0	471
04:30 PM	0	74	102	0	176	74	230	0	0	304	0	0	0	0	0	0	0	0	0	0	480
04:45 PM	0	80	89	0	169	60	225	0	0	285	0	0	0	0	0	0	0	0	0	0	454
Total	0	335	368	0	703	267	890	0	0	1157	0	0	0	0	0	0	0	0	0	0	1860
05:00 PM	0	73	69	0	142	50	196	0	0	246	0	0	0	0	0	0	0	0	0	0	388
05:15 PM	0	85	58	0	143	80	237	0	0	317	0	0	0	0	0	0	0	0	0	0	460
05:30 PM	0	76	68	0	144	61	248	0	0	309	0	0	0	0	0	0	0	0	0	0	453
05:45 PM	0	86	71	0	157	77	239	0	0	316	0	0	0	0	0	0	0	0	0	0	473
Total	0	320	266	0	586	268	920	0	0	1188	0	0	0	0	0	0	0	0	0	0	1774
06:00 PM	0	107	95	0	202	99	246	0	0	345	0	0	0	0	0	0	0	0	0	0	547
06:15 PM	0	125	109	0	234	46	209	0	0	255	0	0	0	0	0	0	0	0	0	0	489
06:30 PM	0	126	111	0	237	71	232	0	0	303	0	0	0	0	0	0	0	0	0	0	540
06:45 PM	0	124	90	0	214	85	231	0	0	316	0	0	0	0	0	0	0	0	0	0	530
Total	0	482	405	0	887	301	918	0	0	1219	0	0	0	0	0	0	0	0	0	0	2106
Grand Total	0	3233	4018	0	7251	2915	9934	0	0	12849	0	0	0	0	0	0	0	0	0	0	20100
Apprch %	0	44.6	55.4	0		22.7	77.3	0	0		0	0	0	0		0	0	0	0		
Total %	0	16.1	20	0	36.1	14.5	49.4	0	0	63.9	0	0	0	0	0	0	0	0	0	0	
Unshifted	0	3178	3854	0	7032	2813	9504	0	0	12317	0	0	0	0	0	0	0	0	0	0	19349
% Unshifted	0	98.3	95.9	0	97	96.5	95.7	0	0	95.9	0	0	0	0	0	0	0	0	0	0	96.3
Buses	0	15	89	0	104	64	226	0	0	290	0	0	0	0	0	0	0	0	0	0	394
% Buses	0	0.5	2.2	0	1.4	2.2	2.3	0	0	2.3	0	0	0	0	0	0	0	0	0	0	2
Trucks	0	40	75	0	115	38	204	0	0	242	0	0	0	0	0	0	0	0	0	0	357
% Trucks	0	1.2	1.9	0	1.6	1.3	2.1	0	0	1.9	0	0	0	0	0	0	0	0	0	0	1.8

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 10. Seminary Rd @ I-395 SB Off-Ramp
Site Code : 010
Start Date : 11/1/2018
Page No : 3

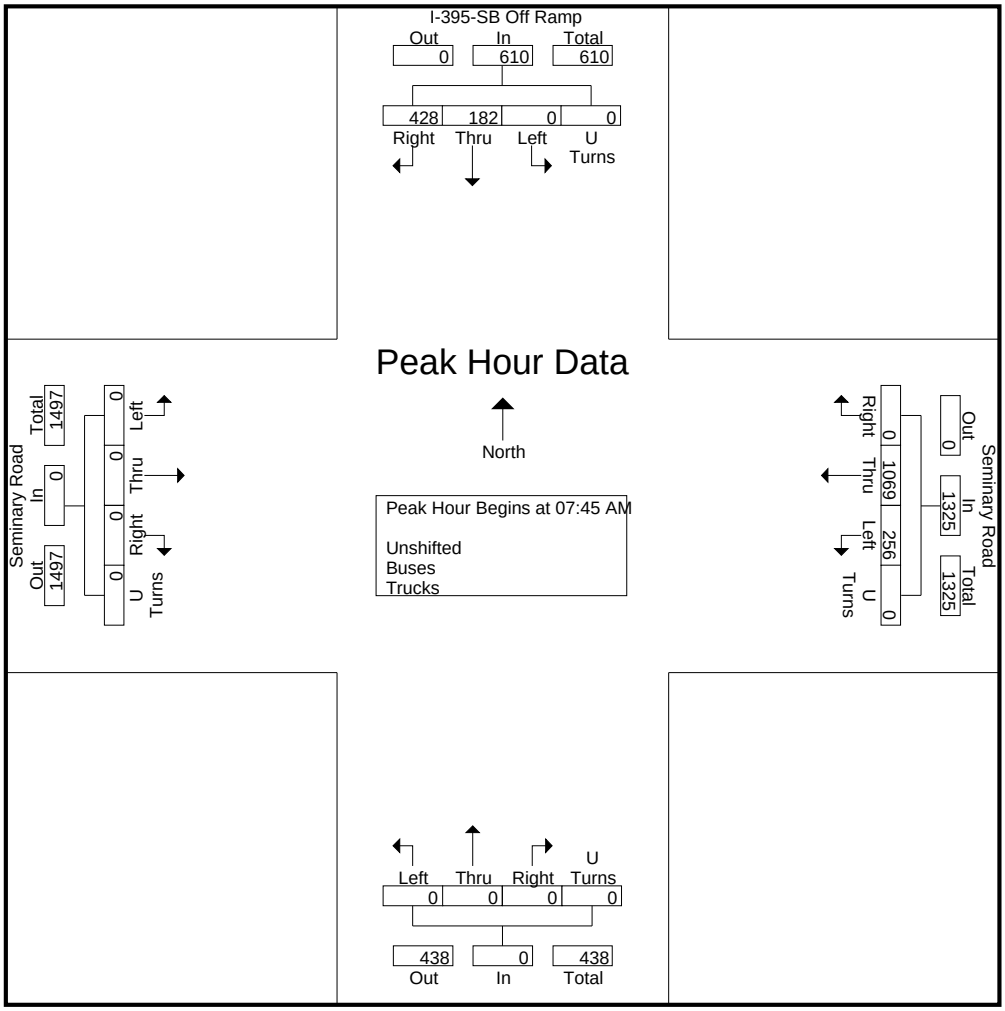


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 10. Seminary Rd @ I-395 SB Off-Ramp
Site Code : 010
Start Date : 11/1/2018
Page No : 4

	I-395-SB Off Ramp From North					Seminary Road From East					From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	**58**	**125**	0	**183**	**72**	264	0	0	336	0	0	0	0	0	0	0	0	0	0	**519**
08:00 AM	0	53	109	0	162	67	233	0	0	300	0	0	0	0	0	0	0	0	0	0	462
08:15 AM	0	34	94	0	128	59	273	0	0	332	0	0	0	0	0	0	0	0	0	0	460
08:30 AM	0	37	100	0	137	58	**299**	0	0	**357**	0	0	0	0	0	0	0	0	0	0	494
Total Volume	0	182	428	0	610	256	1069	0	0	1325	0	0	0	0	0	0	0	0	0	0	1935
% App. Total	0	29.8	70.2	0		19.3	80.7	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.784	.856	.000	.833	.889	.894	.000	.000	.928	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.932

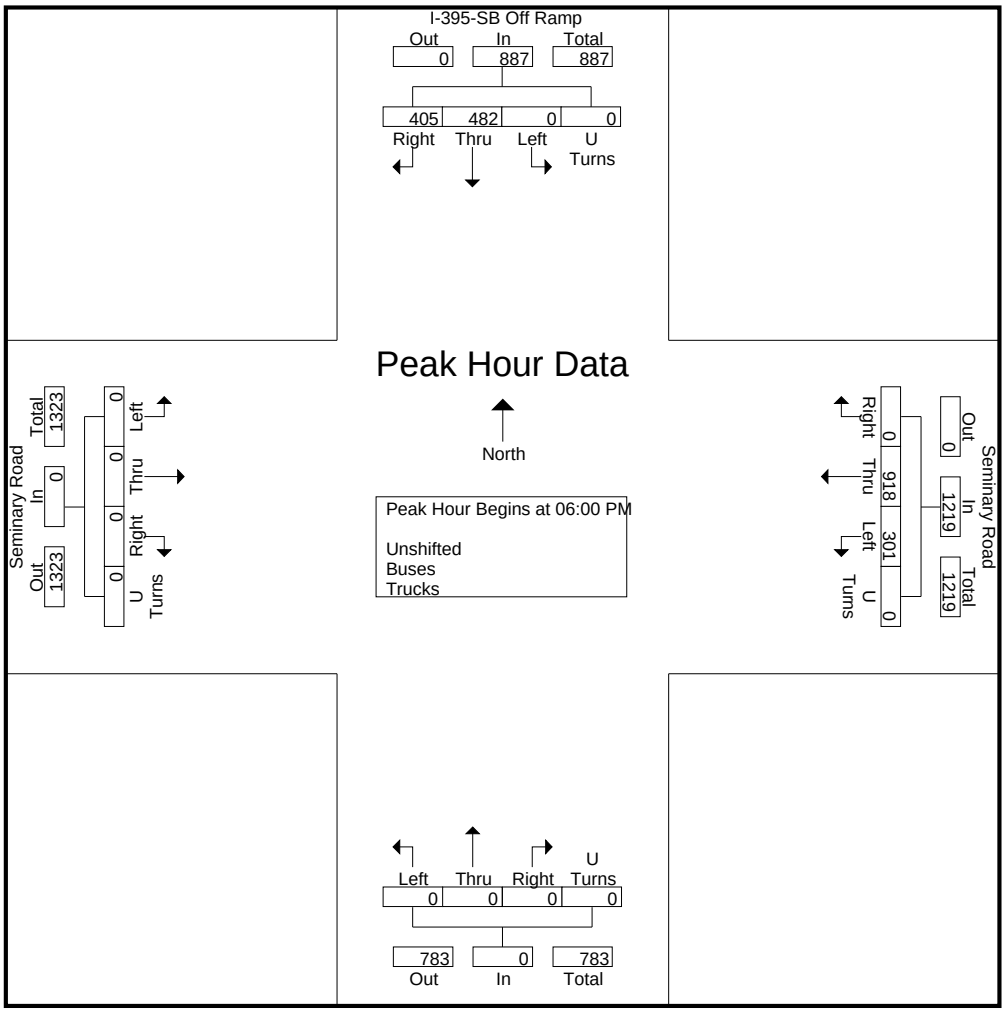


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 10. Seminary Rd @ I-395 SB Off-Ramp
Site Code : 010
Start Date : 11/1/2018
Page No : 5

	I-395-SB Off Ramp From North					Seminary Road From East					From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:00 PM																					
06:00 PM	0	107	95	0	202	**99**	**246**	0	0	**345**	0	0	0	0	0	0	0	0	0	0	**547**
06:15 PM	0	125	109	0	234	46	209	0	0	255	0	0	0	0	0	0	0	0	0	0	489
06:30 PM	0	**126**	**111**	0	**237**	71	232	0	0	303	0	0	0	0	0	0	0	0	0	0	540
06:45 PM	0	124	90	0	214	85	231	0	0	316	0	0	0	0	0	0	0	0	0	0	530
Total Volume	0	482	405	0	887	301	918	0	0	1219	0	0	0	0	0	0	0	0	0	0	2106
% App. Total	0	54.3	45.7	0		24.7	75.3	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.956	.912	.000	.936	.760	.933	.000	.000	.883	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.963



File Name: 10. Seminary Rd @ I-395 SB Off-Ramp - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 010
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	I-395-SB Off Ramp From North				Seminary Road From East				From South				Seminary Road From West			
Start Time	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 11. Seminary Rd @ I-395 SB On-Ramp
Site Code : 011
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	I-395 SB On Ramp From North					Seminary Road From East					I-395 SB On Ramp From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	42	30	0	0	72	0	0	0	0	0	0	0	0	0	0	0	137	93	0	230	302
07:15 AM	39	30	0	0	69	0	0	0	0	0	0	0	0	0	0	0	133	120	0	253	322
07:30 AM	55	46	0	0	101	0	0	0	0	0	0	0	0	0	0	0	165	134	0	299	400
07:45 AM	74	69	0	0	143	0	0	0	0	0	0	0	0	0	0	0	122	144	0	266	409
Total	210	175	0	0	385	0	0	0	0	0	0	0	0	0	0	0	557	491	0	1048	1433
08:00 AM	51	79	0	0	130	0	0	0	0	0	0	0	0	0	0	0	105	159	0	264	394
08:15 AM	44	51	0	0	95	0	0	0	0	0	0	0	0	0	0	0	115	127	0	242	337
08:30 AM	36	50	0	0	86	0	0	0	0	0	0	0	0	0	0	0	125	146	0	271	357
08:45 AM	43	53	0	0	96	0	0	0	0	0	0	0	0	0	0	0	94	126	0	220	316
Total	174	233	0	0	407	0	0	0	0	0	0	0	0	0	0	0	439	558	0	997	1404
09:00 AM	40	33	0	0	73	0	0	0	0	0	0	0	0	0	0	0	86	135	0	221	294
09:15 AM	30	42	0	0	72	0	0	0	0	0	0	0	0	0	0	0	107	110	0	217	289
09:30 AM	45	44	0	0	89	0	0	0	0	0	0	0	0	0	0	0	69	123	0	192	281
09:45 AM	52	34	0	0	86	0	0	0	0	0	0	0	0	0	0	0	93	107	0	200	286
Total	167	153	0	0	320	0	0	0	0	0	0	0	0	0	0	0	355	475	0	830	1150
10:00 AM	45	47	0	0	92	0	0	0	0	0	0	0	0	0	0	0	85	137	0	222	314
10:15 AM	59	41	0	0	100	0	0	0	0	0	0	0	0	0	0	0	80	139	0	219	319
10:30 AM	69	44	0	0	113	0	0	0	0	0	0	0	0	0	0	0	93	131	0	224	337
10:45 AM	53	36	0	0	89	0	0	0	0	0	0	0	0	0	0	0	91	127	0	218	307
Total	226	168	0	0	394	0	0	0	0	0	0	0	0	0	0	0	349	534	0	883	1277
11:00 AM	57	50	0	0	107	0	0	0	0	0	0	0	0	0	0	0	88	140	0	228	335
11:15 AM	57	36	0	0	93	0	0	0	0	0	0	0	0	0	0	0	96	127	0	223	316
11:30 AM	66	32	0	0	98	0	0	0	0	0	0	0	0	0	0	0	84	128	0	212	310
11:45 AM	48	45	0	0	93	0	0	0	0	0	0	0	0	0	0	0	107	104	0	211	304
Total	228	163	0	0	391	0	0	0	0	0	0	0	0	0	0	0	375	499	0	874	1265
12:00 PM	70	36	0	0	106	0	0	0	0	0	0	0	0	0	0	0	102	123	0	225	331
12:15 PM	64	64	0	0	128	0	0	0	0	0	0	0	0	0	0	0	83	156	0	239	367
12:30 PM	72	44	0	0	116	0	0	0	0	0	0	0	0	0	0	0	82	152	0	234	350
12:45 PM	85	47	0	0	132	0	0	0	0	0	0	0	0	0	0	0	98	133	0	231	363
Total	291	191	0	0	482	0	0	0	0	0	0	0	0	0	0	0	365	564	0	929	1411
01:00 PM	65	53	0	0	118	0	0	0	0	0	0	0	0	0	0	0	87	162	0	249	367
01:15 PM	76	48	0	0	124	0	0	0	0	0	0	0	0	0	0	0	109	162	0	271	395
01:30 PM	67	59	0	0	126	0	0	0	0	0	0	0	0	0	0	0	81	167	0	248	374
01:45 PM	84	53	0	0	137	0	0	0	0	0	0	0	0	0	0	0	102	182	0	284	421
Total	292	213	0	0	505	0	0	0	0	0	0	0	0	0	0	0	379	673	0	1052	1557
02:00 PM	74	58	0	0	132	0	0	0	0	0	0	0	0	0	0	0	91	213	0	304	436
02:15 PM	92	69	0	0	161	0	0	0	0	0	0	0	0	0	0	0	125	184	0	309	470
02:30 PM	99	71	0	0	170	0	0	0	0	0	0	0	0	0	0	0	118	206	0	324	494
02:45 PM	113	62	0	0	175	0	0	0	0	0	0	0	0	0	0	0	124	175	0	299	474
Total	378	260	0	0	638	0	0	0	0	0	0	0	0	0	0	0	458	778	0	1236	1874
03:00 PM	112	77	0	0	189	0	0	0	0	0	0	0	0	0	0	0	158	223	0	381	570
03:15 PM	144	69	0	0	213	0	0	0	0	0	0	0	0	0	0	0	119	209	0	328	541
03:30 PM	114	60	0	0	174	0	0	0	0	0	0	0	0	0	0	0	163	238	0	401	575
03:45 PM	106	46	0	0	152	0	0	0	0	0	0	0	0	0	0	0	169	194	0	363	515
Total	476	252	0	0	728	0	0	0	0	0	0	0	0	0	0	0	609	864	0	1473	2201
04:00 PM	94	42	0	0	136	0	0	0	0	0	0	0	0	0	0	0	211	196	0	407	543

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 11. Seminary Rd @ I-395 SB On-Ramp
Site Code : 011
Start Date : 11/1/2018
Page No : 2

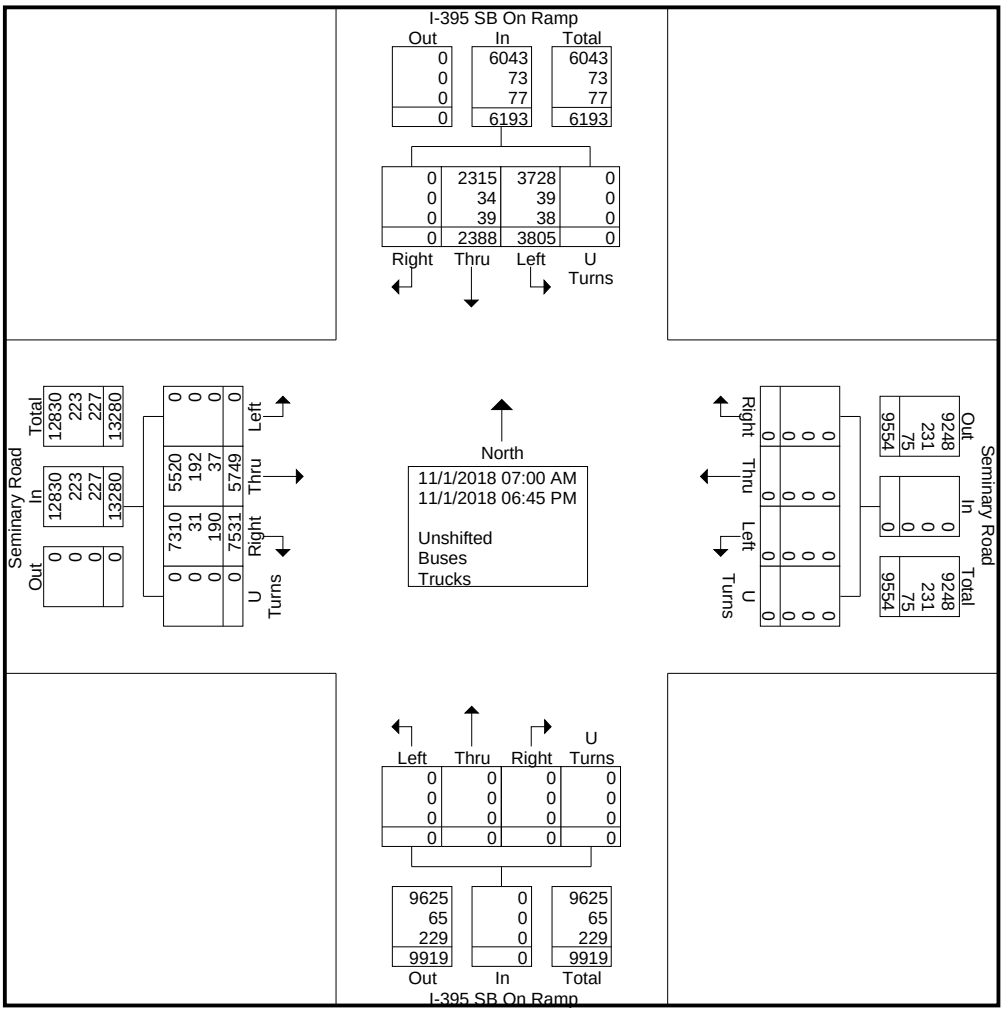
Groups Printed- Unshifted - Buses - Trucks

	I-395 SB On Ramp From North					Seminary Road From East					I-395 SB On Ramp From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	103	43	0	0	146	0	0	0	0	0	0	0	0	0	0	0	193	174	0	367	513
04:30 PM	82	42	0	0	124	0	0	0	0	0	0	0	0	0	0	0	222	172	0	394	518
04:45 PM	76	50	0	0	126	0	0	0	0	0	0	0	0	0	0	0	162	189	0	351	477
Total	355	177	0	0	532	0	0	0	0	0	0	0	0	0	0	0	788	731	0	1519	2051
05:00 PM	88	70	0	0	158	0	0	0	0	0	0	0	0	0	0	0	163	159	0	322	480
05:15 PM	97	49	0	0	146	0	0	0	0	0	0	0	0	0	0	0	177	185	0	362	508
05:30 PM	115	42	0	0	157	0	0	0	0	0	0	0	0	0	0	0	147	180	0	327	484
05:45 PM	106	45	0	0	151	0	0	0	0	0	0	0	0	0	0	0	137	161	0	298	449
Total	406	206	0	0	612	0	0	0	0	0	0	0	0	0	0	0	624	685	0	1309	1921
06:00 PM	172	54	0	0	226	0	0	0	0	0	0	0	0	0	0	0	123	211	0	334	560
06:15 PM	175	46	0	0	221	0	0	0	0	0	0	0	0	0	0	0	97	164	0	261	482
06:30 PM	142	52	0	0	194	0	0	0	0	0	0	0	0	0	0	0	108	151	0	259	453
06:45 PM	113	45	0	0	158	0	0	0	0	0	0	0	0	0	0	0	123	153	0	276	434
Total	602	197	0	0	799	0	0	0	0	0	0	0	0	0	0	0	451	679	0	1130	1929
Grand Total	3805	2388	0	0	6193	0	0	0	0	0	0	0	0	0	0	0	5749	7531	0	13280	19473
Apprch %	61.4	38.6	0	0		0	0	0	0		0	0	0	0		0	43.3	56.7	0		
Total %	19.5	12.3	0	0	31.8	0	0	0	0	0	0	0	0	0	0	0	29.5	38.7	0	68.2	
Unshifted	3728	2315	0	0	6043	0	0	0	0	0	0	0	0	0	0	0	5520	7310	0	12830	18873
% Unshifted	98	96.9	0	0	97.6	0	0	0	0	0	0	0	0	0	0	0	96	97.1	0	96.6	96.9
Buses	39	34	0	0	73	0	0	0	0	0	0	0	0	0	0	0	192	31	0	223	296
% Buses	1	1.4	0	0	1.2	0	0	0	0	0	0	0	0	0	0	0	3.3	0.4	0	1.7	1.5
Trucks	38	39	0	0	77	0	0	0	0	0	0	0	0	0	0	0	37	190	0	227	304
% Trucks	1	1.6	0	0	1.2	0	0	0	0	0	0	0	0	0	0	0	0.6	2.5	0	1.7	1.6

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 11. Seminary Rd @ I-395 SB On-Ramp
Site Code : 011
Start Date : 11/1/2018
Page No : 3

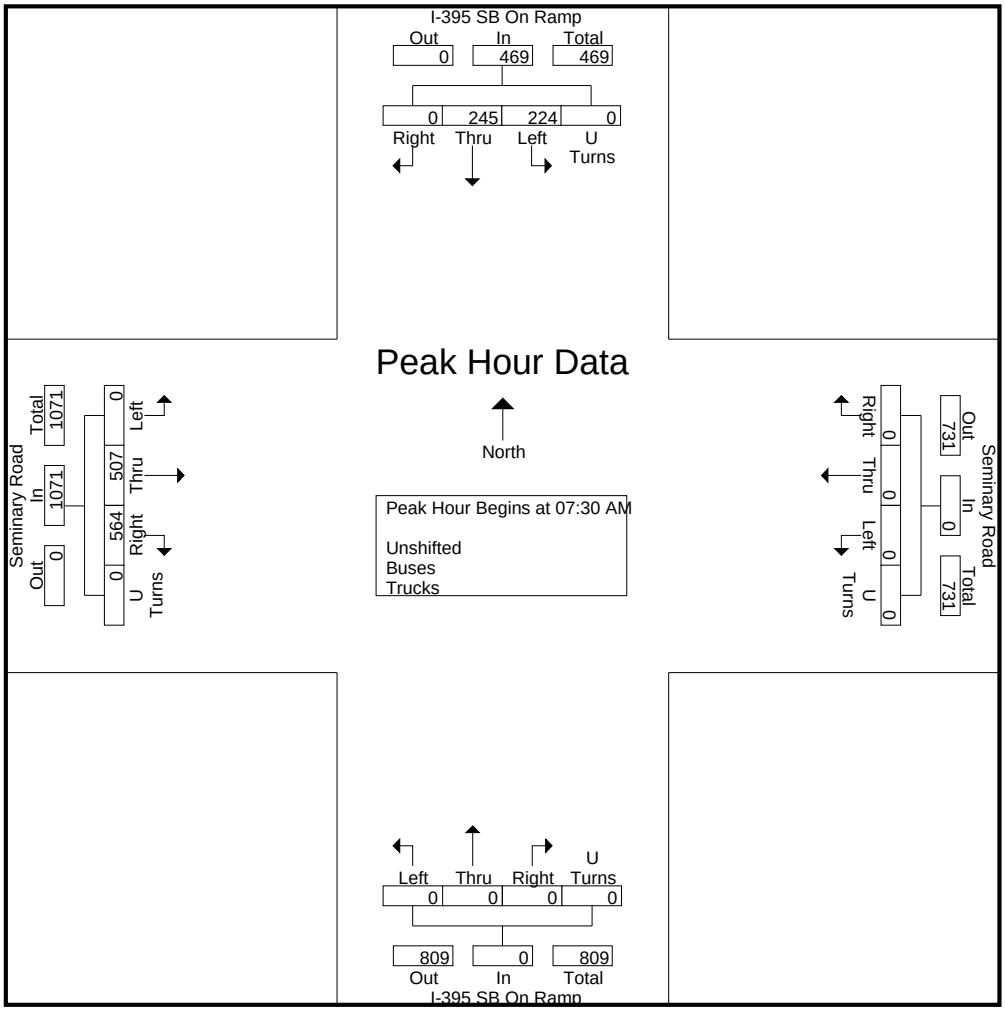


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 11. Seminary Rd @ I-395 SB On-Ramp
Site Code : 011
Start Date : 11/1/2018
Page No : 4

	I-395 SB On Ramp From North					Seminary Road From East					I-395 SB On Ramp From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	55	46	0	0	101	0	0	0	0	0	0	0	0	0	0	0	**165**	134	0	**299**	400
07:45 AM	**74**	69	0	0	**143**	0	0	0	0	0	0	0	0	0	0	0	122	144	0	266	**409**
08:00 AM	51	**79**	0	0	130	0	0	0	0	0	0	0	0	0	0	0	105	**159**	0	264	394
08:15 AM	44	51	0	0	95	0	0	0	0	0	0	0	0	0	0	0	115	127	0	242	337
Total Volume	224	245	0	0	469	0	0	0	0	0	0	0	0	0	0	0	507	564	0	1071	1540
% App. Total	47.8	52.2	0	0		0	0	0	0		0	0	0	0		0	47.3	52.7	0		
PHF	.757	.775	.000	.000	.820	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.768	.887	.000	.895	.941

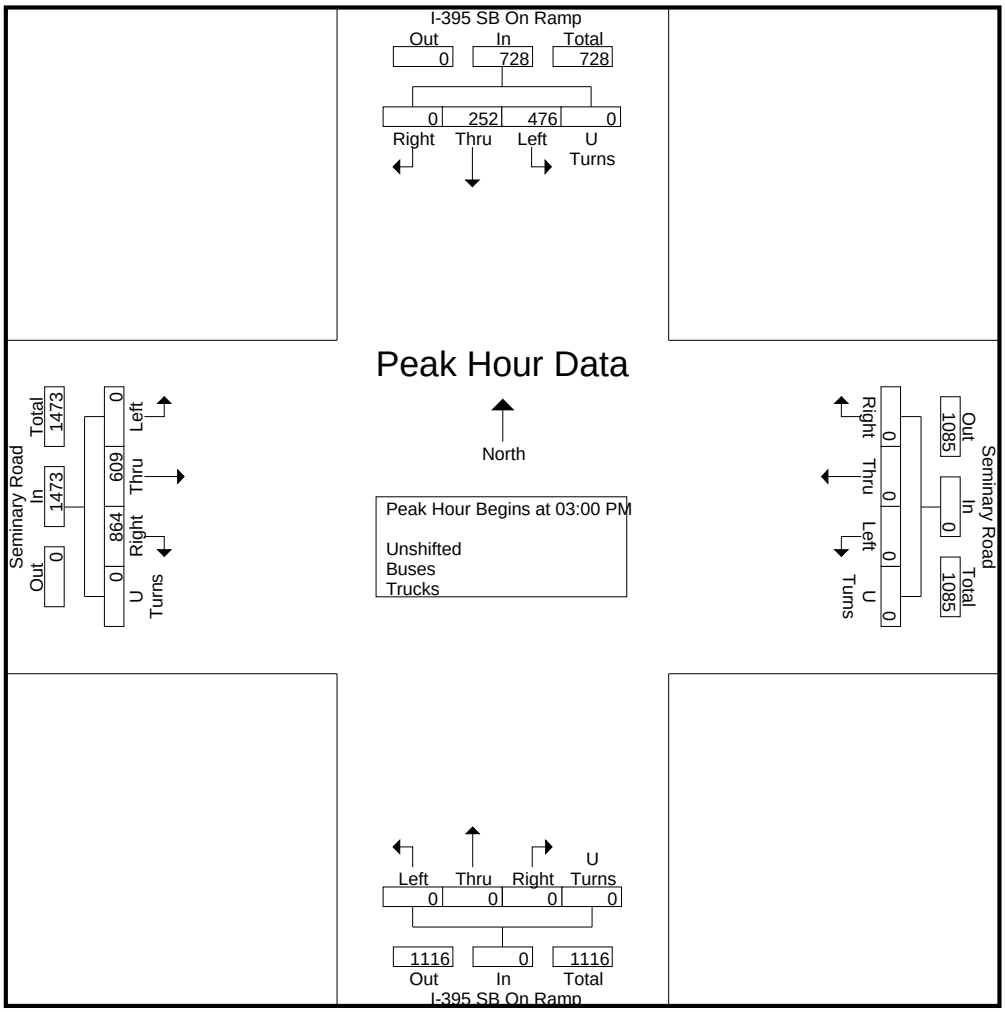


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 11. Seminary Rd @ I-395 SB On-Ramp
Site Code : 011
Start Date : 11/1/2018
Page No : 5

	I-395 SB On Ramp From North					Seminary Road From East					I-395 SB On Ramp From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	112	**77**	0	0	189	0	0	0	0	0	0	0	0	0	0	0	158	223	0	381	570
03:15 PM	**144**	69	0	0	**213**	0	0	0	0	0	0	0	0	0	0	0	119	209	0	328	541
03:30 PM	114	60	0	0	174	0	0	0	0	0	0	0	0	0	0	0	163	**238**	0	**401**	**575**
03:45 PM	106	46	0	0	152	0	0	0	0	0	0	0	0	0	0	0	**169**	194	0	363	515
Total Volume	476	252	0	0	728	0	0	0	0	0	0	0	0	0	0	0	609	864	0	1473	2201
% App. Total	65.4	34.6	0	0		0	0	0	0		0	0	0	0		0	41.3	58.7	0		
PHF	.826	.818	.000	.000	.854	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.901	.908	.000	.918	.957



File Name: 11. Seminary Rd @ I-395 SB On-Ramp - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 011
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	I-395 SB On Ramp From North				Seminary Road From East				I-395 SB On Ramp From South				Seminary Road From West			
Start Time	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 12. Seminary Rd @ Mark Center Ave
Site Code : 012
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	Apartments Driveway From North					Seminary Road From East					Mark Center Ave From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	43	23	11	0	77	71	351	21	0	443	7	5	25	0	37	0	275	19	0	294	851
07:15 AM	55	17	19	0	91	87	497	17	2	603	1	9	30	0	40	9	319	21	0	349	1083
07:30 AM	67	24	31	0	122	71	453	26	1	551	6	3	27	0	36	16	322	7	0	345	1054
07:45 AM	62	18	34	0	114	86	484	16	0	586	4	7	31	0	42	17	313	21	0	351	1093
Total	227	82	95	0	404	315	1785	80	3	2183	18	24	113	0	155	42	1229	68	0	1339	4081
08:00 AM	51	21	25	0	97	60	518	17	2	597	2	8	34	0	44	23	383	15	0	421	1159
08:15 AM	69	19	23	0	111	75	493	21	2	591	6	4	31	0	41	7	296	24	0	327	1070
08:30 AM	41	37	13	0	91	92	531	31	0	654	13	4	34	0	51	11	250	40	0	301	1097
08:45 AM	43	30	25	0	98	52	459	29	2	542	8	4	26	0	38	11	251	11	1	274	952
Total	204	107	86	0	397	279	2001	98	6	2384	29	20	125	0	174	52	1180	90	1	1323	4278
09:00 AM	41	23	19	0	83	74	471	27	0	572	6	5	25	0	36	12	255	13	1	281	972
09:15 AM	48	24	16	0	88	73	396	24	0	493	8	7	19	0	34	8	282	15	0	305	920
09:30 AM	36	15	13	0	64	47	370	23	0	440	6	3	20	0	29	12	265	11	1	289	822
09:45 AM	34	14	23	0	71	34	374	36	0	444	5	3	24	0	32	15	242	8	0	265	812
Total	159	76	71	0	306	228	1611	110	0	1949	25	18	88	0	131	47	1044	47	2	1140	3526
10:00 AM	29	13	27	0	69	35	291	17	0	343	5	1	27	0	33	9	236	7	0	252	697
10:15 AM	40	13	18	0	71	28	331	21	0	380	7	0	30	0	37	9	267	8	0	284	772
10:30 AM	36	13	18	0	67	10	308	17	0	335	10	3	30	0	43	7	241	8	0	256	701
10:45 AM	32	11	15	0	58	18	321	26	1	366	5	2	29	0	36	8	270	7	0	285	745
Total	137	50	78	0	265	91	1251	81	1	1424	27	6	116	0	149	33	1014	30	0	1077	2915
11:00 AM	23	15	17	0	55	12	285	20	0	317	3	1	35	0	39	8	259	4	0	271	682
11:15 AM	34	9	16	0	59	6	277	24	2	309	12	3	58	0	73	19	263	7	0	289	730
11:30 AM	36	8	15	0	59	6	266	30	0	302	14	2	62	0	78	10	279	6	0	295	734
11:45 AM	53	11	27	0	91	11	299	17	1	328	13	4	56	0	73	4	274	4	0	282	774
Total	146	43	75	0	264	35	1127	91	3	1256	42	10	211	0	263	41	1075	21	0	1137	2920
12:00 PM	37	13	17	0	67	14	278	12	1	305	15	6	61	0	82	11	252	12	1	276	730
12:15 PM	35	14	26	0	75	16	308	15	0	339	9	3	44	0	56	10	264	9	0	283	753
12:30 PM	24	9	21	0	54	18	326	23	0	367	10	3	43	0	56	8	327	5	0	340	817
12:45 PM	41	14	11	0	66	10	339	25	0	374	8	6	49	0	63	11	326	14	0	351	854
Total	137	50	75	0	262	58	1251	75	1	1385	42	18	197	0	257	40	1169	40	1	1250	3154
01:00 PM	35	10	15	0	60	9	276	13	1	299	6	5	46	0	57	11	290	6	1	308	724
01:15 PM	52	13	24	0	89	9	301	19	0	329	2	3	59	1	65	15	286	6	0	307	790
01:30 PM	33	15	23	0	71	15	282	21	0	318	8	4	69	0	81	10	298	6	1	315	785
01:45 PM	37	8	29	0	74	17	325	31	1	374	10	3	52	0	65	8	287	6	0	301	814
Total	157	46	91	0	294	50	1184	84	2	1320	26	15	226	1	268	44	1161	24	2	1231	3113
02:00 PM	43	10	23	0	76	8	379	26	0	413	11	3	107	0	121	8	326	5	0	339	949
02:15 PM	47	7	30	0	84	9	355	18	0	382	9	4	98	0	111	14	269	8	0	291	868
02:30 PM	44	9	19	0	72	12	310	27	0	349	10	3	136	0	149	11	338	8	0	357	927
02:45 PM	55	10	16	0	81	10	336	27	1	374	6	8	96	0	110	13	388	5	0	406	971
Total	189	36	88	0	313	39	1380	98	1	1518	36	18	437	0	491	46	1321	26	0	1393	3715
03:00 PM	44	5	23	0	72	7	305	31	0	343	22	4	217	0	243	13	384	5	0	402	1060
03:15 PM	41	9	19	0	69	9	379	36	1	425	14	3	140	0	157	7	405	4	0	416	1067
03:30 PM	44	12	16	0	72	8	372	37	0	417	16	4	226	0	246	15	358	6	0	379	1114
03:45 PM	44	3	20	0	67	11	377	20	0	408	18	3	191	0	212	10	392	6	0	408	1095
Total	173	29	78	0	280	35	1433	124	1	1593	70	14	774	0	858	45	1539	21	0	1605	4336
04:00 PM	48	6	19	0	73	4	355	24	0	383	22	12	198	0	232	9	365	4	0	378	1066

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 12. Seminary Rd @ Mark Center Ave
Site Code : 012
Start Date : 11/1/2018
Page No : 2

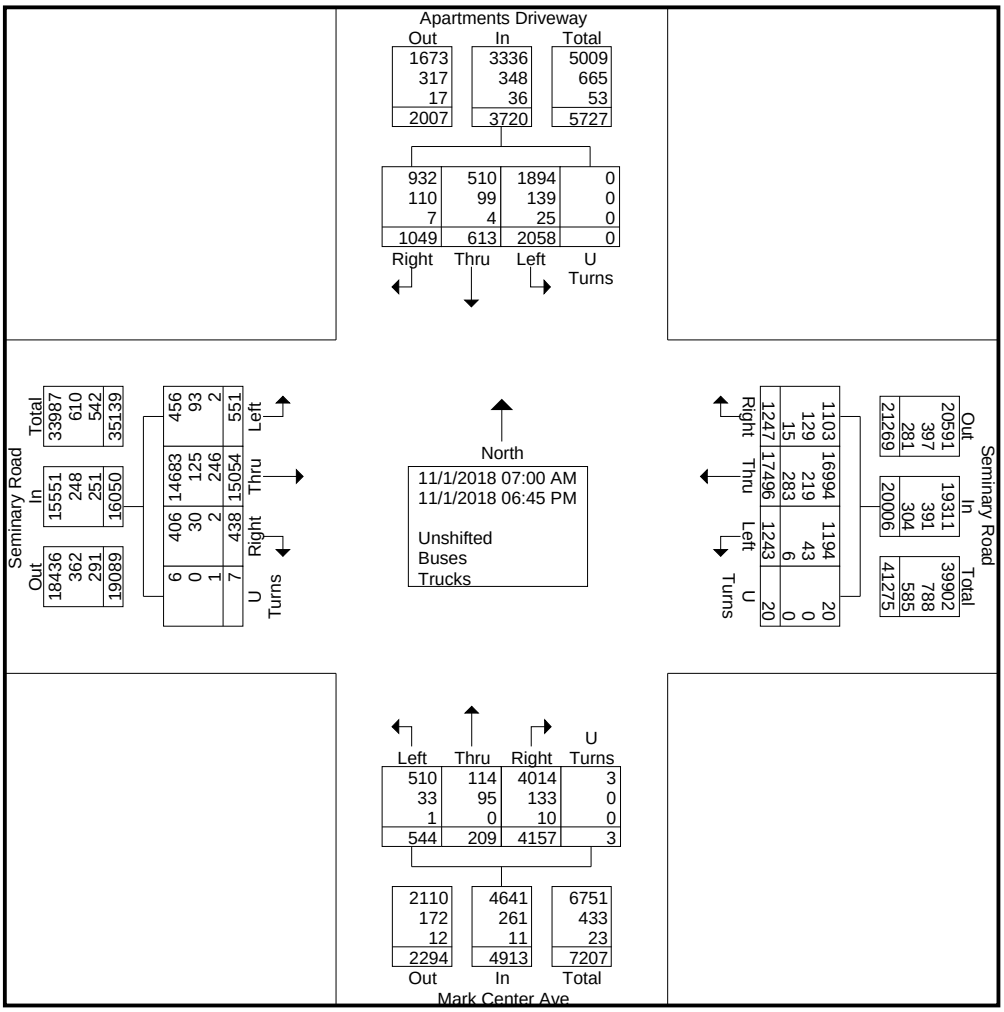
Groups Printed- Unshifted - Buses - Trucks

	Apartments Driveway From North					Seminary Road From East					Mark Center Ave From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	44	9	29	0	82	13	382	39	0	434	20	9	189	0	218	11	341	9	0	361	1095
04:30 PM	44	10	29	0	83	12	404	38	0	454	21	2	217	0	240	8	331	3	0	342	1119
04:45 PM	37	8	23	0	68	9	331	28	0	368	29	7	231	0	267	12	329	6	0	347	1050
Total	173	33	100	0	306	38	1472	129	0	1639	92	30	835	0	957	40	1366	22	0	1428	4330
05:00 PM	23	13	23	0	59	14	382	33	0	429	33	3	181	1	218	10	394	12	0	416	1122
05:15 PM	45	11	35	0	91	12	364	35	0	411	24	4	222	0	250	10	339	13	0	362	1114
05:30 PM	43	6	25	0	74	12	404	37	0	453	24	5	147	1	177	10	416	4	0	430	1134
05:45 PM	50	8	26	0	84	9	360	31	0	400	21	7	149	0	177	18	378	7	0	403	1064
Total	161	38	109	0	308	47	1510	136	0	1693	102	19	699	2	822	48	1527	36	0	1611	4434
06:00 PM	52	4	24	0	80	8	386	38	2	434	9	3	117	0	129	16	373	2	1	392	1035
06:15 PM	63	7	20	0	90	7	392	39	0	438	11	4	81	0	96	14	345	6	0	365	989
06:30 PM	41	8	32	0	81	8	341	27	0	376	10	5	82	0	97	24	345	3	0	372	926
06:45 PM	39	4	27	0	70	5	372	37	0	414	5	5	56	0	66	19	366	2	0	387	937
Total	195	23	103	0	321	28	1491	141	2	1662	35	17	336	0	388	73	1429	13	1	1516	3887
Grand Total	2058	613	1049	0	3720	1243	17496	1247	20	20006	544	209	4157	3	4913	551	15054	438	7	16050	44689
Apprch %	55.3	16.5	28.2	0		6.2	87.5	6.2	0.1		11.1	4.3	84.6	0.1		3.4	93.8	2.7	0		
Total %	4.6	1.4	2.3	0	8.3	2.8	39.2	2.8	0	44.8	1.2	0.5	9.3	0	11	1.2	33.7	1	0	35.9	
Unshifted	1894	510	932	0	3336	1194	16994	1103	20	19311	510	114	4014	3	4641	456	14683	406	6	15551	42839
% Unshifted	92	83.2	88.8	0	89.7	96.1	97.1	88.5	100	96.5	93.8	54.5	96.6	100	94.5	82.8	97.5	92.7	85.7	96.9	95.9
Buses	139	99	110	0	348	43	219	129	0	391	33	95	133	0	261	93	125	30	0	248	1248
% Buses	6.8	16.2	10.5	0	9.4	3.5	1.3	10.3	0	2	6.1	45.5	3.2	0	5.3	16.9	0.8	6.8	0	1.5	2.8
Trucks	25	4	7	0	36	6	283	15	0	304	1	0	10	0	11	2	246	2	1	251	602
% Trucks	1.2	0.7	0.7	0	1	0.5	1.6	1.2	0	1.5	0.2	0	0.2	0	0.2	0.4	1.6	0.5	14.3	1.6	1.3

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 12. Seminary Rd @ Mark Center Ave
Site Code : 012
Start Date : 11/1/2018
Page No : 3

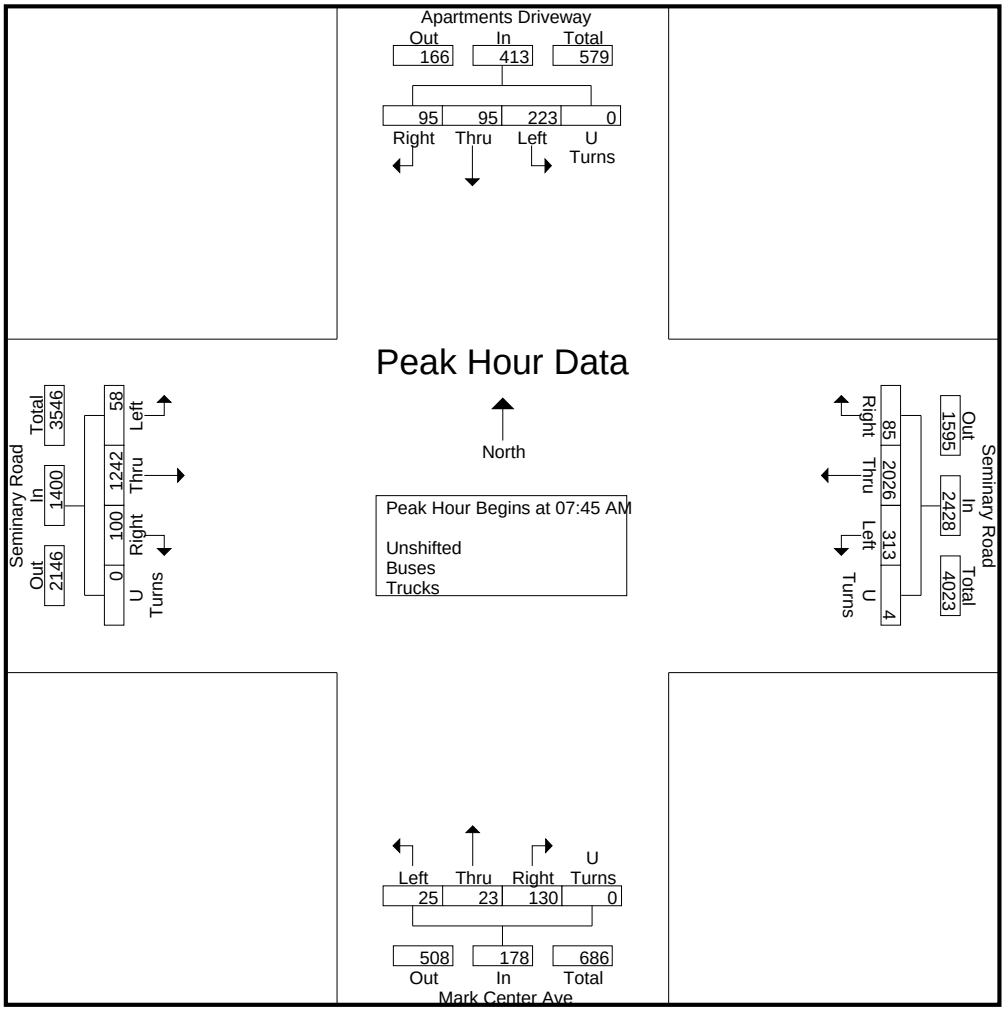


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 12. Seminary Rd @ Mark Center Ave
Site Code : 012
Start Date : 11/1/2018
Page No : 4

	Apartments Driveway From North					Seminary Road From East					Mark Center Ave From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	62	18	**34**	0	**114**	86	484	16	0	586	4	7	31	0	42	17	313	21	0	351	1093
08:00 AM	51	21	25	0	97	60	518	17	**2**	597	2	**8**	**34**	0	44	**23**	**383**	15	0	**421**	**1159**
08:15 AM	**69**	19	23	0	111	75	493	21	2	591	6	4	31	0	41	7	296	24	0	327	1070
08:30 AM	41	**37**	13	0	91	**92**	**531**	**31**	0	**654**	**13**	4	34	0	**51**	11	250	**40**	0	301	1097
Total Volume	223	95	95	0	413	313	2026	85	4	2428	25	23	130	0	178	58	1242	100	0	1400	4419
% App. Total	54	23	23	0		12.9	83.4	3.5	0.2		14	12.9	73	0		4.1	88.7	7.1	0		
PHF	.808	.642	.699	.000	.906	.851	.954	.685	.500	.928	.481	.719	.956	.000	.873	.630	.811	.625	.000	.831	.953

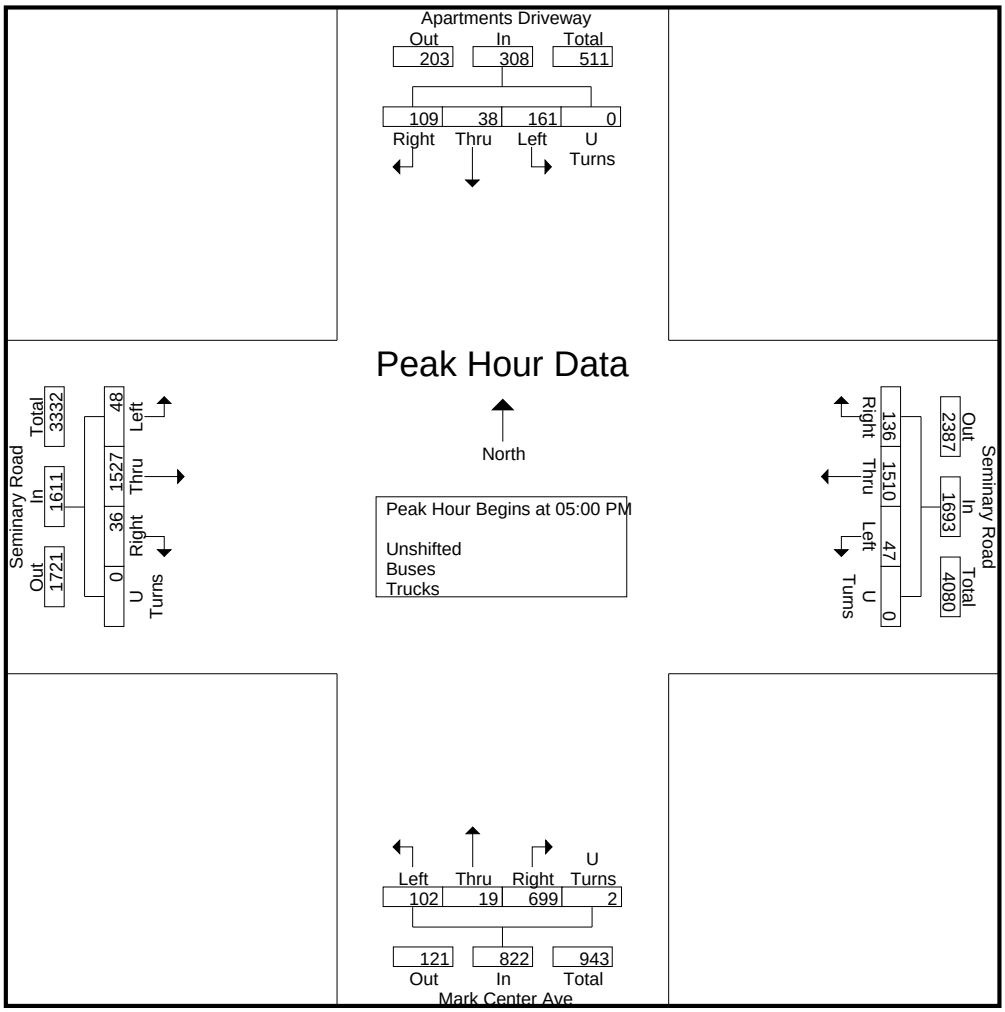


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 12. Seminary Rd @ Mark Center Ave
Site Code : 012
Start Date : 11/1/2018
Page No : 5

	Apartments Driveway From North					Seminary Road From East					Mark Center Ave From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	23	**13**	23	0	59	**14**	382	33	0	429	**33**	3	181	**1**	218	10	394	12	0	416	1122
05:15 PM	45	11	**35**	0	**91**	12	364	35	0	411	24	4	**222**	0	**250**	10	339	**13**	0	362	1114
05:30 PM	43	6	25	0	74	12	**404**	**37**	0	**453**	24	5	147	1	177	10	**416**	4	0	**430**	**1134**
05:45 PM	**50**	8	26	0	84	9	360	31	0	400	21	**7**	149	0	177	**18**	378	7	0	403	1064
Total Volume	161	38	109	0	308	47	1510	136	0	1693	102	19	699	2	822	48	1527	36	0	1611	4434
% App. Total	52.3	12.3	35.4	0		2.8	89.2	8	0		12.4	2.3	85	0.2		3	94.8	2.2	0		
PHF	.805	.731	.779	.000	.846	.839	.934	.919	.000	.934	.773	.679	.787	.500	.822	.667	.918	.692	.000	.937	.978



File Name: 12. Seminary Rd @ Mark Center Ave - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 012
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	Apartments Driveway From North				Seminary Road From East				Mark Center Ave From South				Seminary Road From West			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
07:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
07:30 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	14
07:45 AM	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	18
08:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	9
08:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	8
08:30 AM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	12
08:45 AM	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	15
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
09:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4
09:30 AM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	9
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
10:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4
10:15 AM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	5
10:30 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	6
10:45 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3
11:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3
11:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	6
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
11:45 AM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	5
12:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	7
12:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	6
12:45 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	5
01:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	5
01:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	7
01:30 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	9
01:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	8
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
02:15 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	9
02:30 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	8
02:45 PM	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	8
03:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	11

03:15 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	14
03:30 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	5
03:45 PM	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	10
04:00 PM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	19
04:15 PM	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	12
04:30 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	14
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
05:00 PM	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	7
05:15 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	8
05:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	11
05:45 PM	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	14
06:00 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
06:30 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	4
06:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 13. Seminary Rd @ Beauregard St
Site Code : 013
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	Beauregard St From North					Seminary Road From East					Beauregard St From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	23	37	61	0	121	165	142	44	0	351	61	63	101	1	226	14	148	47	0	209	907
07:15 AM	25	43	40	0	108	178	248	38	0	464	89	62	108	0	259	6	184	63	0	253	1084
07:30 AM	28	60	13	0	101	190	233	35	0	458	82	59	109	0	250	10	212	62	0	284	1093
07:45 AM	38	54	23	0	115	197	258	36	0	491	114	99	86	0	299	10	219	64	0	293	1198
Total	114	194	137	0	445	730	881	153	0	1764	346	283	404	1	1034	40	763	236	0	1039	4282
08:00 AM	32	46	14	0	92	146	256	29	0	431	87	80	145	0	312	12	213	54	0	279	1114
08:15 AM	27	22	13	0	62	187	260	24	0	471	94	68	109	0	271	11	196	70	0	277	1081
08:30 AM	28	32	17	0	77	156	257	24	0	437	88	86	72	0	246	8	174	56	0	238	998
08:45 AM	27	32	13	0	72	174	275	26	0	475	90	47	70	0	207	10	191	62	0	263	1017
Total	114	132	57	0	303	663	1048	103	0	1814	359	281	396	0	1036	41	774	242	0	1057	4210
09:00 AM	30	26	8	0	64	152	241	25	0	418	85	53	68	0	206	7	156	41	0	204	892
09:15 AM	27	40	5	0	72	140	264	25	0	429	65	27	91	0	183	6	206	45	0	257	941
09:30 AM	21	30	8	0	59	117	233	23	0	373	76	43	95	0	214	10	171	47	0	228	874
09:45 AM	27	18	5	0	50	120	240	25	0	385	92	40	79	0	211	4	145	52	0	201	847
Total	105	114	26	0	245	529	978	98	0	1605	318	163	333	0	814	27	678	185	0	890	3554
10:00 AM	21	31	7	0	59	93	202	32	0	327	79	31	63	0	173	4	163	52	0	219	778
10:15 AM	27	34	8	0	69	91	197	33	0	321	64	39	85	1	189	6	151	64	0	221	800
10:30 AM	29	21	7	0	57	79	203	27	0	309	79	40	61	0	180	5	179	56	1	241	787
10:45 AM	21	31	6	0	58	103	218	35	0	356	74	48	74	1	197	6	184	60	0	250	861
Total	98	117	28	0	243	366	820	127	0	1313	296	158	283	2	739	21	677	232	1	931	3226
11:00 AM	25	42	11	0	78	83	169	26	0	278	97	37	79	0	213	13	159	66	0	238	807
11:15 AM	25	31	8	0	64	60	156	24	0	240	68	44	95	0	207	10	154	86	0	250	761
11:30 AM	24	37	10	0	71	77	145	28	0	250	82	48	93	0	223	7	168	51	0	226	770
11:45 AM	21	34	11	0	66	87	200	26	0	313	71	46	89	0	206	12	180	58	0	250	835
Total	95	144	40	0	279	307	670	104	0	1081	318	175	356	0	849	42	661	261	0	964	3173
12:00 PM	27	36	7	0	70	82	181	36	0	299	101	56	85	0	242	10	176	69	0	255	866
12:15 PM	30	42	9	0	81	82	201	28	0	311	93	61	81	0	235	10	173	69	0	252	879
12:30 PM	32	43	13	0	88	66	197	32	0	295	85	56	100	0	241	9	187	74	0	270	894
12:45 PM	32	51	11	0	94	100	182	37	0	319	75	51	102	0	228	7	213	103	0	323	964
Total	121	172	40	0	333	330	761	133	0	1224	354	224	368	0	946	36	749	315	0	1100	3603
01:00 PM	25	42	7	0	74	68	195	29	0	292	88	50	85	0	223	12	172	78	0	262	851
01:15 PM	28	37	8	1	74	89	183	36	0	308	83	33	87	0	203	9	207	83	0	299	884
01:30 PM	22	38	9	0	69	85	190	31	0	306	91	48	94	0	233	5	207	64	0	276	884
01:45 PM	38	39	12	0	89	90	216	50	1	357	119	57	81	0	257	14	197	84	0	295	998
Total	113	156	36	1	306	332	784	146	1	1263	381	188	347	0	916	40	783	309	0	1132	3617
02:00 PM	31	55	10	0	96	69	196	76	0	341	76	57	86	0	219	11	190	79	0	280	936
02:15 PM	43	56	7	0	106	86	222	70	0	378	72	54	91	0	217	13	180	80	0	273	974
02:30 PM	57	66	9	0	132	93	195	47	0	335	77	60	115	0	252	8	176	88	0	272	991
02:45 PM	44	50	14	0	108	90	197	38	0	325	90	88	125	0	303	12	184	106	0	302	1038
Total	175	227	40	0	442	338	810	231	0	1379	315	259	417	0	991	44	730	353	0	1127	3939
03:00 PM	55	48	16	0	119	99	217	28	0	344	92	66	126	0	284	13	231	93	0	337	1084
03:15 PM	44	82	14	0	140	109	208	34	0	351	68	55	99	0	222	10	242	102	0	354	1067
03:30 PM	42	76	11	0	129	117	249	36	0	402	72	56	98	0	226	14	232	94	0	340	1097
03:45 PM	48	104	10	0	162	123	204	39	0	366	71	65	91	0	227	12	237	108	0	357	1112
Total	189	310	51	0	550	448	878	137	0	1463	303	242	414	0	959	49	942	397	0	1388	4360
04:00 PM	40	74	14	0	128	105	228	52	0	385	79	61	99	0	239	8	269	120	0	397	1149

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 13. Seminary Rd @ Beauregard St
Site Code : 013
Start Date : 11/1/2018

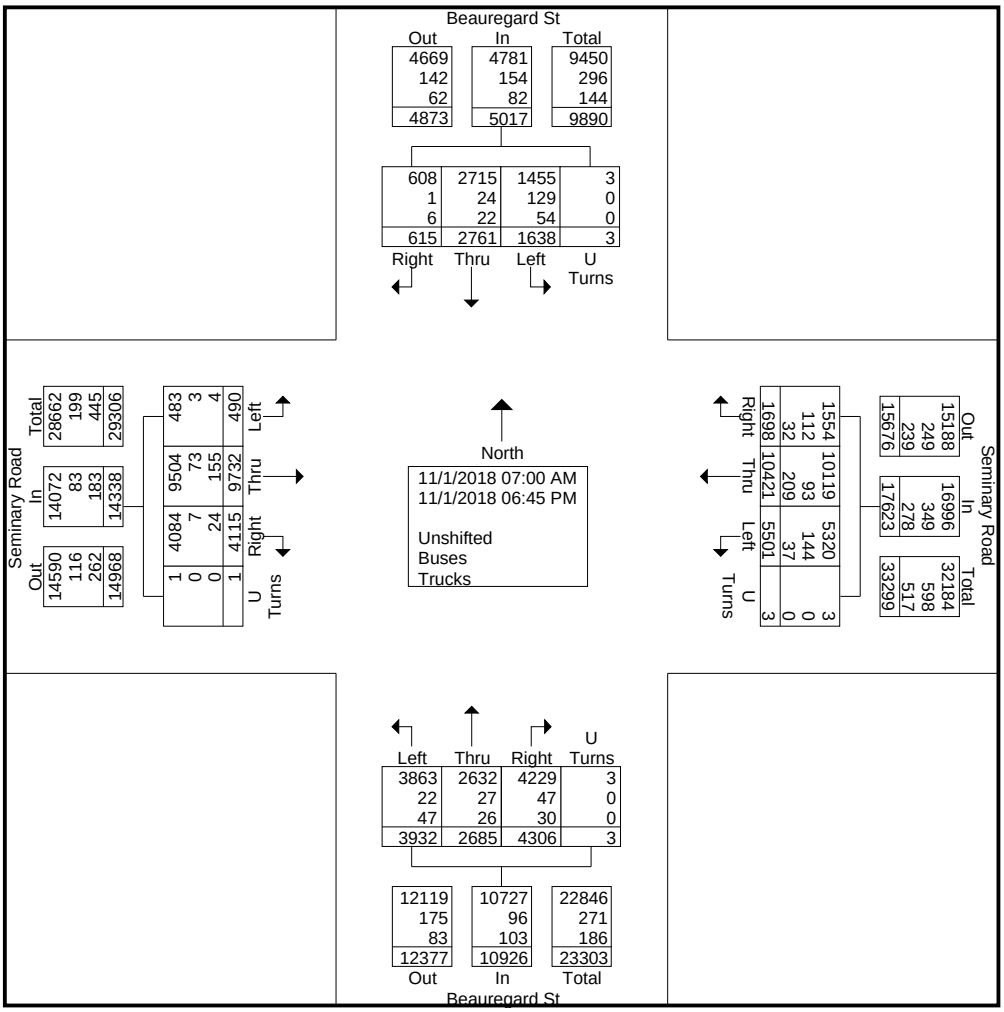
Groups Printed- Unshifted - Buses - Trucks

	Beauregard St From North					Seminary Road From East					Beauregard St From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	39	102	14	0	155	145	224	51	1	421	84	58	85	0	227	13	219	123	0	355	1158
04:30 PM	42	110	13	0	165	131	240	37	0	408	73	60	99	0	232	14	206	133	0	353	1158
04:45 PM	38	129	11	0	178	152	227	39	0	418	101	54	81	0	236	15	256	137	0	408	1240
Total	159	415	52	0	626	533	919	179	1	1632	337	233	364	0	934	50	950	513	0	1513	4705
05:00 PM	36	137	11	0	184	105	218	38	0	361	73	56	104	0	233	11	242	149	0	402	1180
05:15 PM	57	121	14	0	192	127	252	42	1	422	65	53	85	0	203	9	254	152	0	415	1232
05:30 PM	52	141	16	0	209	106	236	39	0	381	93	66	72	0	231	11	253	154	0	418	1239
05:45 PM	45	105	9	1	160	102	260	40	0	402	74	68	88	0	230	14	288	150	0	452	1244
Total	190	504	50	1	745	440	966	159	1	1566	305	243	349	0	897	45	1037	605	0	1687	4895
06:00 PM	48	102	18	1	169	134	222	34	0	390	71	58	66	0	195	18	253	130	0	401	1155
06:15 PM	45	74	16	0	135	134	229	34	0	397	74	54	68	0	196	14	235	110	0	359	1087
06:30 PM	39	44	14	0	97	125	238	32	0	395	84	52	83	0	219	15	256	131	0	402	1113
06:45 PM	33	56	10	0	99	92	217	28	0	337	71	72	58	0	201	8	244	96	0	348	985
Total	165	276	58	1	500	485	906	128	0	1519	300	236	275	0	811	55	988	467	0	1510	4340
Grand Total	1638	2761	615	3	5017	5501	10421	1698	3	17623	3932	2685	4306	3	10926	490	9732	4115	1	14338	47904
Apprch %	32.6	55	12.3	0.1		31.2	59.1	9.6	0		36	24.6	39.4	0		3.4	67.9	28.7	0		
Total %	3.4	5.8	1.3	0	10.5	11.5	21.8	3.5	0	36.8	8.2	5.6	9	0	22.8	1	20.3	8.6	0	29.9	
Unshifted	1455	2715	608	3	4781	5320	10119	1554	3	16996	3863	2632	4229	3	10727	483	9504	4084	1	14072	46576
% Unshifted	88.8	98.3	98.9	100	95.3	96.7	97.1	91.5	100	96.4	98.2	98	98.2	100	98.2	98.6	97.7	99.2	100	98.1	97.2
Buses	129	24	1	0	154	144	93	112	0	349	22	27	47	0	96	3	73	7	0	83	682
% Buses	7.9	0.9	0.2	0	3.1	2.6	0.9	6.6	0	2	0.6	1	1.1	0	0.9	0.6	0.8	0.2	0	0.6	1.4
Trucks	54	22	6	0	82	37	209	32	0	278	47	26	30	0	103	4	155	24	0	183	646
% Trucks	3.3	0.8	1	0	1.6	0.7	2	1.9	0	1.6	1.2	1	0.7	0	0.9	0.8	1.6	0.6	0	1.3	1.3

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 13. Seminary Rd @ Beauregard St
Site Code : 013
Start Date : 11/1/2018
Page No : 3

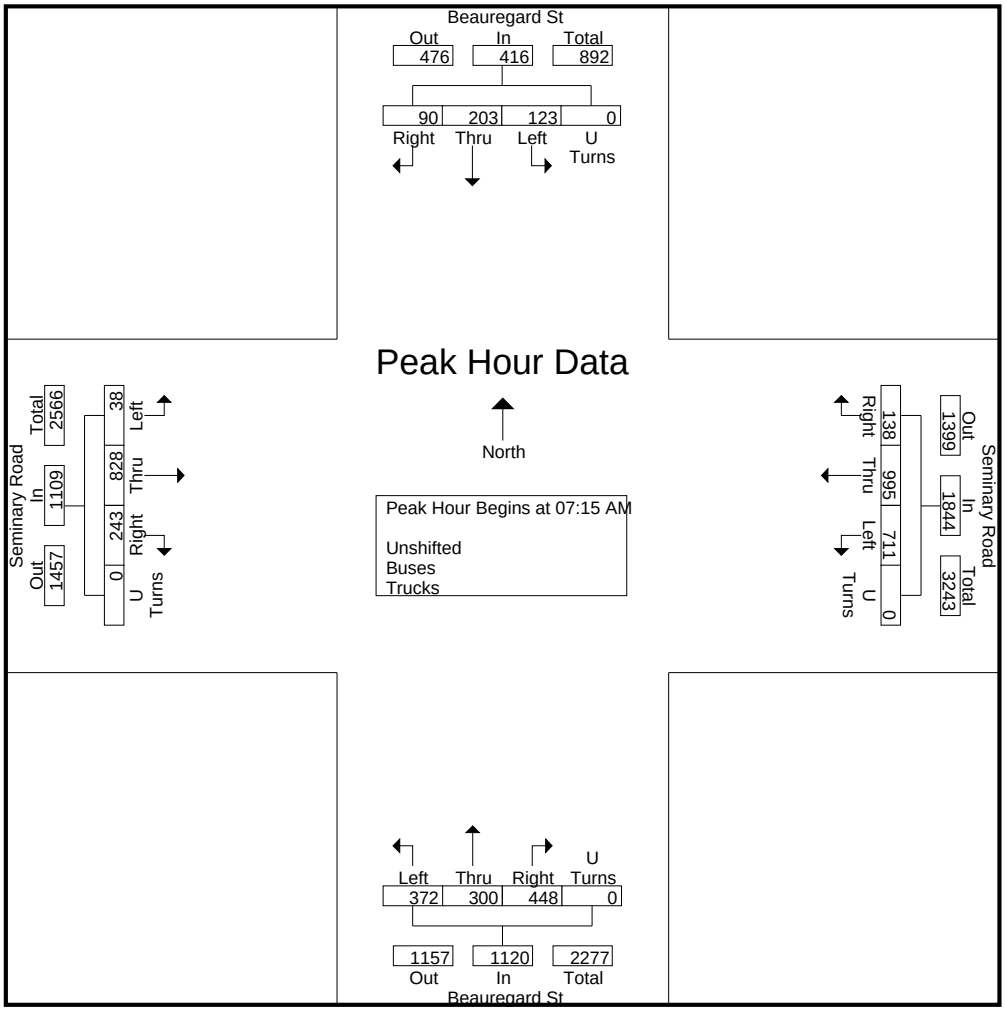


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 13. Seminary Rd @ Beauregard St
Site Code : 013
Start Date : 11/1/2018
Page No : 4

	Beauregard St From North					Seminary Road From East					Beauregard St From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	25	43	**40**	0	108	178	248	**38**	0	464	89	62	108	0	259	6	184	63	0	253	1084
07:30 AM	28	**60**	13	0	101	190	233	35	0	458	82	59	109	0	250	10	212	62	0	284	1093
07:45 AM	**38**	54	23	0	**115**	**197**	**258**	36	0	**491**	**114**	**99**	86	0	299	10	**219**	**64**	0	**293**	**1198**
08:00 AM	32	46	14	0	92	146	256	29	0	431	87	80	**145**	0	**312**	**12**	213	54	0	279	1114
Total Volume	123	203	90	0	416	711	995	138	0	1844	372	300	448	0	1120	38	828	243	0	1109	4489
% App. Total	29.6	48.8	21.6	0		38.6	54	7.5	0		33.2	26.8	40	0		3.4	74.7	21.9	0		
PHF	.809	.846	.563	.000	.904	.902	.964	.908	.000	.939	.816	.758	.772	.000	.897	.792	.945	.949	.000	.946	.937

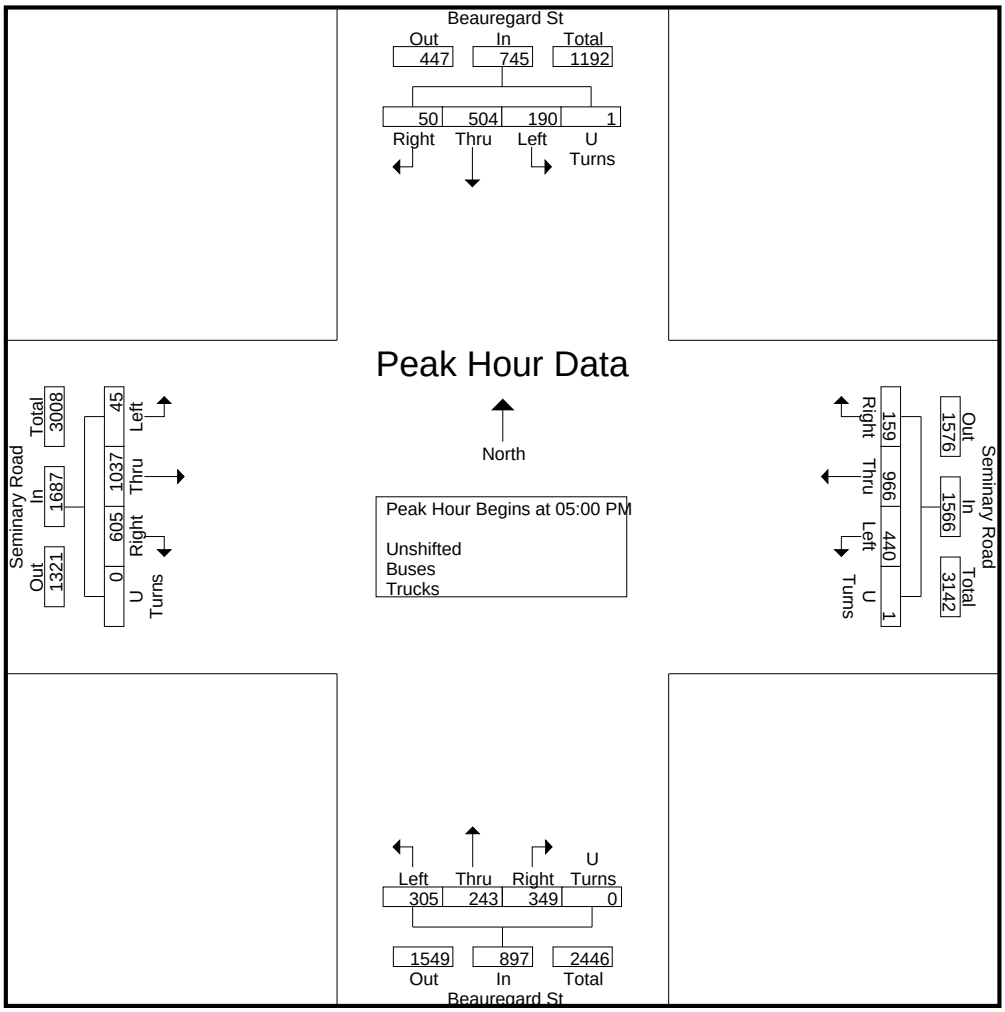


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 13. Seminary Rd @ Beauregard St
Site Code : 013
Start Date : 11/1/2018
Page No : 5

	Beauregard St From North					Seminary Road From East					Beauregard St From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	36	137	11	0	184	105	218	38	0	361	73	56	**104**	0	**233**	11	242	149	0	402	1180
05:15 PM	**57**	121	14	0	192	**127**	252	**42**	**1**	**422**	65	53	85	0	203	9	254	152	0	415	1232
05:30 PM	52	**141**	**16**	0	**209**	106	236	39	0	381	**93**	66	72	0	231	11	253	**154**	0	418	1239
05:45 PM	45	105	9	**1**	160	102	**260**	40	0	402	74	**68**	88	0	230	**14**	**288**	150	0	**452**	**1244**
Total Volume	190	504	50	1	745	440	966	159	1	1566	305	243	349	0	897	45	1037	605	0	1687	4895
% App. Total	25.5	67.7	6.7	0.1		28.1	61.7	10.2	0.1		34	27.1	38.9	0		2.7	61.5	35.9	0		
PHF	.833	.894	.781	.250	.891	.866	.929	.946	.250	.928	.820	.893	.839	.000	.962	.804	.900	.982	.000	.933	.984



File Name: 13. Seminary Rd @ Beauregard St - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 013
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	Beauregard St From North				Seminary Road From East				Beauregard St From South				Seminary Road From West			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	4	0	0	0	0	0	0	0	4	0	0	0	4
07:45 AM	0	0	0	1	0	0	0	2	0	0	0	5	0	0	0	0
08:00 AM	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0
08:15 AM	0	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
09:00 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
09:15 AM	0	0	0	2	0	0	0	0	0	0	0	3	0	0	0	3
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
09:45 AM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	1
10:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5
10:15 AM	0	0	0	2	0	0	0	1	0	0	0	1	0	0	0	4
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1
11:15 AM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1
11:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	4	0	0	0	0	0	0	0	2	0	0	0	3
12:15 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
12:30 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
12:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	2
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	1
02:15 PM	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	2
02:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3
02:45 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3
03:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1

03:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
03:30 PM	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	2
03:45 PM	0	0	0	3	0	0	0	1	0	0	0	1	0	0	0	2
04:00 PM	0	0	0	1	0	0	0	2	0	0	0	3	0	0	0	6
04:15 PM	0	0	0	5	0	0	0	0	0	0	0	3	0	0	0	7
04:30 PM	0	0	0	4	0	0	0	0	0	0	0	1	0	0	0	2
04:45 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	2
05:00 PM	0	0	0	13	0	0	0	2	0	0	0	1	0	0	0	10
05:15 PM	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	1
05:30 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	2
05:45 PM	0	0	0	2	0	0	0	2	0	0	0	1	0	0	0	0
06:00 PM	0	0	0	6	0	0	0	0	0	0	0	1	0	0	0	9
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 14. King St @ Menokin Dr
Site Code : 014
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	From North					King Street From East					Menokin Drive From South					King Street From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	0	0	0	0	0	2	227	0	0	229	165	0	6	0	171	0	120	17	1	138	538
07:15 AM	0	0	0	0	0	8	307	0	0	315	167	0	6	0	173	0	134	31	0	165	653
07:30 AM	0	0	0	0	0	8	286	0	0	294	176	0	13	0	189	0	195	29	0	224	707
07:45 AM	0	0	0	0	0	10	300	0	0	310	164	0	13	0	177	0	203	27	1	231	718
Total	0	0	0	0	0	28	1120	0	0	1148	672	0	38	0	710	0	652	104	2	758	2616
08:00 AM	0	0	0	0	0	13	233	0	2	248	184	0	10	0	194	0	209	23	1	233	675
08:15 AM	0	0	0	0	0	10	242	0	0	252	182	0	21	0	203	0	208	35	1	244	699
08:30 AM	0	0	0	0	0	13	256	0	0	269	136	0	20	0	156	0	218	30	0	248	673
08:45 AM	0	0	0	0	0	27	217	0	0	244	96	0	18	0	114	0	175	43	0	218	576
Total	0	0	0	0	0	63	948	0	2	1013	598	0	69	0	667	0	810	131	2	943	2623
09:00 AM	0	0	0	0	0	12	207	0	0	219	92	0	21	0	113	0	183	21	0	204	536
09:15 AM	0	0	0	0	0	7	162	0	0	169	50	0	8	0	58	0	157	25	0	182	409
09:30 AM	0	0	0	0	0	7	199	0	0	206	42	0	6	0	48	0	152	25	1	178	432
09:45 AM	0	0	0	0	0	11	169	0	0	180	36	0	8	0	44	0	188	27	0	215	439
Total	0	0	0	0	0	37	737	0	0	774	220	0	43	0	263	0	680	98	1	779	1816
10:00 AM	0	0	0	0	0	8	174	0	1	183	41	0	5	0	46	0	158	32	1	191	420
10:15 AM	0	0	0	0	0	10	159	0	0	169	43	0	4	0	47	0	142	19	0	161	377
10:30 AM	0	0	0	0	0	12	186	0	0	198	42	0	9	0	51	0	155	22	1	178	427
10:45 AM	0	0	0	0	0	14	157	0	0	171	40	0	11	0	51	0	158	30	1	189	411
Total	0	0	0	0	0	44	676	0	1	721	166	0	29	0	195	0	613	103	3	719	1635
11:00 AM	0	0	0	0	0	8	178	0	0	186	42	0	8	0	50	0	169	27	0	196	432
11:15 AM	0	0	0	0	0	14	176	0	0	190	51	0	10	0	61	0	152	36	0	188	439
11:30 AM	0	0	0	0	0	12	175	0	0	187	50	0	12	0	62	0	166	32	0	198	447
11:45 AM	0	0	0	0	0	26	182	0	0	208	47	0	7	0	54	0	167	48	0	215	477
Total	0	0	0	0	0	60	711	0	0	771	190	0	37	0	227	0	654	143	0	797	1795
12:00 PM	0	0	0	0	0	12	144	0	0	156	57	0	27	0	84	0	187	29	0	216	456
12:15 PM	0	0	0	0	0	16	159	0	1	176	59	0	13	0	72	0	179	42	0	221	469
12:30 PM	0	0	0	0	0	5	182	0	0	187	40	0	14	0	54	0	178	38	0	216	457
12:45 PM	0	0	0	0	0	17	169	0	0	186	59	0	11	0	70	0	212	43	0	255	511
Total	0	0	0	0	0	50	654	0	1	705	215	0	65	0	280	0	756	152	0	908	1893
01:00 PM	0	0	0	0	0	12	187	0	0	199	45	0	9	0	54	0	151	34	0	185	438
01:15 PM	0	0	0	0	0	14	172	0	0	186	49	0	16	0	65	0	215	40	0	255	506
01:30 PM	0	0	0	0	0	10	191	0	0	201	52	0	13	0	65	0	191	32	0	223	489
01:45 PM	0	0	0	0	0	9	169	0	0	178	80	0	9	0	89	0	170	38	0	208	475
Total	0	0	0	0	0	45	719	0	0	764	226	0	47	0	273	0	727	144	0	871	1908
02:00 PM	0	0	0	0	0	20	211	0	0	231	68	0	10	0	78	0	214	46	1	261	570
02:15 PM	0	0	0	0	0	11	203	0	1	215	60	0	13	0	73	0	190	39	0	229	517
02:30 PM	0	0	0	0	0	15	162	0	0	177	96	0	9	0	105	0	187	39	1	227	509
02:45 PM	0	0	0	0	0	13	184	0	0	197	29	0	13	0	42	0	223	73	0	296	535
Total	0	0	0	0	0	59	760	0	1	820	253	0	45	0	298	0	814	197	2	1013	2131
03:00 PM	0	0	0	0	0	15	190	0	0	205	39	0	11	0	50	0	193	71	2	266	521
03:15 PM	0	0	0	0	0	25	173	0	0	198	28	0	11	0	39	0	237	100	0	337	574
03:30 PM	0	0	0	0	0	40	209	0	0	249	42	0	10	0	52	0	200	105	1	306	607
03:45 PM	0	0	0	0	0	19	189	0	0	208	30	0	12	0	42	0	238	152	0	390	640
Total	0	0	0	0	0	99	761	0	0	860	139	0	44	0	183	0	868	428	3	1299	2342
04:00 PM	0	0	0	0	0	27	182	0	0	209	41	0	10	0	51	0	206	121	1	328	588

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 14. King St @ Menokin Dr
Site Code : 014
Start Date : 11/1/2018

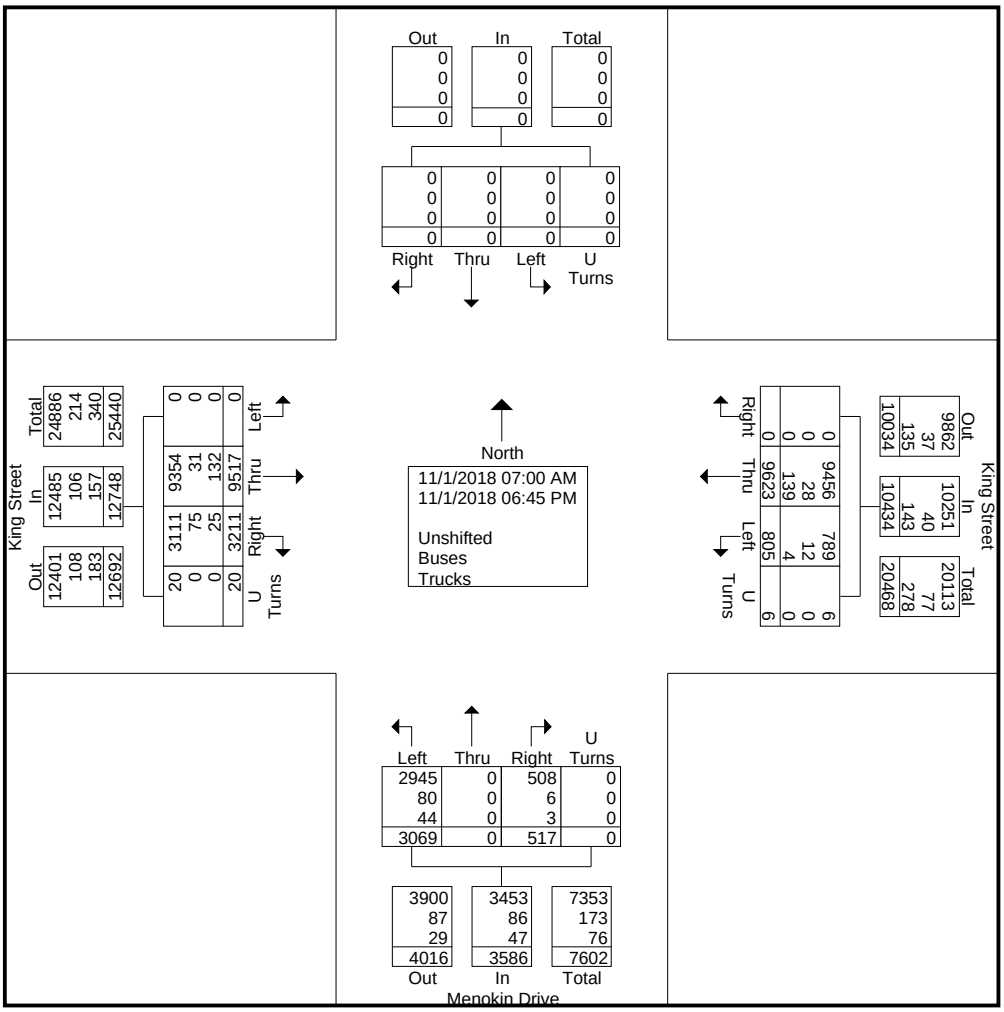
Groups Printed- Unshifted - Buses - Trucks

	From North					King Street From East					Menokin Drive From South					King Street From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	0	0	0	0	0	21	201	0	0	222	34	0	14	0	48	0	256	168	0	424	694
04:30 PM	0	0	0	0	0	30	204	0	0	234	29	0	7	0	36	0	234	180	0	414	684
04:45 PM	0	0	0	0	0	21	236	0	0	257	24	0	4	0	28	0	275	164	0	439	724
Total	0	0	0	0	0	99	823	0	0	922	128	0	35	0	163	0	971	633	1	1605	2690
05:00 PM	0	0	0	0	0	35	206	0	0	241	46	0	9	0	55	0	221	132	1	354	650
05:15 PM	0	0	0	0	0	24	256	0	0	280	25	0	8	0	33	0	274	148	0	422	735
05:30 PM	0	0	0	0	0	40	209	0	0	249	26	0	7	0	33	0	273	148	1	422	704
05:45 PM	0	0	0	0	0	31	235	0	0	266	27	0	6	0	33	0	251	149	0	400	699
Total	0	0	0	0	0	130	906	0	0	1036	124	0	30	0	154	0	1019	577	2	1598	2788
06:00 PM	0	0	0	0	0	23	233	0	1	257	46	0	3	0	49	0	261	140	0	401	707
06:15 PM	0	0	0	0	0	25	230	0	0	255	31	0	12	0	43	0	254	159	1	414	712
06:30 PM	0	0	0	0	0	26	182	0	0	208	32	0	15	0	47	0	220	91	1	312	567
06:45 PM	0	0	0	0	0	17	163	0	0	180	29	0	5	0	34	0	218	111	2	331	545
Total	0	0	0	0	0	91	808	0	1	900	138	0	35	0	173	0	953	501	4	1458	2531
Grand Total	0	0	0	0	0	805	9623	0	6	10434	3069	0	517	0	3586	0	9517	3211	20	12748	26768
Apprch %	0	0	0	0		7.7	92.2	0	0.1		85.6	0	14.4	0		0	74.7	25.2	0.2		
Total %	0	0	0	0	0	3	35.9	0	0	39	11.5	0	1.9	0	13.4	0	35.6	12	0.1	47.6	
Unshifted	0	0	0	0	0	789	9456	0	6	10251	2945	0	508	0	3453	0	9354	3111	20	12485	26189
% Unshifted	0	0	0	0	0	98	98.3	0	100	98.2	96	0	98.3	0	96.3	0	98.3	96.9	100	97.9	97.8
Buses	0	0	0	0	0	12	28	0	0	40	80	0	6	0	86	0	31	75	0	106	232
% Buses	0	0	0	0	0	1.5	0.3	0	0	0.4	2.6	0	1.2	0	2.4	0	0.3	2.3	0	0.8	0.9
Trucks	0	0	0	0	0	4	139	0	0	143	44	0	3	0	47	0	132	25	0	157	347
% Trucks	0	0	0	0	0	0.5	1.4	0	0	1.4	1.4	0	0.6	0	1.3	0	1.4	0.8	0	1.2	1.3

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 14. King St @ Menokin Dr
Site Code : 014
Start Date : 11/1/2018
Page No : 3

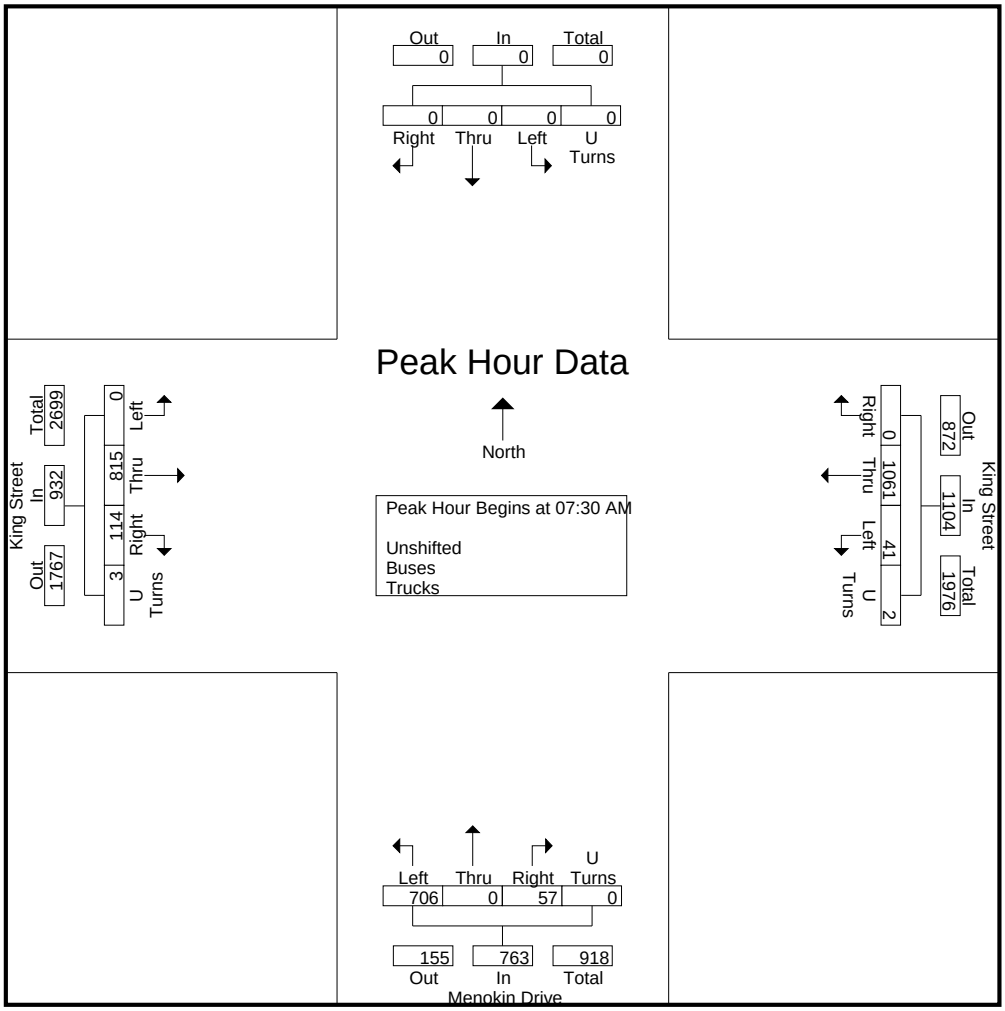


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 14. King St @ Menokin Dr
Site Code : 014
Start Date : 11/1/2018
Page No : 4

	From North					King Street From East					Menokin Drive From South					King Street From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	8	286	0	0	294	176	0	13	0	189	0	195	29	0	224	707
07:45 AM	0	0	0	0	0	10	**300**	0	0	**310**	164	0	13	0	177	0	203	27	**1**	231	**718**
08:00 AM	0	0	0	0	0	**13**	233	0	**2**	248	**184**	0	10	0	194	0	**209**	23	1	233	675
08:15 AM	0	0	0	0	0	10	242	0	0	252	182	0	**21**	0	**203**	0	208	**35**	1	**244**	699
Total Volume	0	0	0	0	0	41	1061	0	2	1104	706	0	57	0	763	0	815	114	3	932	2799
% App. Total	0	0	0	0		3.7	96.1	0	0.2		92.5	0	7.5	0		0	87.4	12.2	0.3		
PHF	.000	.000	.000	.000	.000	.788	.884	.000	.250	.890	.959	.000	.679	.000	.940	.000	.975	.814	.750	.955	.975

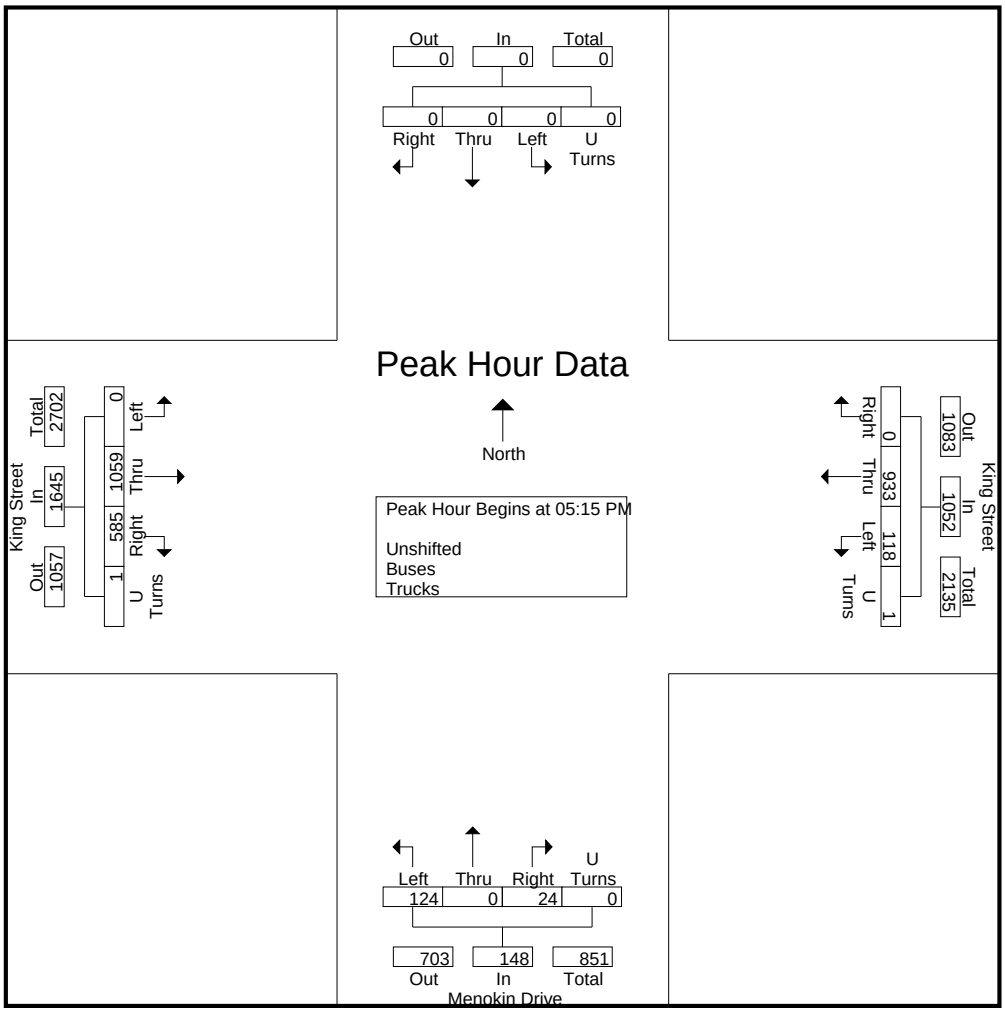


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 14. King St @ Menokin Dr
Site Code : 014
Start Date : 11/1/2018
Page No : 5

	From North					King Street From East					Menokin Drive From South					King Street From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:15 PM																					
05:15 PM	0	0	0	0	0	24	**256**	0	0	**280**	25	0	**8**	0	33	0	**274**	148	0	**422**	**735**
05:30 PM	0	0	0	0	0	**40**	209	0	0	249	26	0	7	0	33	0	273	148	**1**	422	704
05:45 PM	0	0	0	0	0	31	235	0	0	266	27	0	6	0	33	0	251	**149**	0	400	699
06:00 PM	0	0	0	0	0	23	233	0	**1**	257	**46**	0	3	0	**49**	0	261	140	0	401	707
Total Volume	0	0	0	0	0	118	933	0	1	1052	124	0	24	0	148	0	1059	585	1	1645	2845
% App. Total	0	0	0	0		11.2	88.7	0	0.1		83.8	0	16.2	0		0	64.4	35.6	0.1		
PHF	.000	.000	.000	.000	.000	.738	.911	.000	.250	.939	.674	.000	.750	.000	.755	.000	.966	.982	.250	.975	.968



File Name: 14. King St @ Menokin Dr - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 014
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	From North				King Street From East				Menokin Drive From South				King Street From West			
Start Time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	5
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0

03:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 15. King St @ Park Center Dr
Site Code : 015
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	Park Center Dr From North					King Street From East					Park Center Dr From South					Tyson Blvd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	0	0	0	0	0	22	201	0	0	223	17	0	101	0	118	0	295	6	1	302	643
07:15 AM	0	0	0	0	0	28	232	0	0	260	18	0	88	0	106	0	339	10	0	349	715
07:30 AM	0	0	0	0	0	36	279	0	0	315	18	0	110	0	128	0	343	5	0	348	791
07:45 AM	0	0	0	0	0	38	303	0	0	341	21	0	91	0	112	0	330	12	1	343	796
Total	0	0	0	0	0	124	1015	0	0	1139	74	0	390	0	464	0	1307	33	2	1342	2945
08:00 AM	0	0	0	0	0	24	234	0	0	258	10	0	78	0	88	0	366	13	0	379	725
08:15 AM	0	0	0	0	0	36	238	0	1	275	19	0	74	0	93	0	322	8	1	331	699
08:30 AM	0	0	0	0	0	35	251	0	0	286	17	0	77	0	94	0	292	14	2	308	688
08:45 AM	0	0	0	0	0	43	306	0	0	349	11	0	66	0	77	0	261	11	0	272	698
Total	0	0	0	0	0	138	1029	0	1	1168	57	0	295	0	352	0	1241	46	3	1290	2810
09:00 AM	0	0	0	0	0	51	264	0	0	315	15	0	64	0	79	0	228	9	2	239	633
09:15 AM	0	0	0	0	0	44	233	0	4	281	14	0	57	0	71	0	237	3	3	243	595
09:30 AM	0	0	0	0	0	32	236	0	0	268	9	0	58	0	67	0	238	13	1	252	587
09:45 AM	0	0	0	0	0	35	224	0	2	261	7	0	37	1	45	0	248	12	2	262	568
Total	0	0	0	0	0	162	957	0	6	1125	45	0	216	1	262	0	951	37	8	996	2383
10:00 AM	0	0	0	0	0	39	215	0	1	255	6	0	45	0	51	0	235	9	1	245	551
10:15 AM	0	0	0	0	0	33	207	0	0	240	7	0	42	0	49	0	232	13	2	247	536
10:30 AM	0	0	0	0	0	26	217	0	0	243	6	0	41	0	47	0	242	12	2	256	546
10:45 AM	0	0	0	0	0	38	202	0	4	244	11	0	37	0	48	0	243	11	2	256	548
Total	0	0	0	0	0	136	841	0	5	982	30	0	165	0	195	0	952	45	7	1004	2181
11:00 AM	0	0	0	0	0	26	240	0	0	266	11	0	42	0	53	0	223	13	0	236	555
11:15 AM	0	0	0	0	0	16	204	0	0	220	17	0	33	0	50	0	234	13	3	250	520
11:30 AM	0	0	0	0	0	26	237	0	3	266	10	0	42	0	52	0	263	8	1	272	590
11:45 AM	0	0	0	0	0	37	237	0	1	275	8	0	37	0	45	0	283	9	0	292	612
Total	0	0	0	0	0	105	918	0	4	1027	46	0	154	0	200	0	1003	43	4	1050	2277
12:00 PM	0	0	0	0	0	26	240	0	1	267	11	0	30	0	41	0	252	12	4	268	576
12:15 PM	0	0	0	0	0	21	262	0	3	286	21	0	41	0	62	0	271	25	3	299	647
12:30 PM	0	0	0	0	0	42	251	0	0	293	12	0	35	0	47	0	292	15	0	307	647
12:45 PM	0	0	0	0	0	37	240	0	1	278	17	0	40	0	57	0	302	22	0	324	659
Total	0	0	0	0	0	126	993	0	5	1124	61	0	146	0	207	0	1117	74	7	1198	2529
01:00 PM	0	0	0	0	0	37	261	0	0	298	10	0	47	0	57	0	248	15	2	265	620
01:15 PM	0	0	0	0	0	25	224	0	1	250	14	0	49	0	63	0	329	19	1	349	662
01:30 PM	0	0	0	0	0	38	238	0	1	277	9	0	41	1	51	0	285	16	2	303	631
01:45 PM	0	0	0	0	0	37	217	0	2	256	12	0	37	0	49	0	297	26	2	325	630
Total	0	0	0	0	0	137	940	0	4	1081	45	0	174	1	220	0	1159	76	7	1242	2543
02:00 PM	0	0	0	0	0	33	242	0	2	277	8	0	36	0	44	0	304	14	3	321	642
02:15 PM	0	0	0	0	0	30	278	0	3	311	13	0	48	0	61	0	285	17	1	303	675
02:30 PM	0	0	0	0	0	40	269	0	1	310	7	0	41	0	48	0	335	15	2	352	710
02:45 PM	0	0	0	0	0	49	276	0	0	325	14	0	44	0	58	0	328	17	4	349	732
Total	0	0	0	0	0	152	1065	0	6	1223	42	0	169	0	211	0	1252	63	10	1325	2759
03:00 PM	0	0	0	0	0	50	285	0	0	335	8	0	45	0	53	0	331	14	2	347	735
03:15 PM	0	0	0	0	0	49	285	0	0	334	11	0	59	0	70	0	315	25	3	343	747
03:30 PM	0	0	0	0	0	51	327	0	1	379	14	0	53	0	67	0	333	21	1	355	801
03:45 PM	0	0	0	0	0	48	338	0	1	387	11	0	46	0	57	0	308	21	2	331	775
Total	0	0	0	0	0	198	1235	0	2	1435	44	0	203	0	247	0	1287	81	8	1376	3058
04:00 PM	0	0	0	0	0	57	367	0	0	424	11	0	54	0	65	0	338	24	1	363	852

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 15. King St @ Park Center Dr
Site Code : 015
Start Date : 11/1/2018
Page No : 2

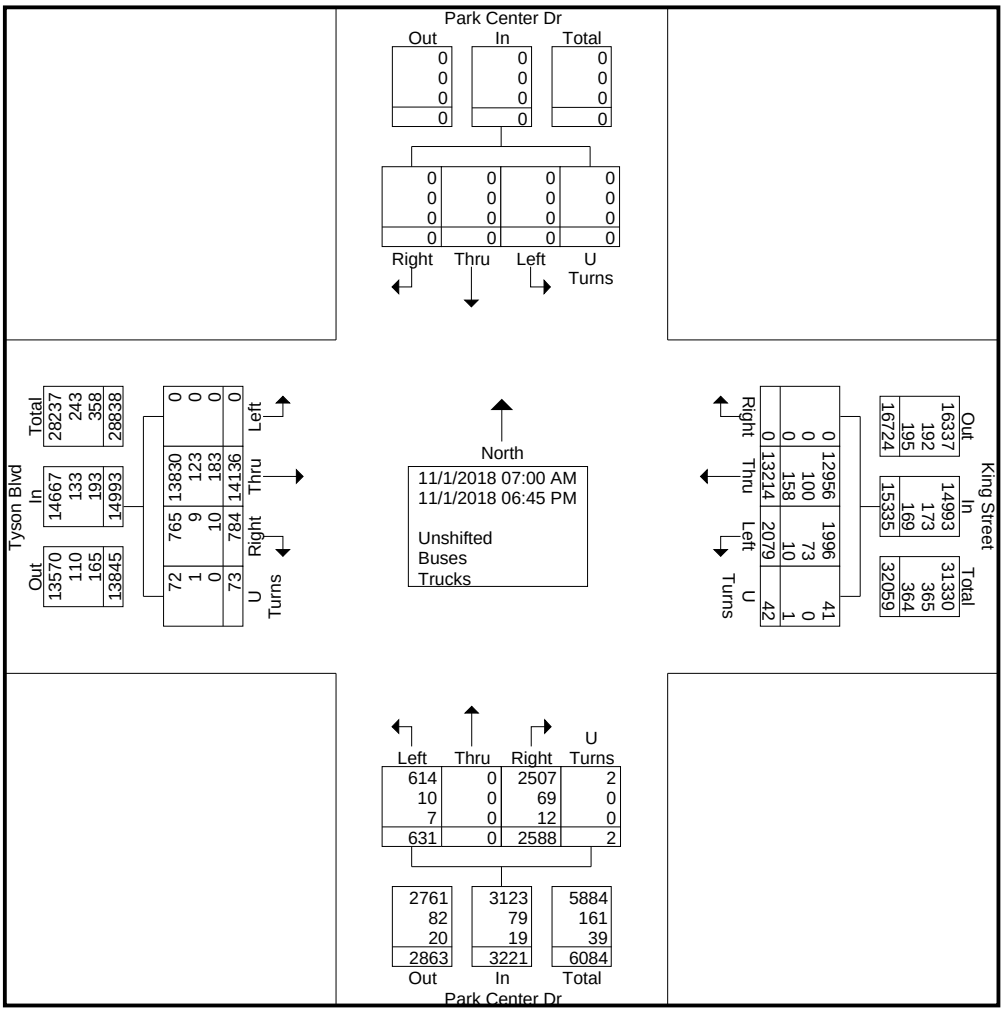
Groups Printed- Unshifted - Buses - Trucks

	Park Center Dr From North					King Street From East					Park Center Dr From South					Tyson Blvd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	0	0	0	0	0	55	335	0	0	390	8	0	48	0	56	0	314	19	0	333	779
04:30 PM	0	0	0	0	0	68	340	0	2	410	16	0	44	0	60	0	314	27	2	343	813
04:45 PM	0	0	0	0	0	61	409	0	1	471	20	0	41	0	61	0	322	28	2	352	884
Total	0	0	0	0	0	241	1451	0	3	1695	55	0	187	0	242	0	1288	98	5	1391	3328
05:00 PM	0	0	0	0	0	58	313	0	1	372	14	0	63	0	77	0	321	21	3	345	794
05:15 PM	0	0	0	0	0	69	358	0	1	428	19	0	63	0	82	0	333	24	1	358	868
05:30 PM	0	0	0	0	0	69	332	0	2	403	18	0	65	0	83	0	314	16	0	330	816
05:45 PM	0	0	0	0	0	61	372	0	0	433	14	0	65	0	79	0	317	17	2	336	848
Total	0	0	0	0	0	257	1375	0	4	1636	65	0	256	0	321	0	1285	78	6	1369	3326
06:00 PM	0	0	0	0	0	77	367	0	1	445	19	0	61	0	80	0	340	32	0	372	897
06:15 PM	0	0	0	0	0	70	372	0	1	443	21	0	59	0	80	0	346	30	2	378	901
06:30 PM	0	0	0	0	0	75	364	0	0	439	16	0	52	0	68	0	304	24	3	331	838
06:45 PM	0	0	0	0	0	81	292	0	0	373	11	0	61	0	72	0	304	24	1	329	774
Total	0	0	0	0	0	303	1395	0	2	1700	67	0	233	0	300	0	1294	110	6	1410	3410
Grand Total	0	0	0	0	0	2079	13214	0	42	15335	631	0	2588	2	3221	0	14136	784	73	14993	33549
Apprch %	0	0	0	0		13.6	86.2	0	0.3		19.6	0	80.3	0.1		0	94.3	5.2	0.5		
Total %	0	0	0	0	0	6.2	39.4	0	0.1	45.7	1.9	0	7.7	0	9.6	0	42.1	2.3	0.2	44.7	
Unshifted	0	0	0	0	0	1996	12956	0	41	14993	614	0	2507	2	3123	0	13830	765	72	14667	32783
% Unshifted	0	0	0	0	0	96	98	0	97.6	97.8	97.3	0	96.9	100	97	0	97.8	97.6	98.6	97.8	97.7
Buses	0	0	0	0	0	73	100	0	0	173	10	0	69	0	79	0	123	9	1	133	385
% Buses	0	0	0	0	0	3.5	0.8	0	0	1.1	1.6	0	2.7	0	2.5	0	0.9	1.1	1.4	0.9	1.1
Trucks	0	0	0	0	0	10	158	0	1	169	7	0	12	0	19	0	183	10	0	193	381
% Trucks	0	0	0	0	0	0.5	1.2	0	2.4	1.1	1.1	0	0.5	0	0.6	0	1.3	1.3	0	1.3	1.1

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 15. King St @ Park Center Dr
Site Code : 015
Start Date : 11/1/2018
Page No : 3

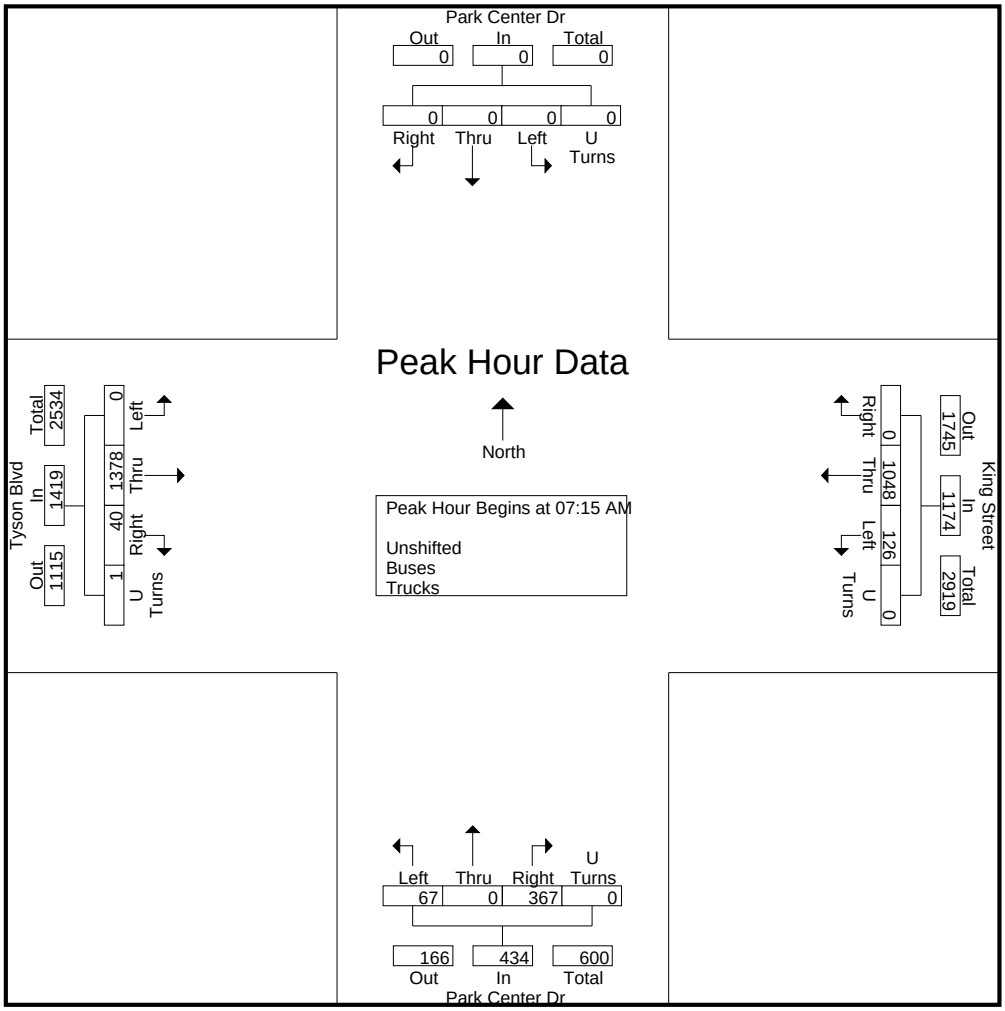


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 15. King St @ Park Center Dr
Site Code : 015
Start Date : 11/1/2018
Page No : 4

	Park Center Dr From North					King Street From East					Park Center Dr From South					Tyson Blvd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	28	232	0	0	260	18	0	88	0	106	0	339	10	0	349	715
07:30 AM	0	0	0	0	0	36	279	0	0	315	18	0	**110**	0	**128**	0	343	5	0	348	791
07:45 AM	0	0	0	0	0	**38**	**303**	0	0	**341**	**21**	0	91	0	112	0	330	12	**1**	343	**796**
08:00 AM	0	0	0	0	0	24	234	0	0	258	10	0	78	0	88	0	**366**	**13**	0	**379**	725
Total Volume	0	0	0	0	0	126	1048	0	0	1174	67	0	367	0	434	0	1378	40	1	1419	3027
% App. Total	0	0	0	0		10.7	89.3	0	0		15.4	0	84.6	0		0	97.1	2.8	0.1		
PHF	.000	.000	.000	.000	.000	.829	.865	.000	.000	.861	.798	.000	.834	.000	.848	.000	.941	.769	.250	.936	.951

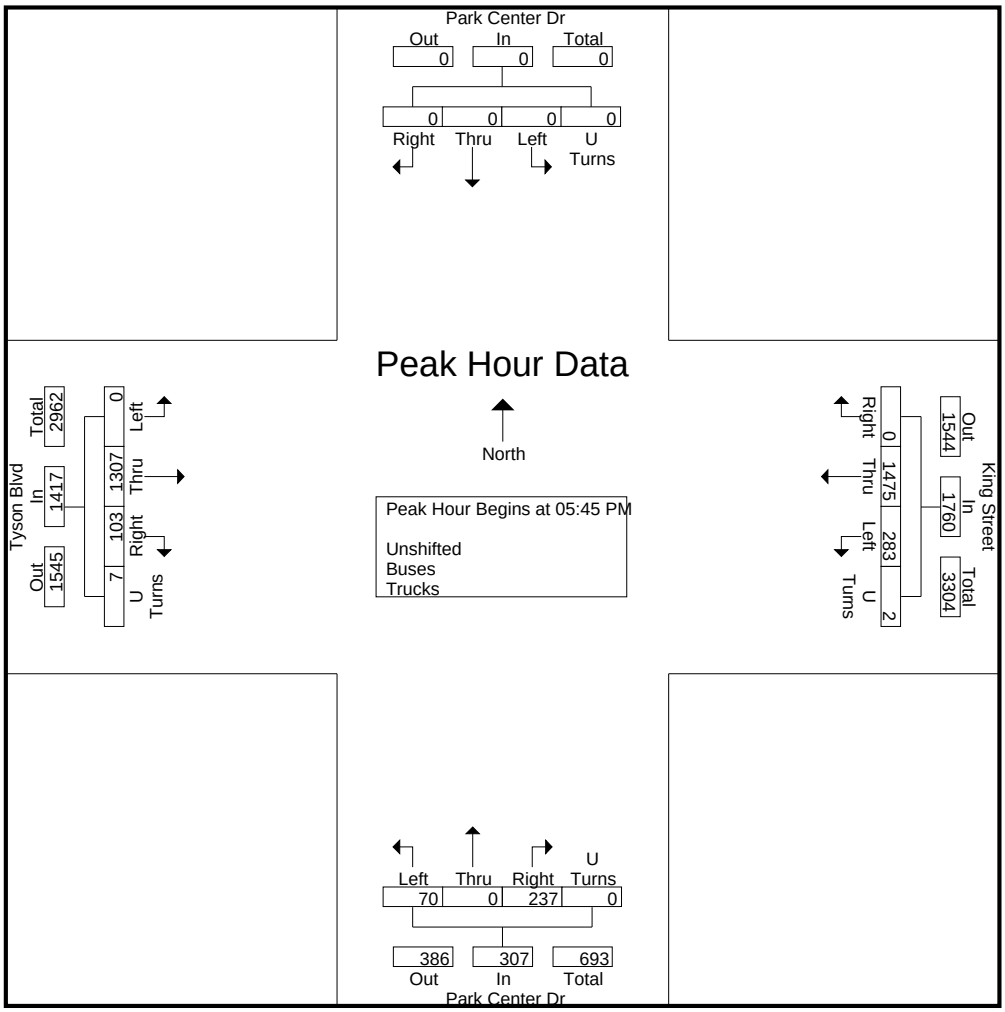


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 15. King St @ Park Center Dr
Site Code : 015
Start Date : 11/1/2018
Page No : 5

	Park Center Dr From North					King Street From East					Park Center Dr From South					Tyson Blvd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:45 PM																					
05:45 PM	0	0	0	0	0	61	**372**	0	0	433	14	0	**65**	0	79	0	317	17	2	336	848
06:00 PM	0	0	0	0	0	**77**	367	0	**1**	**445**	19	0	61	0	**80**	0	340	**32**	0	372	897
06:15 PM	0	0	0	0	0	70	372	0	1	443	**21**	0	59	0	80	0	**346**	30	2	**378**	**901**
06:30 PM	0	0	0	0	0	75	364	0	0	439	16	0	52	0	68	0	304	24	**3**	331	838
Total Volume	0	0	0	0	0	283	1475	0	2	1760	70	0	237	0	307	0	1307	103	7	1417	3484
% App. Total	0	0	0	0		16.1	83.8	0	0.1		22.8	0	77.2	0		0	92.2	7.3	0.5		
PHF	.000	.000	.000	.000	.000	.919	.991	.000	.500	.989	.833	.000	.912	.000	.959	.000	.944	.805	.583	.937	.967



File Name: 15. King St @ Park Center Dr - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 015
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	Park Center Dr From North				King Street From East				Park Center Dr From South				Tyson Blvd From West			
Start Time	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
09:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	3
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	3	0	0	0	2	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	6
05:15 PM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
05:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	8
06:00 PM	0	0	0	0	0	0	0	2	0	0	0	4	0	0	0	2
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:45 PM	0	0	0	0	0	0	0	4	0	0	0	1	0	0	0	2

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 16. King St @ Dearing St
Site Code : 016
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	Dearing St From North					King St From East					Dearing St From South					King St From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	10	4	52	0	66	0	147	4	0	151	32	4	0	0	36	5	111	11	1	128	381
07:15 AM	13	3	60	0	76	3	204	3	0	210	37	3	0	0	40	3	126	12	1	142	468
07:30 AM	9	7	63	0	79	2	187	6	0	195	31	5	2	0	38	5	174	18	1	198	510
07:45 AM	12	5	60	0	77	5	197	9	0	211	36	4	3	0	43	12	161	34	0	207	538
Total	44	19	235	0	298	10	735	22	0	767	136	16	5	0	157	25	572	75	3	675	1897
08:00 AM	22	5	55	0	82	7	154	2	0	163	42	5	6	0	53	25	188	22	2	237	535
08:15 AM	11	4	46	0	61	1	168	8	0	177	37	5	1	0	43	17	193	19	0	229	510
08:30 AM	13	5	40	0	58	7	182	5	0	194	37	3	2	0	42	23	181	19	1	224	518
08:45 AM	12	5	37	0	54	2	182	7	0	191	24	4	7	0	35	16	164	30	0	210	490
Total	58	19	178	0	255	17	686	22	0	725	140	17	16	0	173	81	726	90	3	900	2053
09:00 AM	12	1	35	0	48	3	141	4	0	148	36	3	1	0	40	18	157	24	3	202	438
09:15 AM	4	1	22	0	27	2	116	4	0	122	31	4	2	0	37	13	115	17	1	146	332
09:30 AM	8	2	22	0	32	7	157	8	0	172	27	5	4	0	36	17	149	19	0	185	425
09:45 AM	10	4	24	0	38	2	115	4	0	121	28	3	0	0	31	12	159	34	3	208	398
Total	34	8	103	0	145	14	529	20	0	563	122	15	7	0	144	60	580	94	7	741	1593
10:00 AM	8	1	18	0	27	2	135	4	0	141	28	0	1	0	29	7	127	21	3	158	355
10:15 AM	10	3	31	0	44	1	120	3	0	124	15	1	2	0	18	10	117	24	1	152	338
10:30 AM	6	1	28	0	35	2	136	2	0	140	27	1	0	0	28	7	126	29	3	165	368
10:45 AM	5	10	15	0	30	4	131	5	0	140	25	4	0	0	29	15	125	24	3	167	366
Total	29	15	92	0	136	9	522	14	0	545	95	6	3	0	104	39	495	98	10	642	1427
11:00 AM	3	4	29	0	36	4	116	5	0	125	26	4	1	0	31	9	116	27	5	157	349
11:15 AM	2	3	24	0	29	6	151	3	0	160	17	3	2	0	22	14	148	24	0	186	397
11:30 AM	6	3	19	0	28	6	136	5	0	147	28	1	3	0	32	10	137	27	1	175	382
11:45 AM	9	1	22	0	32	4	160	6	0	170	17	2	6	0	25	9	129	27	1	166	393
Total	20	11	94	0	125	20	563	19	0	602	88	10	12	0	110	42	530	105	7	684	1521
12:00 PM	3	3	26	0	32	5	117	4	0	126	18	3	2	0	23	23	150	30	4	207	388
12:15 PM	6	3	15	0	24	6	144	7	0	157	19	4	1	0	24	24	168	26	3	221	426
12:30 PM	4	3	14	0	21	4	118	5	0	127	31	4	3	0	38	12	138	29	3	182	368
12:45 PM	8	3	17	0	28	4	143	4	0	151	27	5	1	0	33	24	152	47	6	229	441
Total	21	12	72	0	105	19	522	20	0	561	95	16	7	0	118	83	608	132	16	839	1623
01:00 PM	4	3	17	0	24	4	142	12	0	158	27	6	2	0	35	12	126	22	5	165	382
01:15 PM	9	3	24	0	36	5	128	5	0	138	39	2	2	0	43	17	186	20	3	226	443
01:30 PM	6	4	19	0	29	5	139	6	0	150	25	7	2	0	34	19	148	26	5	198	411
01:45 PM	3	7	22	0	32	1	152	5	0	158	14	4	1	0	19	11	163	24	7	205	414
Total	22	17	82	0	121	15	561	28	0	604	105	19	7	0	131	59	623	92	20	794	1650
02:00 PM	10	6	17	0	33	3	164	2	0	169	22	4	1	0	27	18	160	36	9	223	452
02:15 PM	5	2	14	0	21	7	158	4	0	169	16	3	0	0	19	15	151	19	9	194	403
02:30 PM	4	2	16	0	22	4	152	3	0	159	22	6	2	0	30	19	173	31	1	224	435
02:45 PM	7	11	20	0	38	2	143	6	0	151	21	7	3	0	31	14	170	18	2	204	424
Total	26	21	67	0	114	16	617	15	0	648	81	20	6	0	107	66	654	104	21	845	1714
03:00 PM	4	3	17	0	24	2	182	7	0	191	19	7	2	0	28	15	189	21	1	226	469
03:15 PM	8	6	12	0	26	5	140	1	0	146	27	6	4	0	37	15	171	29	3	218	427
03:30 PM	10	4	13	0	27	3	212	7	0	222	28	5	0	0	33	21	206	20	2	249	531
03:45 PM	6	4	17	0	27	2	143	7	0	152	24	4	1	0	29	16	200	23	3	242	450
Total	28	17	59	0	104	12	677	22	0	711	98	22	7	0	127	67	766	93	9	935	1877
04:00 PM	8	3	21	0	32	7	195	10	0	212	15	4	1	0	20	19	182	29	2	232	496

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 16. King St @ Dearing St
Site Code : 016
Start Date : 11/1/2018
Page No : 2

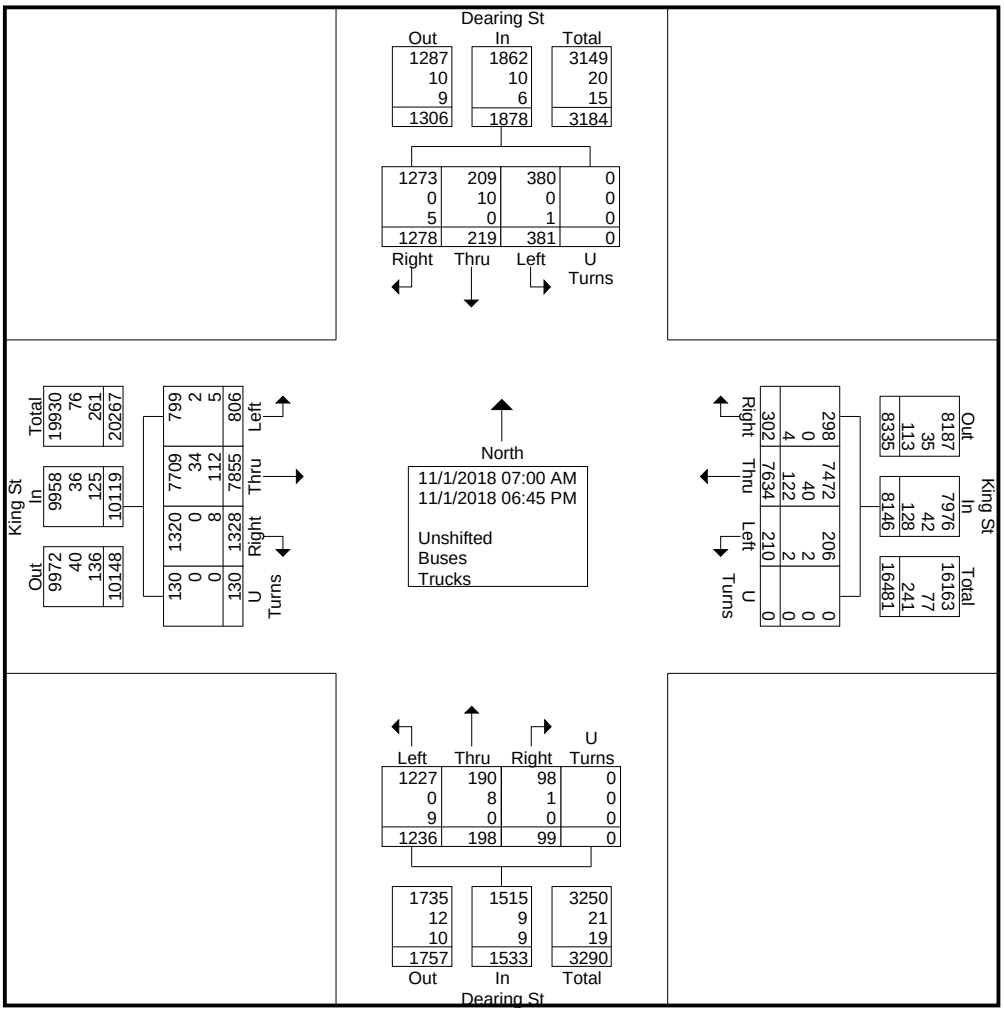
Groups Printed- Unshifted - Buses - Trucks

	Dearing St From North					King St From East					Dearing St From South					King St From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	7	8	13	0	28	4	179	8	0	191	27	4	1	0	32	18	196	27	1	242	493
04:30 PM	4	6	17	0	27	4	191	7	0	202	20	3	0	0	23	27	194	35	5	261	513
04:45 PM	5	11	27	0	43	9	178	6	0	193	20	6	5	0	31	26	199	42	3	270	537
Total	24	28	78	0	130	24	743	31	0	798	82	17	7	0	106	90	771	133	11	1005	2039
05:00 PM	7	4	28	0	39	4	206	10	0	220	22	4	3	0	29	25	193	42	4	264	552
05:15 PM	13	5	20	0	38	6	207	13	0	226	31	4	1	0	36	25	205	27	1	258	558
05:30 PM	13	11	37	0	61	10	207	15	0	232	13	5	3	0	21	25	209	50	3	287	601
05:45 PM	10	7	30	0	47	10	186	11	0	207	26	8	4	0	38	27	175	41	1	244	536
Total	43	27	115	0	185	30	806	49	0	885	92	21	11	0	124	102	782	160	9	1053	2247
06:00 PM	7	12	33	0	52	5	212	15	0	232	23	8	4	0	35	25	223	48	2	298	617
06:15 PM	8	4	20	0	32	7	185	8	0	200	37	2	2	0	41	25	175	49	1	250	523
06:30 PM	9	6	28	0	43	6	148	8	0	162	27	7	2	0	36	26	174	40	3	243	484
06:45 PM	8	3	22	0	33	6	128	9	0	143	15	2	3	0	20	16	176	15	8	215	411
Total	32	25	103	0	160	24	673	40	0	737	102	19	11	0	132	92	748	152	14	1006	2035
Grand Total	381	219	1278	0	1878	210	7634	302	0	8146	1236	198	99	0	1533	806	7855	1328	130	10119	21676
Apprch %	20.3	11.7	68.1	0		2.6	93.7	3.7	0		80.6	12.9	6.5	0		8	77.6	13.1	1.3		
Total %	1.8	1	5.9	0	8.7	1	35.2	1.4	0	37.6	5.7	0.9	0.5	0	7.1	3.7	36.2	6.1	0.6	46.7	
Unshifted	380	209	1273	0	1862	206	7472	298	0	7976	1227	190	98	0	1515	799	7709	1320	130	9958	21311
% Unshifted	99.7	95.4	99.6	0	99.1	98.1	97.9	98.7	0	97.9	99.3	96	99	0	98.8	99.1	98.1	99.4	100	98.4	98.3
Buses	0	10	0	0	10	2	40	0	0	42	0	8	1	0	9	2	34	0	0	36	97
% Buses	0	4.6	0	0	0.5	1	0.5	0	0	0.5	0	4	1	0	0.6	0.2	0.4	0	0	0.4	0.4
Trucks	1	0	5	0	6	2	122	4	0	128	9	0	0	0	9	5	112	8	0	125	268
% Trucks	0.3	0	0.4	0	0.3	1	1.6	1.3	0	1.6	0.7	0	0	0	0.6	0.6	1.4	0.6	0	1.2	1.2

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 16. King St @ Dearing St
Site Code : 016
Start Date : 11/1/2018
Page No : 3

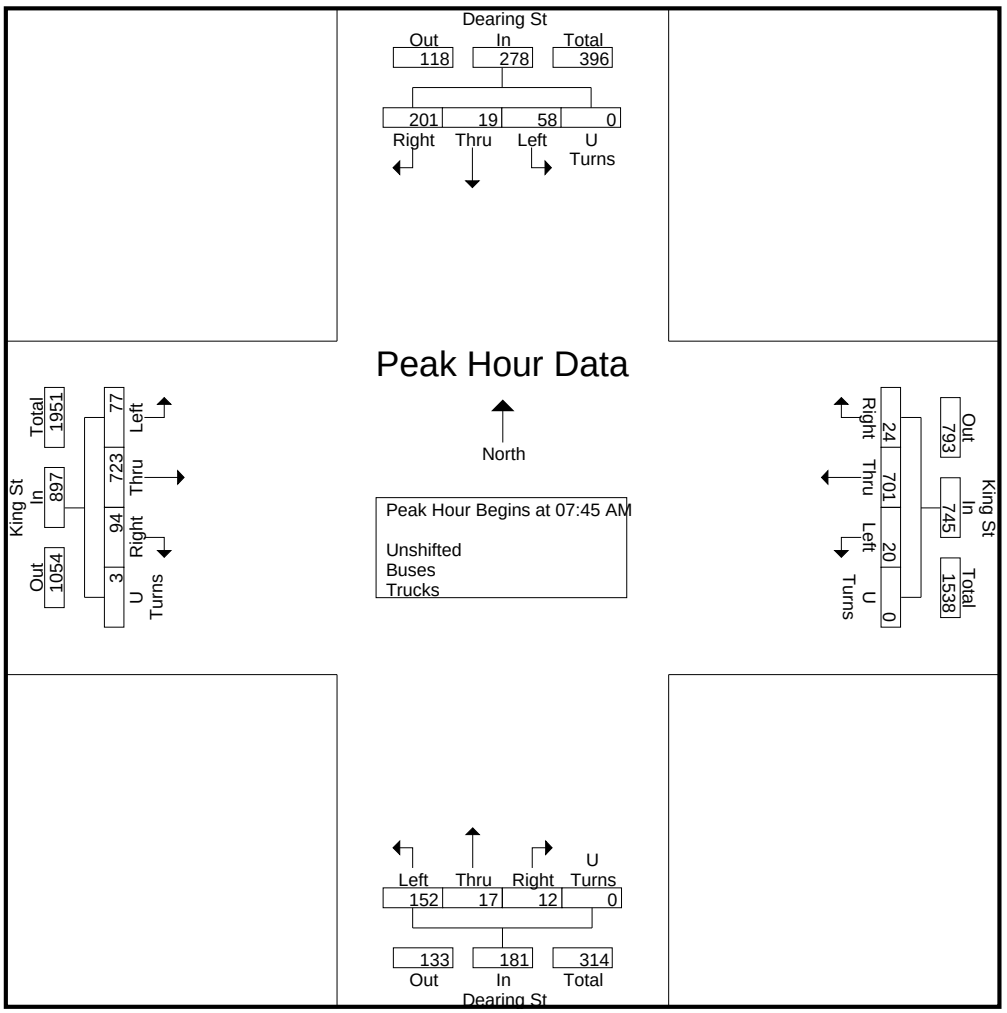


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 16. King St @ Dearing St
Site Code : 016
Start Date : 11/1/2018
Page No : 4

	Dearing St From North					King St From East					Dearing St From South					King St From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	12	**5**	**60**	0	77	5	**197**	**9**	0	**211**	36	4	3	0	43	12	161	**34**	0	207	**538**
08:00 AM	**22**	5	55	0	**82**	**7**	154	2	0	163	**42**	**5**	**6**	0	**53**	**25**	188	22	**2**	**237**	535
08:15 AM	11	4	46	0	61	1	168	8	0	177	37	5	1	0	43	17	**193**	19	0	229	510
08:30 AM	13	5	40	0	58	7	182	5	0	194	37	3	2	0	42	23	181	19	1	224	518
Total Volume	58	19	201	0	278	20	701	24	0	745	152	17	12	0	181	77	723	94	3	897	2101
% App. Total	20.9	6.8	72.3	0		2.7	94.1	3.2	0		84	9.4	6.6	0		8.6	80.6	10.5	0.3		
PHF	.659	.950	.838	.000	.848	.714	.890	.667	.000	.883	.905	.850	.500	.000	.854	.770	.937	.691	.375	.946	.976

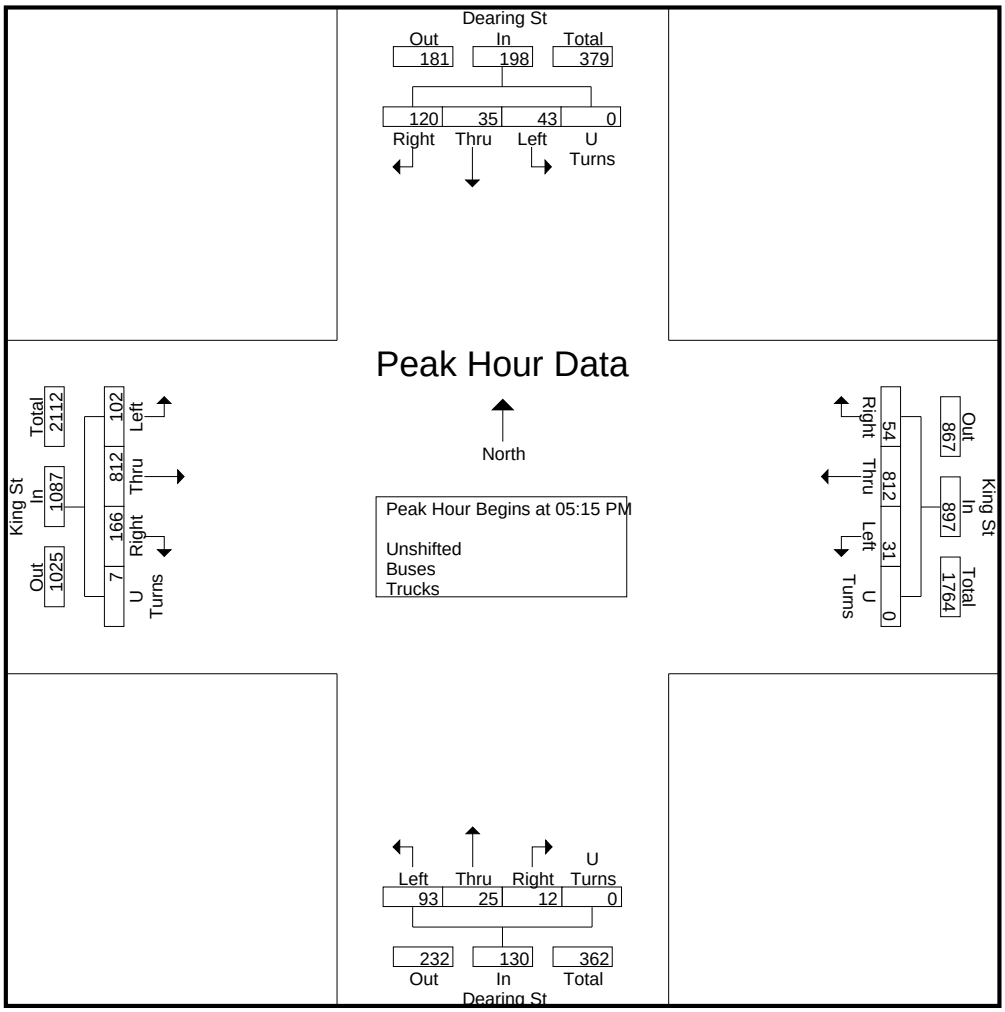


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 16. King St @ Dearing St
Site Code : 016
Start Date : 11/1/2018
Page No : 5

	Dearing St From North					King St From East					Dearing St From South					King St From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:15 PM																					
05:15 PM	**13**	5	20	0	38	6	207	13	0	226	**31**	4	1	0	36	25	205	27	1	258	558
05:30 PM	13	11	**37**	0	**61**	**10**	207	**15**	0	**232**	13	5	3	0	21	25	209	**50**	**3**	287	601
05:45 PM	10	7	30	0	47	10	186	11	0	207	26	**8**	**4**	0	**38**	**27**	175	41	1	244	536
06:00 PM	7	**12**	33	0	52	5	**212**	15	0	232	23	8	4	0	35	25	**223**	48	2	**298**	**617**
Total Volume	43	35	120	0	198	31	812	54	0	897	93	25	12	0	130	102	812	166	7	1087	2312
% App. Total	21.7	17.7	60.6	0		3.5	90.5	6	0		71.5	19.2	9.2	0		9.4	74.7	15.3	0.6		
PHF	.827	.729	.811	.000	.811	.775	.958	.900	.000	.967	.750	.781	.750	.000	.855	.944	.910	.830	.583	.912	.937



File Name: 16. King St @ Dearing St - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 016
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	Dearing St From North				King St From East				Dearing St From South				King St From West			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
07:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	1
09:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

03:15 PM	0	0	0	2	0	0	0	6	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	4	0	0	0	12	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	1	0	0	0	5	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	1	0	0	0	8	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 17. Seminary Rd @ Jordan St
Site Code : 017
Start Date : 11/8/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	Jordan Street From North					Seminary Road From East					Jordan Street From South					Tyson Blvd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	0	0	0	0	0	4	210	0	0	214	112	0	8	0	120	0	121	24	0	145	479
07:15 AM	0	0	0	0	0	9	204	0	0	213	114	0	11	0	125	0	164	22	0	186	524
07:30 AM	0	0	0	0	0	3	242	0	0	245	101	0	15	0	116	0	231	23	0	254	615
07:45 AM	0	0	0	0	0	2	253	0	0	255	95	0	25	0	120	0	227	30	0	257	632
Total	0	0	0	0	0	18	909	0	0	927	422	0	59	0	481	0	743	99	0	842	2250
08:00 AM	0	0	0	0	0	9	274	0	0	283	109	0	15	0	124	0	157	30	0	187	594
08:15 AM	0	0	0	0	0	4	277	0	0	281	92	0	8	0	100	0	207	49	0	256	637
08:30 AM	0	0	0	0	0	6	234	0	0	240	75	0	13	0	88	0	125	33	0	158	486
08:45 AM	0	0	0	0	0	5	228	0	0	233	74	0	14	0	88	0	153	33	0	186	507
Total	0	0	0	0	0	24	1013	0	0	1037	350	0	50	0	400	0	642	145	0	787	2224
09:00 AM	0	0	0	0	0	5	198	0	0	203	66	0	7	0	73	0	123	16	0	139	415
09:15 AM	0	0	0	0	0	2	210	0	0	212	54	0	9	0	63	0	157	24	0	181	456
09:30 AM	0	0	0	0	0	3	175	0	0	178	41	0	7	0	48	0	121	29	0	150	376
09:45 AM	0	0	0	0	0	6	172	0	0	178	33	0	2	0	35	0	132	25	0	157	370
Total	0	0	0	0	0	16	755	0	0	771	194	0	25	0	219	0	533	94	0	627	1617
10:00 AM	0	0	0	0	0	3	153	0	0	156	40	0	9	0	49	0	111	26	0	137	342
10:15 AM	0	0	0	0	0	4	142	0	0	146	44	0	6	0	50	0	104	38	0	142	338
10:30 AM	0	0	0	0	0	6	127	0	0	133	39	0	5	0	44	0	119	31	0	150	327
10:45 AM	0	0	0	0	0	5	137	0	0	142	34	0	4	0	38	0	129	44	0	173	353
Total	0	0	0	0	0	18	559	0	0	577	157	0	24	0	181	0	463	139	0	602	1360
11:00 AM	0	0	0	0	0	3	107	0	0	110	36	0	5	0	41	0	141	32	0	173	324
11:15 AM	0	0	0	0	0	5	113	0	0	118	36	0	6	0	42	0	123	30	0	153	313
11:30 AM	0	0	0	0	0	5	123	0	0	128	36	0	5	0	41	0	117	38	0	155	324
11:45 AM	0	0	0	0	0	5	148	0	0	153	44	0	0	0	44	0	121	41	0	162	359
Total	0	0	0	0	0	18	491	0	0	509	152	0	16	0	168	0	502	141	0	643	1320
12:00 PM	0	0	0	0	0	9	124	0	0	133	36	0	9	0	45	0	114	28	0	142	320
12:15 PM	0	0	0	0	0	8	134	0	0	142	35	0	6	0	41	0	127	40	0	167	350
12:30 PM	0	0	0	0	0	6	130	0	0	136	35	0	6	0	41	0	142	36	0	178	355
12:45 PM	0	0	0	0	0	2	115	0	0	117	40	0	3	0	43	0	160	36	0	196	356
Total	0	0	0	0	0	25	503	0	0	528	146	0	24	0	170	0	543	140	0	683	1381
01:00 PM	0	0	0	0	0	8	124	0	0	132	36	0	5	0	41	0	118	46	0	164	337
01:15 PM	0	0	0	0	0	3	129	0	0	132	50	0	5	0	55	0	117	44	0	161	348
01:30 PM	0	0	0	0	0	7	118	0	0	125	39	0	8	0	47	0	136	47	0	183	355
01:45 PM	0	0	0	0	0	4	132	0	0	136	39	0	6	0	45	0	134	46	0	180	361
Total	0	0	0	0	0	22	503	0	0	525	164	0	24	0	188	0	505	183	0	688	1401
02:00 PM	0	0	0	0	0	6	132	0	0	138	43	0	9	0	52	0	151	46	0	197	387
02:15 PM	0	0	0	0	0	8	104	0	0	112	51	0	4	0	55	0	185	74	0	259	426
02:30 PM	0	0	0	0	0	12	160	0	0	172	46	0	9	0	55	0	182	41	0	223	450
02:45 PM	0	0	0	0	0	5	142	0	0	147	44	0	13	0	57	0	173	60	0	233	437
Total	0	0	0	0	0	31	538	0	0	569	184	0	35	0	219	0	691	221	0	912	1700
03:00 PM	0	0	0	0	0	9	134	0	0	143	65	0	9	0	74	0	186	85	0	271	488
03:15 PM	0	0	0	0	0	20	142	0	0	162	28	0	7	0	35	0	200	74	0	274	471
03:30 PM	0	0	0	0	0	11	176	0	0	187	50	0	7	0	57	0	213	87	0	300	544
03:45 PM	0	0	0	0	0	17	186	0	0	203	46	0	7	0	53	0	178	64	0	242	498
Total	0	0	0	0	0	57	638	0	0	695	189	0	30	0	219	0	777	310	0	1087	2001
04:00 PM	0	0	0	0	0	13	140	0	0	153	36	0	12	0	48	0	173	75	0	248	449

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 17. Seminary Rd @ Jordan St
Site Code : 017
Start Date : 11/8/2018
Page No : 2

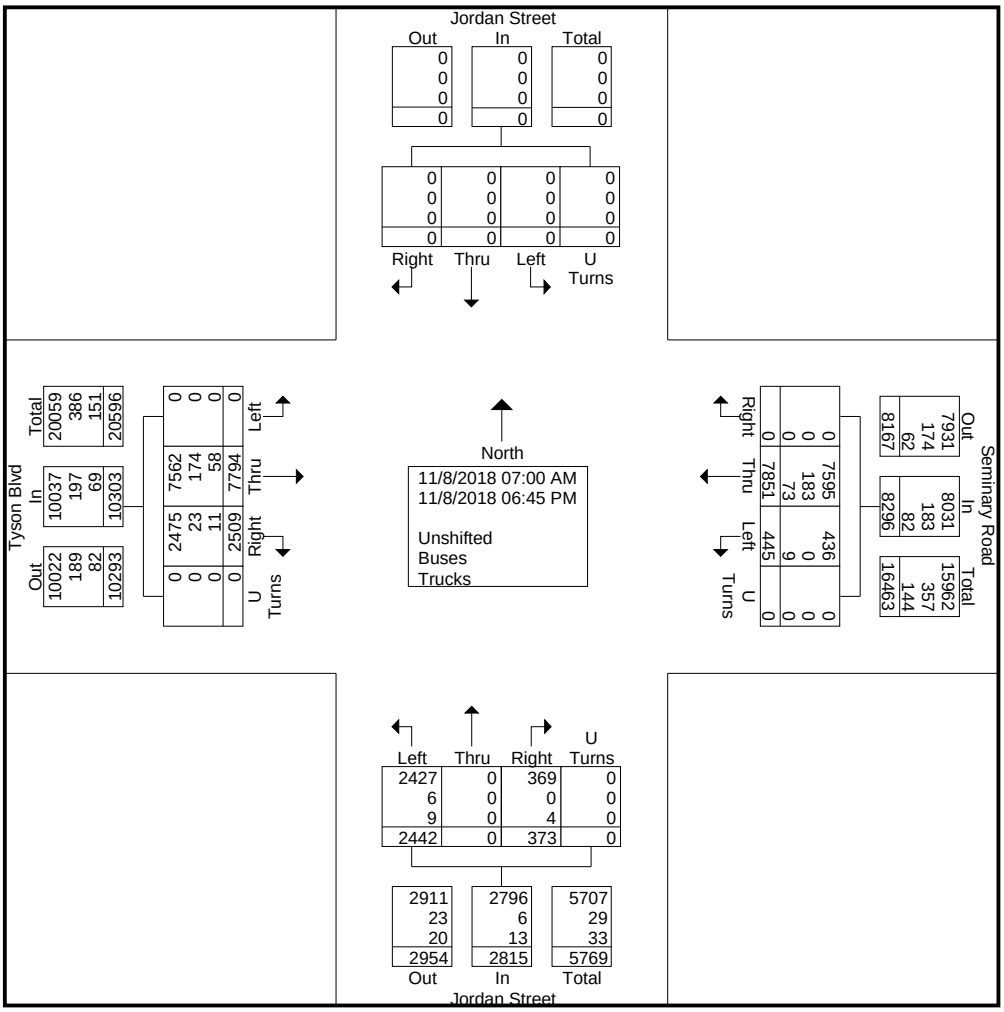
Groups Printed- Unshifted - Buses - Trucks

	Jordan Street From North					Seminary Road From East					Jordan Street From South					Tyson Blvd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	0	0	0	0	0	22	165	0	0	187	40	0	10	0	50	0	219	91	0	310	547
04:30 PM	0	0	0	0	0	33	191	0	0	224	38	0	4	0	42	0	211	73	0	284	550
04:45 PM	0	0	0	0	0	21	189	0	0	210	51	0	6	0	57	0	208	90	0	298	565
Total	0	0	0	0	0	89	685	0	0	774	165	0	32	0	197	0	811	329	0	1140	2111
05:00 PM	0	0	0	0	0	15	186	0	0	201	44	0	5	0	49	0	195	84	0	279	529
05:15 PM	0	0	0	0	0	11	172	0	0	183	40	0	4	0	44	0	198	86	0	284	511
05:30 PM	0	0	0	0	0	27	165	0	0	192	48	0	8	0	56	0	165	93	0	258	506
05:45 PM	0	0	0	0	0	30	165	0	0	195	30	0	8	0	38	0	199	87	0	286	519
Total	0	0	0	0	0	83	688	0	0	771	162	0	25	0	187	0	757	350	0	1107	2065
06:00 PM	0	0	0	0	0	20	143	0	0	163	41	0	11	0	52	0	180	92	0	272	487
06:15 PM	0	0	0	0	0	7	138	0	0	145	31	0	5	0	36	0	206	90	0	296	477
06:30 PM	0	0	0	0	0	11	146	0	0	157	36	0	5	0	41	0	225	88	0	313	511
06:45 PM	0	0	0	0	0	6	142	0	0	148	49	0	8	0	57	0	216	88	0	304	509
Total	0	0	0	0	0	44	569	0	0	613	157	0	29	0	186	0	827	358	0	1185	1984
Grand Total	0	0	0	0	0	445	7851	0	0	8296	2442	0	373	0	2815	0	7794	2509	0	10303	21414
Apprch %	0	0	0	0		5.4	94.6	0	0		86.7	0	13.3	0		0	75.6	24.4	0		
Total %	0	0	0	0	0	2.1	36.7	0	0	38.7	11.4	0	1.7	0	13.1	0	36.4	11.7	0	48.1	
Unshifted	0	0	0	0	0	436	7595	0	0	8031	2427	0	369	0	2796	0	7562	2475	0	10037	20864
% Unshifted	0	0	0	0	0	98	96.7	0	0	96.8	99.4	0	98.9	0	99.3	0	97	98.6	0	97.4	97.4
Buses	0	0	0	0	0	0	183	0	0	183	6	0	0	0	6	0	174	23	0	197	386
% Buses	0	0	0	0	0	0	2.3	0	0	2.2	0.2	0	0	0	0.2	0	2.2	0.9	0	1.9	1.8
Trucks	0	0	0	0	0	9	73	0	0	82	9	0	4	0	13	0	58	11	0	69	164
% Trucks	0	0	0	0	0	2	0.9	0	0	1	0.4	0	1.1	0	0.5	0	0.7	0.4	0	0.7	0.8

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 17. Seminary Rd @ Jordan St
Site Code : 017
Start Date : 11/8/2018
Page No : 3

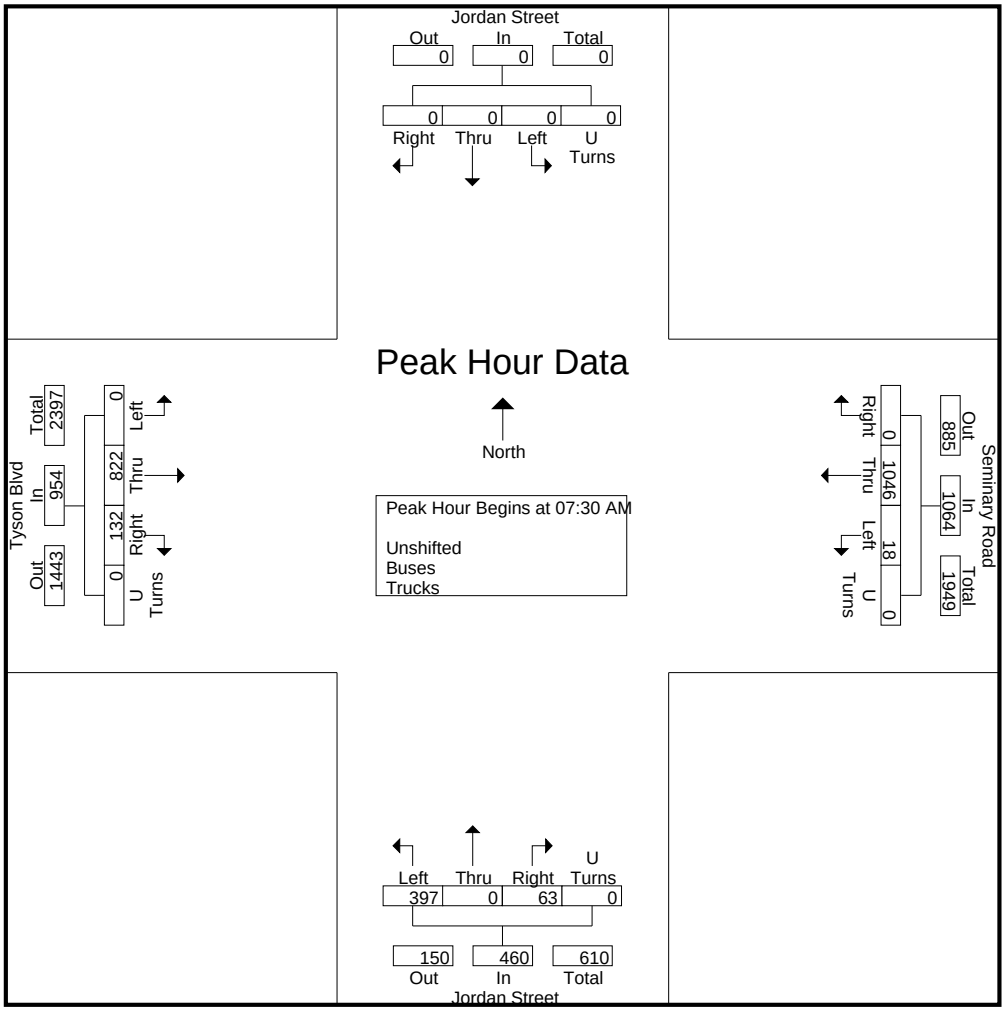


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 17. Seminary Rd @ Jordan St
Site Code : 017
Start Date : 11/8/2018
Page No : 4

	Jordan Street From North					Seminary Road From East					Jordan Street From South					Tyson Blvd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	3	242	0	0	245	101	0	15	0	116	0	**231**	23	0	254	615
07:45 AM	0	0	0	0	0	2	253	0	0	255	95	0	**25**	0	120	0	227	30	0	**257**	632
08:00 AM	0	0	0	0	0	**9**	274	0	0	**283**	**109**	0	15	0	**124**	0	157	30	0	187	594
08:15 AM	0	0	0	0	0	4	**277**	0	0	281	92	0	8	0	100	0	207	**49**	0	256	**637**
Total Volume	0	0	0	0	0	18	1046	0	0	1064	397	0	63	0	460	0	822	132	0	954	2478
% App. Total	0	0	0	0		1.7	98.3	0	0		86.3	0	13.7	0		0	86.2	13.8	0		
PHF	.000	.000	.000	.000	.000	.500	.944	.000	.000	.940	.911	.000	.630	.000	.927	.000	.890	.673	.000	.928	.973

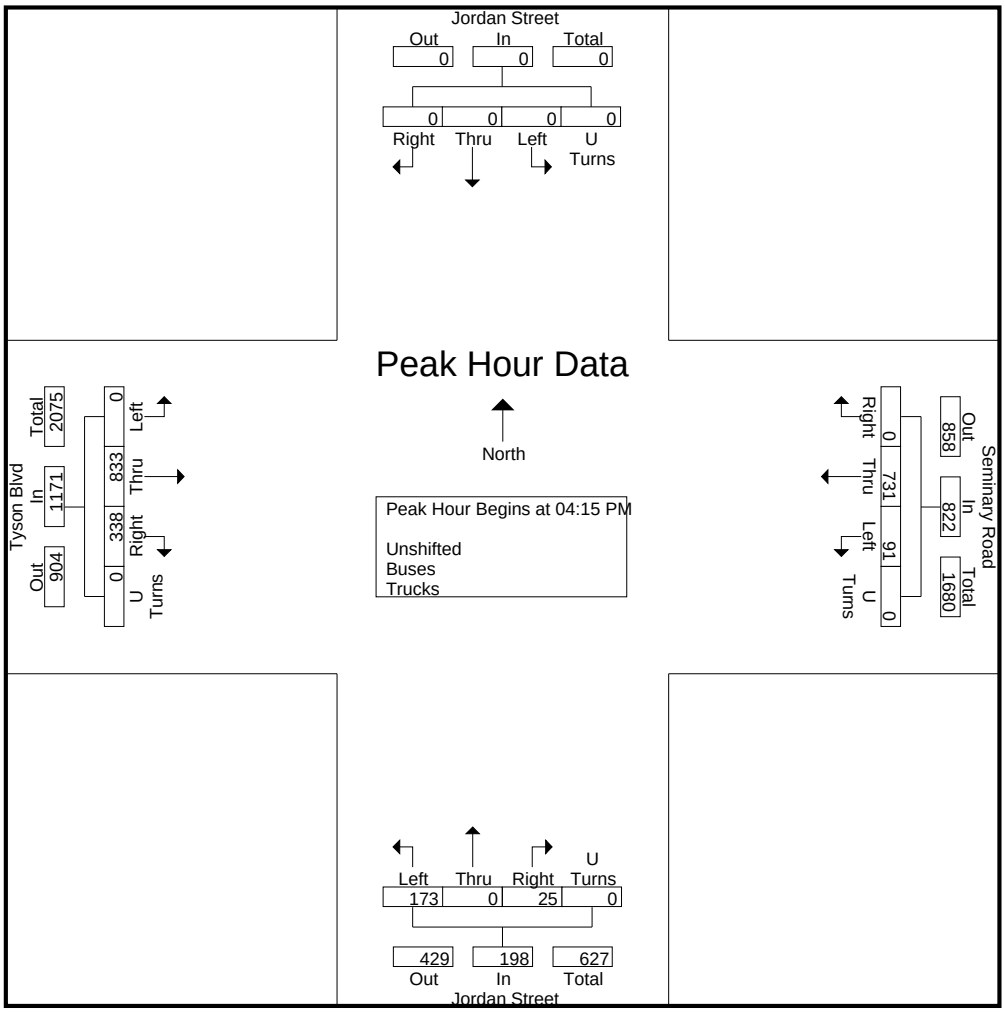


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 17. Seminary Rd @ Jordan St
Site Code : 017
Start Date : 11/8/2018
Page No : 5

	Jordan Street From North					Seminary Road From East					Jordan Street From South					Tyson Blvd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	0	0	0	22	165	0	0	187	40	0	**10**	0	50	0	**219**	**91**	0	**310**	547
04:30 PM	0	0	0	0	0	**33**	**191**	0	0	**224**	38	0	4	0	42	0	211	73	0	284	550
04:45 PM	0	0	0	0	0	21	189	0	0	210	**51**	0	6	0	**57**	0	208	90	0	298	**565**
05:00 PM	0	0	0	0	0	15	186	0	0	201	44	0	5	0	49	0	195	84	0	279	529
Total Volume	0	0	0	0	0	91	731	0	0	822	173	0	25	0	198	0	833	338	0	1171	2191
% App. Total	0	0	0	0		11.1	88.9	0	0		87.4	0	12.6	0		0	71.1	28.9	0		
PHF	.000	.000	.000	.000	.000	.689	.957	.000	.000	.917	.848	.000	.625	.000	.868	.000	.951	.929	.000	.944	.969



File Name: 17. Seminary Rd @ Jordan St - Pedestrians
Start Date: 11/8/2018
Start Time: 7:00:00 AM
Site Code: 017
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	Jordan Street From North				Seminary Road From East				Jordan Street From South				Tyson Blvd From West			
Start Time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
07:45 AM	0	0	0	2	0	0	0	3	0	0	0	5	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	1	0	0	0	7	0	0	0	0
08:15 AM	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0
09:30 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
10:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
02:30 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
03:00 PM	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0

03:15 PM	0	0	0	1	0	0	0	0	0	0	0	11	0	0	0	0
03:30 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	0
04:30 PM	0	0	0	1	0	0	0	2	0	0	0	1	0	0	0	0
04:45 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 18. Seminary Rd @ Howard St
Site Code : 018
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	Howard St From North					Seminary Rd From East					Howard St From South					Seminary Rd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	13	8	20	0	41	23	167	20	0	210	10	36	22	0	68	31	80	37	0	148	467
07:15 AM	16	7	21	0	44	15	180	27	0	222	19	40	17	0	76	33	84	29	0	146	488
07:30 AM	29	18	26	0	73	17	169	66	0	252	41	46	20	0	107	62	120	39	0	221	653
07:45 AM	44	21	17	0	82	19	210	79	0	308	38	53	12	0	103	55	114	41	0	210	703
Total	102	54	84	0	240	74	726	192	0	992	108	175	71	0	354	181	398	146	0	725	2311
08:00 AM	27	31	26	0	84	12	187	69	0	268	38	77	8	0	123	60	89	38	0	187	662
08:15 AM	30	30	19	0	79	22	203	60	0	285	26	57	10	0	93	67	83	39	0	189	646
08:30 AM	13	23	26	0	62	23	187	25	0	235	30	49	16	0	95	38	96	34	0	168	560
08:45 AM	9	29	17	0	55	13	164	28	0	205	23	23	15	0	61	32	116	38	0	186	507
Total	79	113	88	0	280	70	741	182	0	993	117	206	49	0	372	197	384	149	0	730	2375
09:00 AM	6	9	24	0	39	14	157	22	0	193	28	19	10	0	57	30	85	31	0	146	435
09:15 AM	10	14	16	0	40	12	148	10	0	170	23	22	10	0	55	30	84	32	0	146	411
09:30 AM	10	15	25	0	50	16	126	23	0	165	28	12	14	0	54	23	77	47	0	147	416
09:45 AM	9	17	12	0	38	14	96	14	0	124	34	17	3	0	54	15	81	33	0	129	345
Total	35	55	77	0	167	56	527	69	0	652	113	70	37	0	220	98	327	143	0	568	1607
10:00 AM	12	16	19	0	47	15	81	5	0	101	24	10	16	0	50	10	77	28	0	115	313
10:15 AM	5	19	8	0	32	16	93	12	0	121	18	14	8	0	40	17	74	22	0	113	306
10:30 AM	5	15	14	0	34	13	94	9	0	116	30	16	11	0	57	10	79	36	0	125	332
10:45 AM	11	14	11	0	36	17	93	15	0	125	25	9	13	0	47	21	78	35	0	134	342
Total	33	64	52	0	149	61	361	41	0	463	97	49	48	0	194	58	308	121	0	487	1293
11:00 AM	13	9	14	0	36	8	62	11	0	81	21	14	14	0	49	25	75	34	0	134	300
11:15 AM	6	21	9	0	36	17	71	11	0	99	24	27	11	0	62	17	76	28	0	121	318
11:30 AM	11	12	20	0	43	13	86	11	0	110	25	14	15	0	54	28	89	27	0	144	351
11:45 AM	7	25	23	0	55	8	65	13	0	86	33	25	15	0	73	21	89	26	0	136	350
Total	37	67	66	0	170	46	284	46	0	376	103	80	55	0	238	91	329	115	0	535	1319
12:00 PM	12	15	11	0	38	22	88	18	0	128	35	17	20	0	72	29	77	28	0	134	372
12:15 PM	15	16	12	0	43	9	80	11	0	100	32	16	13	0	61	21	82	18	0	121	325
12:30 PM	14	23	10	0	47	12	100	11	0	123	34	16	6	0	56	21	86	19	0	126	352
12:45 PM	9	30	22	0	61	13	76	15	0	104	21	20	13	0	54	20	85	36	0	141	360
Total	50	84	55	0	189	56	344	55	0	455	122	69	52	0	243	91	330	101	0	522	1409
01:00 PM	6	21	28	0	55	20	85	19	0	124	24	16	13	0	53	29	105	39	0	173	405
01:15 PM	7	27	18	0	52	7	69	18	0	94	34	13	13	0	60	27	83	30	0	140	346
01:30 PM	9	13	19	0	41	11	98	12	0	121	30	21	19	0	70	21	89	24	0	134	366
01:45 PM	17	14	17	0	48	12	101	12	0	125	33	20	16	0	69	24	87	30	0	141	383
Total	39	75	82	0	196	50	353	61	0	464	121	70	61	0	252	101	364	123	0	588	1500
02:00 PM	12	30	16	0	58	11	69	13	0	93	39	18	21	0	78	35	111	16	0	162	391
02:15 PM	17	23	22	0	62	11	97	14	0	122	39	23	15	0	77	43	91	24	0	158	419
02:30 PM	17	25	24	0	66	11	96	29	0	136	34	12	25	0	71	29	134	37	0	200	473
02:45 PM	17	24	23	0	64	17	106	22	0	145	37	24	17	0	78	33	131	33	0	197	484
Total	63	102	85	0	250	50	368	78	0	496	149	77	78	0	304	140	467	110	0	717	1767
03:00 PM	27	30	28	0	85	8	96	23	0	127	43	37	17	0	97	27	175	31	0	233	542
03:15 PM	21	41	23	0	85	13	114	18	0	145	44	25	19	0	88	26	138	27	0	191	509
03:30 PM	22	40	33	0	95	11	105	24	0	140	47	23	19	0	89	30	161	26	0	217	541
03:45 PM	17	28	34	0	79	13	117	19	0	149	29	18	15	0	62	28	170	42	0	240	530
Total	87	139	118	0	344	45	432	84	0	561	163	103	70	0	336	111	644	126	0	881	2122
04:00 PM	21	35	37	0	93	15	94	25	0	134	30	19	19	0	68	31	156	26	0	213	508

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 18. Seminary Rd @ Howard St
Site Code : 018
Start Date : 11/1/2018
Page No : 2

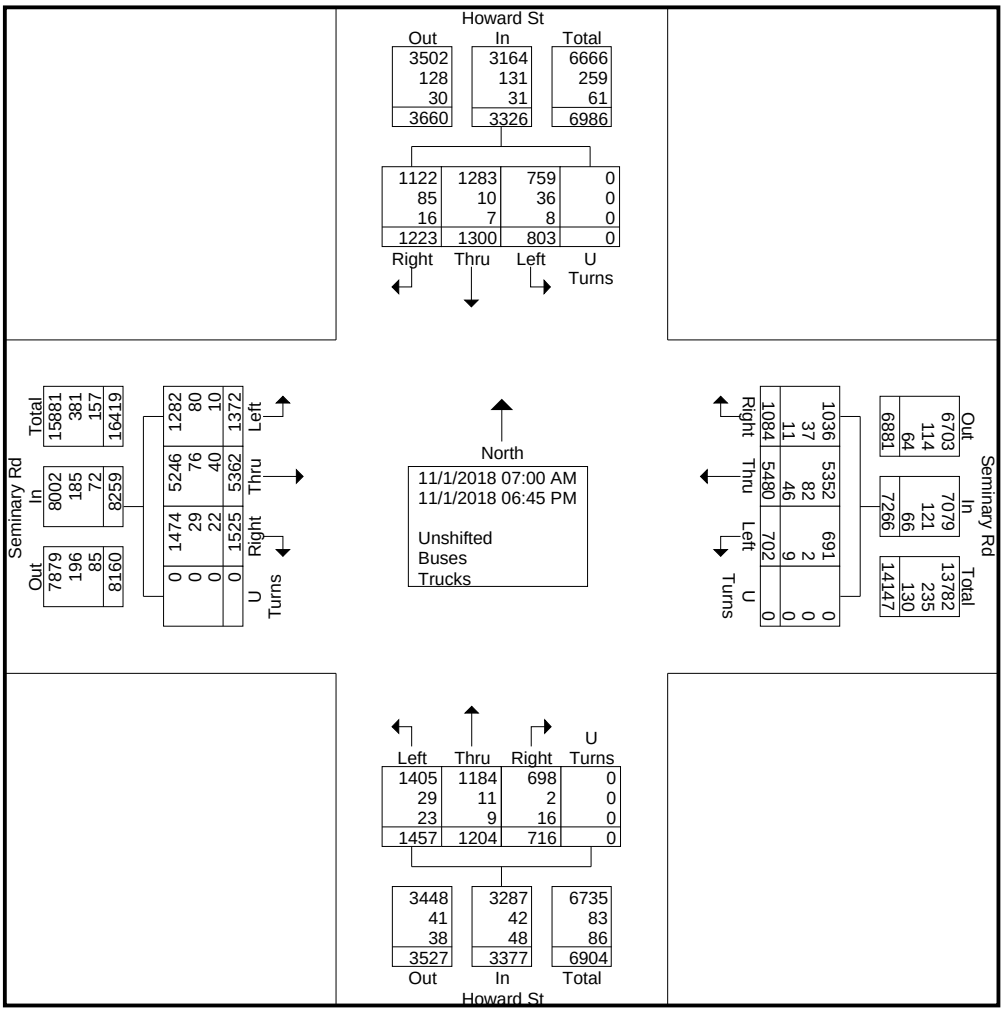
Groups Printed- Unshifted - Buses - Trucks

	Howard St From North					Seminary Rd From East					Howard St From South					Seminary Rd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	24	43	42	0	109	12	94	27	0	133	47	24	11	0	82	23	164	20	0	207	531
04:30 PM	28	55	43	0	126	12	113	22	0	147	54	27	18	0	99	24	157	29	0	210	582
04:45 PM	25	63	54	0	142	12	79	25	0	116	26	24	20	0	70	28	169	23	0	220	548
Total	98	196	176	0	470	51	380	99	0	530	157	94	68	0	319	106	646	98	0	850	2169
05:00 PM	27	42	69	0	138	20	122	30	0	172	28	31	17	0	76	27	144	31	0	202	588
05:15 PM	22	61	57	0	140	15	160	20	0	195	27	32	19	0	78	33	170	26	0	229	642
05:30 PM	22	49	53	0	124	16	145	24	0	185	30	30	13	0	73	28	157	27	0	212	594
05:45 PM	19	46	43	0	108	24	125	24	0	173	26	28	8	0	62	19	140	44	0	203	546
Total	90	198	222	0	510	75	552	98	0	725	111	121	57	0	289	107	611	128	0	846	2370
06:00 PM	28	46	41	0	115	14	131	27	0	172	17	18	16	0	51	16	117	32	0	165	503
06:15 PM	30	46	39	0	115	16	90	19	0	125	23	19	19	0	61	13	120	31	0	164	465
06:30 PM	19	34	28	0	81	17	91	20	0	128	33	28	17	0	78	38	181	37	0	256	543
06:45 PM	13	27	10	0	50	21	100	13	0	134	23	25	18	0	66	24	136	65	0	225	475
Total	90	153	118	0	361	68	412	79	0	559	96	90	70	0	256	91	554	165	0	810	1986
Grand Total	803	1300	1223	0	3326	702	5480	1084	0	7266	1457	1204	716	0	3377	1372	5362	1525	0	8259	22228
Apprch %	24.1	39.1	36.8	0		9.7	75.4	14.9	0		43.1	35.7	21.2	0		16.6	64.9	18.5	0		
Total %	3.6	5.8	5.5	0	15	3.2	24.7	4.9	0	32.7	6.6	5.4	3.2	0	15.2	6.2	24.1	6.9	0	37.2	
Unshifted	759	1283	1122	0	3164	691	5352	1036	0	7079	1405	1184	698	0	3287	1282	5246	1474	0	8002	21532
% Unshifted	94.5	98.7	91.7	0	95.1	98.4	97.7	95.6	0	97.4	96.4	98.3	97.5	0	97.3	93.4	97.8	96.7	0	96.9	96.9
Buses	36	10	85	0	131	2	82	37	0	121	29	11	2	0	42	80	76	29	0	185	479
% Buses	4.5	0.8	7	0	3.9	0.3	1.5	3.4	0	1.7	2	0.9	0.3	0	1.2	5.8	1.4	1.9	0	2.2	2.2
Trucks	8	7	16	0	31	9	46	11	0	66	23	9	16	0	48	10	40	22	0	72	217
% Trucks	1	0.5	1.3	0	0.9	1.3	0.8	1	0	0.9	1.6	0.7	2.2	0	1.4	0.7	0.7	1.4	0	0.9	1

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 18. Seminary Rd @ Howard St
Site Code : 018
Start Date : 11/1/2018
Page No : 3

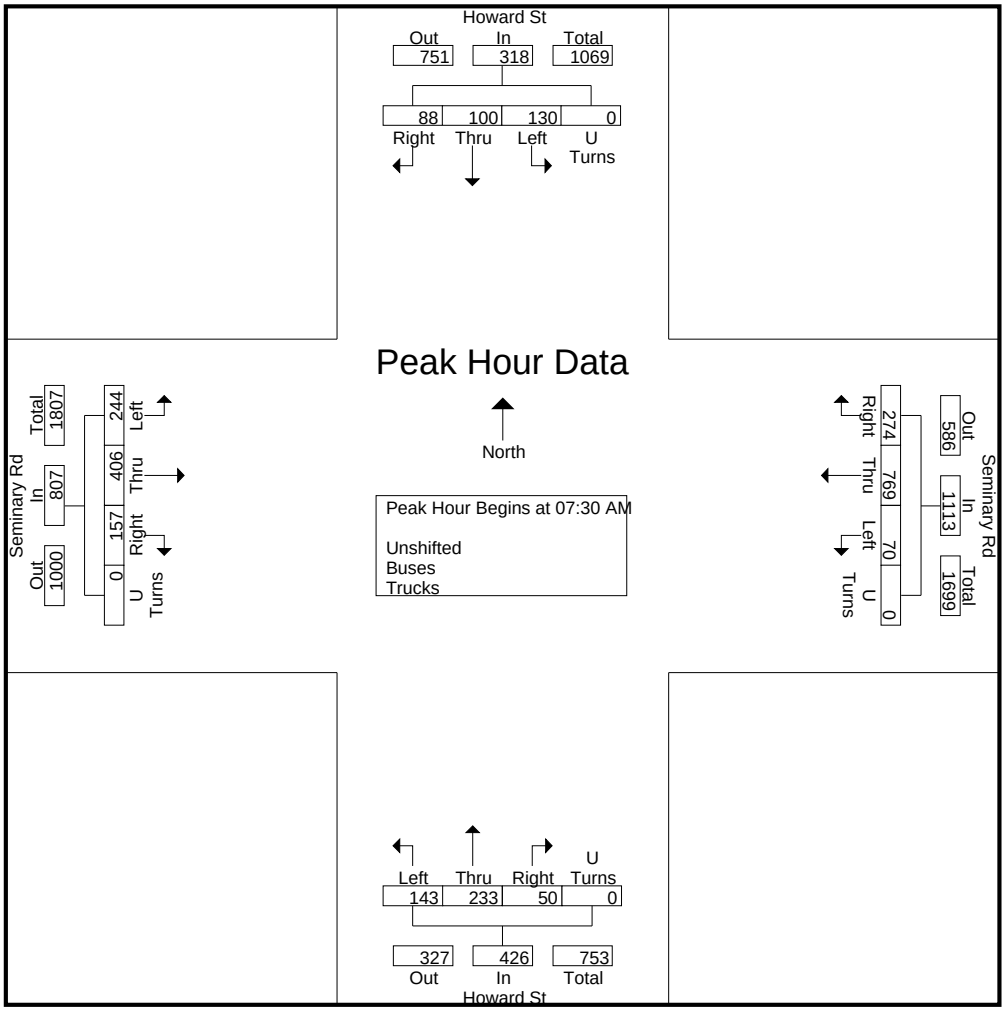


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 18. Seminary Rd @ Howard St
Site Code : 018
Start Date : 11/1/2018
Page No : 4

	Howard St From North					Seminary Rd From East					Howard St From South					Seminary Rd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	29	18	**26**	0	73	17	169	66	0	252	**41**	46	**20**	0	107	62	**120**	39	0	**221**	653
07:45 AM	**44**	21	17	0	82	19	**210**	**79**	0	**308**	38	53	12	0	103	55	114	**41**	0	210	**703**
08:00 AM	27	**31**	26	0	**84**	12	187	69	0	268	38	**77**	8	0	**123**	60	89	38	0	187	662
08:15 AM	30	30	19	0	79	**22**	203	60	0	285	26	57	10	0	93	**67**	83	39	0	189	646
Total Volume	130	100	88	0	318	70	769	274	0	1113	143	233	50	0	426	244	406	157	0	807	2664
% App. Total	40.9	31.4	27.7	0		6.3	69.1	24.6	0		33.6	54.7	11.7	0		30.2	50.3	19.5	0		
PHF	.739	.806	.846	.000	.946	.795	.915	.867	.000	.903	.872	.756	.625	.000	.866	.910	.846	.957	.000	.913	.947

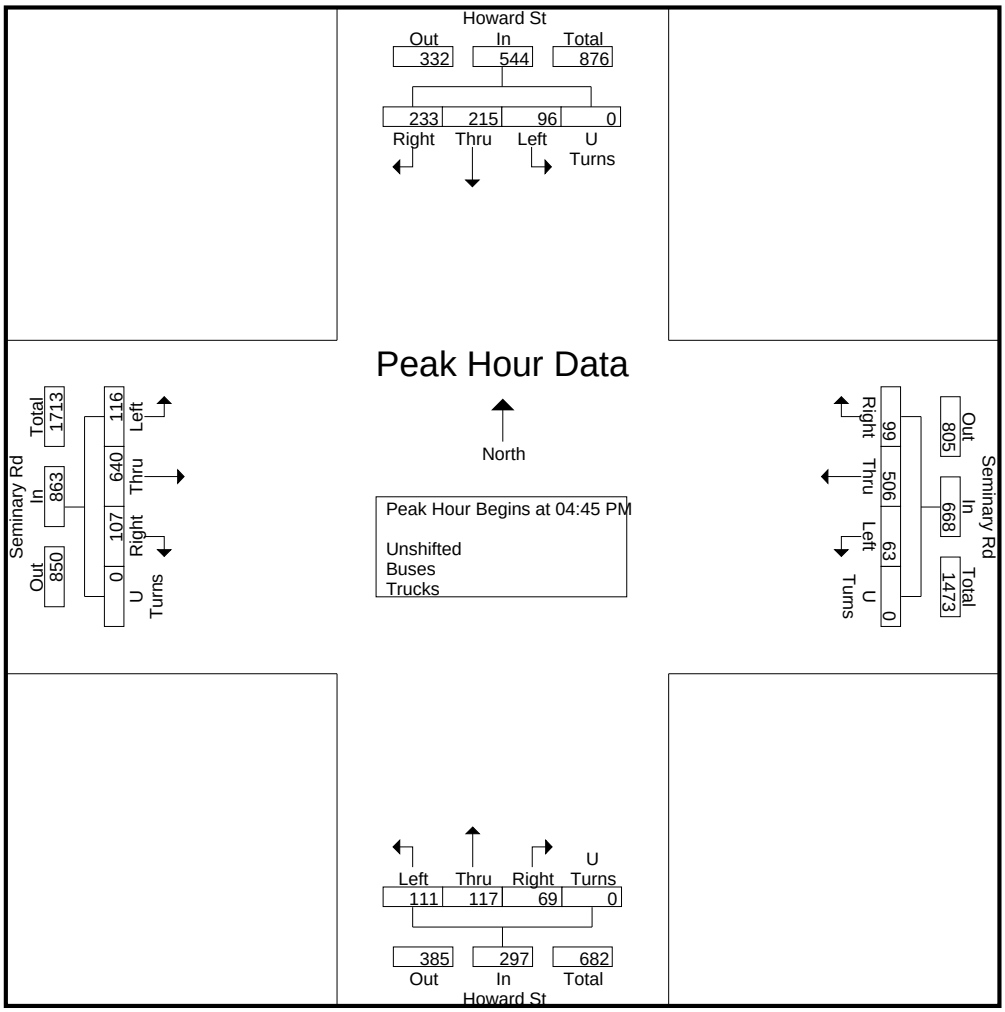


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 18. Seminary Rd @ Howard St
Site Code : 018
Start Date : 11/1/2018
Page No : 5

	Howard St From North					Seminary Rd From East					Howard St From South					Seminary Rd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	25	**63**	54	0	**142**	12	79	25	0	116	26	24	**20**	0	70	28	169	23	0	220	548
05:00 PM	**27**	42	**69**	0	138	**20**	122	**30**	0	172	28	31	17	0	76	27	144	**31**	0	202	588
05:15 PM	22	61	57	0	140	15	**160**	20	0	**195**	27	**32**	19	0	**78**	**33**	**170**	26	0	**229**	**642**
05:30 PM	22	49	53	0	124	16	145	24	0	185	**30**	30	13	0	73	28	157	27	0	212	594
Total Volume	96	215	233	0	544	63	506	99	0	668	111	117	69	0	297	116	640	107	0	863	2372
% App. Total	17.6	39.5	42.8	0		9.4	75.7	14.8	0		37.4	39.4	23.2	0		13.4	74.2	12.4	0		
PHF	.889	.853	.844	.000	.958	.788	.791	.825	.000	.856	.925	.914	.863	.000	.952	.879	.941	.863	.000	.942	.924



File Name: 18. Seminary Rd @ Howard St - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 018
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	Howard St From North				Seminary Rd From East				Howard St From South				Seminary Rd From West			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
09:15 AM	0	0	0	2	0	0	0	0	0	0	0	4	0	0	0	2
09:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1
10:00 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	6
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	3	0	0	0	2	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:45 PM	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0

03:15 PM	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3
03:45 PM	0	0	0	3	0	0	0	3	0	0	0	1	0	0	0	2
04:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
04:15 PM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1
05:30 PM	0	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	3	0	0	0	1	0	0	0	1	0	0	0	3
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 19. Seminary Rd @ Quaker Lane
Site Code : 019
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	Quaker Lane From North					Seminary Rd From East					Quaker Lane From South					Seminary Rd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	17	85	7	0	109	1	32	29	0	62	142	180	2	0	324	5	42	30	0	77	572
07:15 AM	28	96	10	0	134	2	47	39	0	88	153	172	10	0	335	9	52	42	0	103	660
07:30 AM	46	89	16	0	151	6	79	44	0	129	145	187	5	0	337	11	68	54	0	133	750
07:45 AM	39	105	32	0	176	14	82	54	0	150	138	177	18	0	333	25	51	50	0	126	785
Total	130	375	65	0	570	23	240	166	0	429	578	716	35	0	1329	50	213	176	0	439	2767
08:00 AM	21	111	18	0	150	9	63	35	0	107	154	171	8	0	333	17	66	44	0	127	717
08:15 AM	34	115	12	0	161	5	72	23	0	100	140	145	4	0	289	13	58	53	0	124	674
08:30 AM	31	160	12	0	203	6	68	34	0	108	112	182	4	0	298	17	47	58	0	122	731
08:45 AM	21	110	19	0	150	7	49	30	0	86	127	173	4	0	304	16	54	38	0	108	648
Total	107	496	61	0	664	27	252	122	0	401	533	671	20	0	1224	63	225	193	0	481	2770
09:00 AM	30	100	9	0	139	3	41	21	0	65	122	139	6	0	267	16	46	45	0	107	578
09:15 AM	21	110	14	0	145	4	32	24	0	60	107	140	2	0	249	13	36	59	0	108	562
09:30 AM	12	107	14	0	133	4	30	18	0	52	104	143	2	0	249	18	40	48	0	106	540
09:45 AM	15	121	7	0	143	6	33	19	0	58	80	143	7	0	230	8	42	47	0	97	528
Total	78	438	44	0	560	17	136	82	0	235	413	565	17	0	995	55	164	199	0	418	2208
10:00 AM	13	90	9	0	112	3	18	16	0	37	66	141	1	0	208	10	32	34	0	76	433
10:15 AM	19	91	3	0	113	1	21	29	0	51	90	125	6	0	221	10	35	37	0	82	467
10:30 AM	16	95	6	0	117	5	24	23	0	52	71	143	2	0	216	11	29	48	0	88	473
10:45 AM	18	89	10	0	117	3	28	21	0	52	80	130	4	0	214	12	41	46	0	99	482
Total	66	365	28	0	459	12	91	89	0	192	307	539	13	0	859	43	137	165	0	345	1855
11:00 AM	19	110	7	0	136	3	28	15	0	46	48	98	3	0	149	14	48	44	0	106	437
11:15 AM	20	95	11	0	126	3	29	28	0	60	64	95	6	0	165	12	37	46	0	95	446
11:30 AM	27	84	15	0	126	3	26	29	0	58	52	143	8	0	203	16	33	62	0	111	498
11:45 AM	14	90	20	0	124	3	27	28	0	58	46	126	5	0	177	26	29	62	0	117	476
Total	80	379	53	0	512	12	110	100	0	222	210	462	22	0	694	68	147	214	0	429	1857
12:00 PM	16	106	7	0	129	5	26	23	0	54	64	92	0	0	156	22	37	45	0	104	443
12:15 PM	19	95	9	0	123	6	28	19	0	53	61	130	3	0	194	20	48	46	0	114	484
12:30 PM	30	102	15	0	147	2	29	13	0	44	80	128	5	0	213	14	35	50	0	99	503
12:45 PM	24	103	10	0	137	2	34	24	0	60	54	110	10	0	174	10	40	54	0	104	475
Total	89	406	41	0	536	15	117	79	0	211	259	460	18	0	737	66	160	195	0	421	1905
01:00 PM	27	136	13	0	176	2	30	15	0	47	61	118	5	0	184	14	34	48	0	96	503
01:15 PM	22	134	6	0	162	4	21	22	0	47	39	110	4	0	153	9	44	57	0	110	472
01:30 PM	19	120	10	0	149	3	30	15	0	48	77	127	5	0	209	14	34	59	0	107	513
01:45 PM	23	109	12	0	144	2	30	18	0	50	68	102	7	0	177	14	50	50	0	114	485
Total	91	499	41	0	631	11	111	70	0	192	245	457	21	0	723	51	162	214	0	427	1973
02:00 PM	30	118	6	0	154	5	35	21	0	61	54	130	6	0	190	14	62	59	0	135	540
02:15 PM	38	126	14	0	178	1	45	22	0	68	59	121	6	0	186	15	46	50	0	111	543
02:30 PM	34	103	10	0	147	9	44	29	0	82	75	127	6	0	208	18	57	78	0	153	590
02:45 PM	44	140	18	0	202	7	47	17	0	71	71	136	2	0	209	24	71	64	0	159	641
Total	146	487	48	0	681	22	171	89	0	282	259	514	20	0	793	71	236	251	0	558	2314
03:00 PM	59	121	18	0	198	5	55	29	0	89	59	88	3	0	150	19	74	80	0	173	610
03:15 PM	50	124	34	0	208	3	50	45	0	98	69	129	2	0	200	21	83	65	0	169	675
03:30 PM	57	122	18	0	197	2	51	28	0	81	64	124	4	0	192	17	97	76	0	190	660
03:45 PM	64	132	16	0	212	8	53	28	0	89	64	132	1	0	197	23	100	65	0	188	686
Total	230	499	86	0	815	18	209	130	0	357	256	473	10	0	739	80	354	286	0	720	2631
04:00 PM	73	145	26	0	244	6	44	33	0	83	45	127	3	0	175	22	94	56	0	172	674

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 19. Seminary Rd @ Quaker Lane
Site Code : 019
Start Date : 11/1/2018
Page No : 2

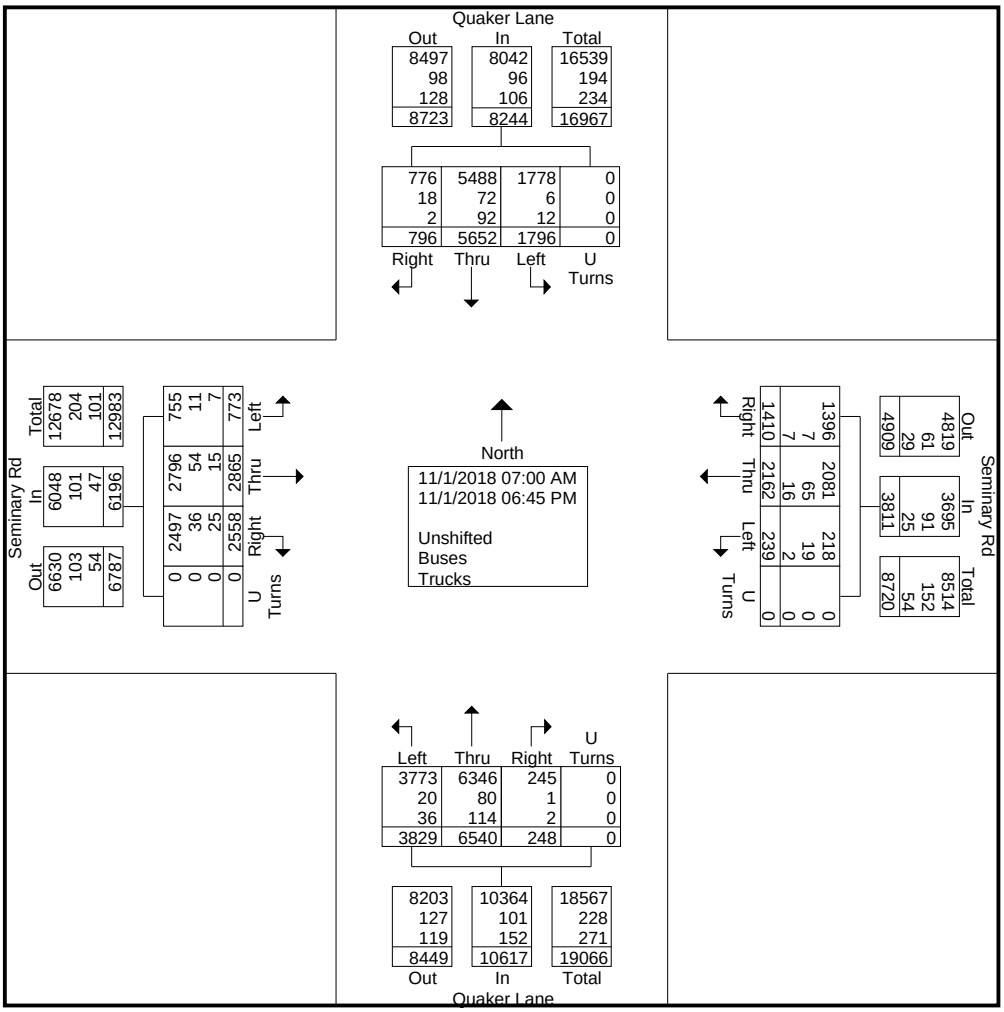
Groups Printed- Unshifted - Buses - Trucks

	Quaker Lane From North					Seminary Rd From East					Quaker Lane From South					Seminary Rd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	78	141	23	0	242	2	72	30	0	104	67	133	5	0	205	10	91	65	0	166	717
04:30 PM	57	180	25	0	262	11	56	37	0	104	62	141	6	0	209	17	93	58	0	168	743
04:45 PM	73	125	25	0	223	5	42	41	0	88	64	130	10	0	204	23	120	51	0	194	709
Total	281	591	99	0	971	24	214	141	0	379	238	531	24	0	793	72	398	230	0	700	2843
05:00 PM	70	170	29	0	269	9	58	52	0	119	60	200	2	0	262	18	90	68	0	176	826
05:15 PM	81	123	34	0	238	6	78	54	0	138	73	148	10	0	231	27	119	50	0	196	803
05:30 PM	64	160	42	0	266	9	78	50	0	137	75	164	8	0	247	25	89	47	0	161	811
05:45 PM	66	141	30	0	237	7	89	47	0	143	58	125	4	0	187	20	75	56	0	151	718
Total	281	594	135	0	1010	31	303	203	0	537	266	637	24	0	927	90	373	221	0	684	3158
06:00 PM	50	128	34	0	212	7	66	33	0	106	76	147	8	0	231	18	73	55	0	146	695
06:15 PM	61	138	24	0	223	7	51	33	0	91	53	133	7	0	193	13	75	55	0	143	650
06:30 PM	53	130	25	0	208	7	55	43	0	105	54	126	5	0	185	18	80	49	0	147	645
06:45 PM	53	127	12	0	192	6	36	30	0	72	82	109	4	0	195	15	68	55	0	138	597
Total	217	523	95	0	835	27	208	139	0	374	265	515	24	0	804	64	296	214	0	574	2587
Grand Total	1796	5652	796	0	8244	239	2162	1410	0	3811	3829	6540	248	0	10617	773	2865	2558	0	6196	28868
Apprch %	21.8	68.6	9.7	0		6.3	56.7	37	0		36.1	61.6	2.3	0		12.5	46.2	41.3	0		
Total %	6.2	19.6	2.8	0	28.6	0.8	7.5	4.9	0	13.2	13.3	22.7	0.9	0	36.8	2.7	9.9	8.9	0	21.5	
Unshifted	1778	5488	776	0	8042	218	2081	1396	0	3695	3773	6346	245	0	10364	755	2796	2497	0	6048	28149
% Unshifted	99	97.1	97.5	0	97.5	91.2	96.3	99	0	97	98.5	97	98.8	0	97.6	97.7	97.6	97.6	0	97.6	97.5
Buses	6	72	18	0	96	19	65	7	0	91	20	80	1	0	101	11	54	36	0	101	389
% Buses	0.3	1.3	2.3	0	1.2	7.9	3	0.5	0	2.4	0.5	1.2	0.4	0	1	1.4	1.9	1.4	0	1.6	1.3
Trucks	12	92	2	0	106	2	16	7	0	25	36	114	2	0	152	7	15	25	0	47	330
% Trucks	0.7	1.6	0.3	0	1.3	0.8	0.7	0.5	0	0.7	0.9	1.7	0.8	0	1.4	0.9	0.5	1	0	0.8	1.1

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 19. Seminary Rd @ Quaker Lane
Site Code : 019
Start Date : 11/1/2018
Page No : 3

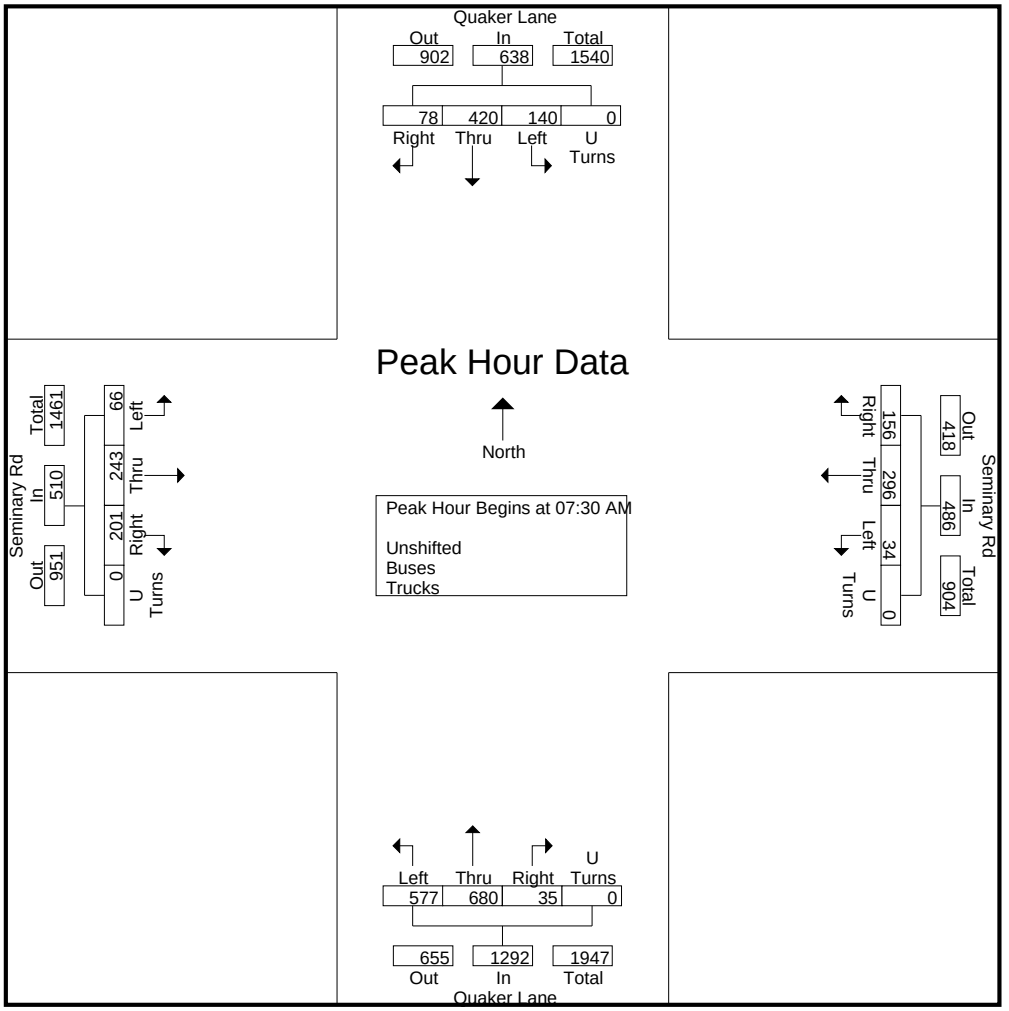


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 19. Seminary Rd @ Quaker Lane
Site Code : 019
Start Date : 11/1/2018
Page No : 4

	Quaker Lane From North					Seminary Rd From East					Quaker Lane From South					Seminary Rd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	**46**	89	16	0	151	6	79	44	0	129	145	**187**	5	0	**337**	11	**68**	**54**	0	**133**	750
07:45 AM	39	105	**32**	0	**176**	**14**	**82**	**54**	0	**150**	138	177	**18**	0	333	**25**	51	50	0	126	**785**
08:00 AM	21	111	18	0	150	9	63	35	0	107	**154**	171	8	0	333	17	66	44	0	127	717
08:15 AM	34	**115**	12	0	161	5	72	23	0	100	140	145	4	0	289	13	58	53	0	124	674
Total Volume	140	420	78	0	638	34	296	156	0	486	577	680	35	0	1292	66	243	201	0	510	2926
% App. Total	21.9	65.8	12.2	0		7	60.9	32.1	0		44.7	52.6	2.7	0		12.9	47.6	39.4	0		
PHF	.761	.913	.609	.000	.906	.607	.902	.722	.000	.810	.937	.909	.486	.000	.958	.660	.893	.931	.000	.959	.932

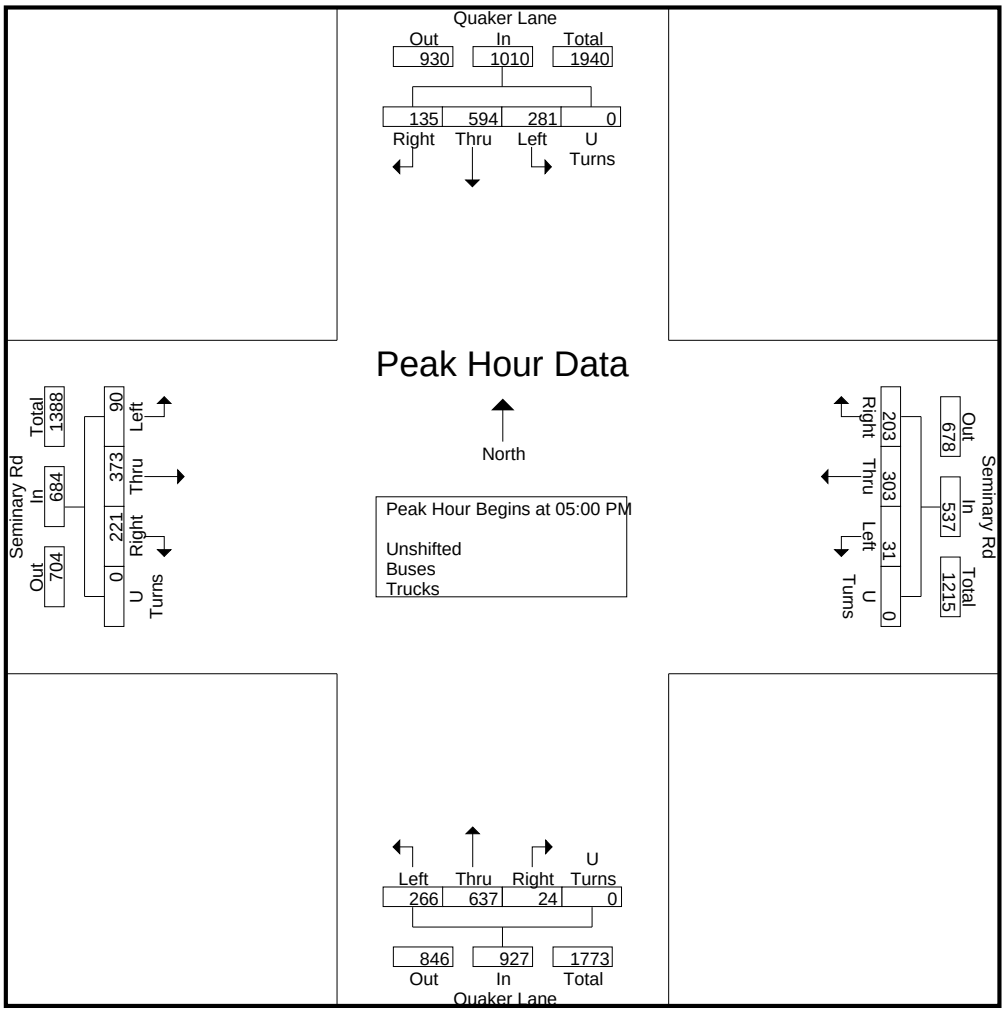


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 19. Seminary Rd @ Quaker Lane
Site Code : 019
Start Date : 11/1/2018
Page No : 5

	Quaker Lane From North					Seminary Rd From East					Quaker Lane From South					Seminary Rd From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	70	**170**	29	0	**269**	**9**	58	52	0	119	60	**200**	2	0	**262**	18	90	**68**	0	176	**826**
05:15 PM	**81**	123	34	0	238	6	78	**54**	0	138	73	148	**10**	0	231	**27**	**119**	50	0	**196**	803
05:30 PM	64	160	**42**	0	266	9	78	50	0	137	**75**	164	8	0	247	25	89	47	0	161	811
05:45 PM	66	141	30	0	237	7	**89**	47	0	**143**	58	125	4	0	187	20	75	56	0	151	718
Total Volume	281	594	135	0	1010	31	303	203	0	537	266	637	24	0	927	90	373	221	0	684	3158
% App. Total	27.8	58.8	13.4	0		5.8	56.4	37.8	0		28.7	68.7	2.6	0		13.2	54.5	32.3	0		
PHF	.867	.874	.804	.000	.939	.861	.851	.940	.000	.939	.887	.796	.600	.000	.885	.833	.784	.813	.000	.872	.956



File Name: 19. Seminary Rd @ Quaker Lane - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 019
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	Quaker Lane From North				Seminary Rd From East				Quaker Lane From South				Seminary Rd From West			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
07:30 AM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	5	0	0	0	2	0	0	0	1	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
09:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
02:45 PM	0	0	0	6	0	0	0	0	0	0	0	2	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

03:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
03:45 PM	0	0	0	4	0	0	0	2	0	0	0	2	0	0	0	1
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
04:15 PM	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
05:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 20. Seminary Road @ St. Stephens Rd
Site Code : 020
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	St. Stephens Road From North					Seminary Road From East					St. Stephens Road From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	0	0	1	0	1	6	181	1	0	188	17	0	5	0	22	1	86	16	0	103	314
07:15 AM	0	0	0	0	0	9	204	0	0	213	19	0	6	0	25	0	88	18	0	106	344
07:30 AM	0	0	2	0	2	24	216	0	0	240	40	0	8	0	48	1	140	37	0	178	468
07:45 AM	1	0	1	0	2	55	226	0	0	281	72	0	23	0	95	1	118	58	0	177	555
Total	1	0	4	0	5	94	827	1	0	922	148	0	42	0	190	3	432	129	0	564	1681
08:00 AM	0	0	1	0	1	13	252	1	0	266	46	0	11	0	57	1	99	23	0	123	447
08:15 AM	0	0	2	0	2	6	215	0	0	221	21	2	4	0	27	1	120	12	0	133	383
08:30 AM	2	0	1	0	3	6	206	1	0	213	12	0	4	0	16	1	113	4	0	118	350
08:45 AM	0	0	2	0	2	5	181	0	0	186	16	0	4	0	20	2	125	7	0	134	342
Total	2	0	6	0	8	30	854	2	0	886	95	2	23	0	120	5	457	46	0	508	1522
09:00 AM	0	0	1	0	1	5	172	0	0	177	15	0	4	0	19	1	89	6	0	96	293
09:15 AM	0	0	1	0	1	2	158	1	0	161	5	0	4	0	9	0	111	3	0	114	285
09:30 AM	0	0	2	0	2	4	158	0	0	162	7	0	4	0	11	0	90	6	0	96	271
09:45 AM	0	0	0	0	0	1	116	0	0	117	9	0	2	0	11	0	93	8	0	101	229
Total	0	0	4	0	4	12	604	1	0	617	36	0	14	0	50	1	383	23	0	407	1078
10:00 AM	0	0	2	0	2	3	94	1	0	98	8	0	1	0	9	0	99	8	0	107	216
10:15 AM	0	0	0	0	0	2	111	0	0	113	5	0	2	0	7	0	81	6	0	87	207
10:30 AM	0	0	1	0	1	0	111	0	0	111	9	0	3	0	12	1	80	5	0	86	210
10:45 AM	0	0	0	0	0	7	108	0	0	115	12	0	3	0	15	0	102	4	0	106	236
Total	0	0	3	0	3	12	424	1	0	437	34	0	9	0	43	1	362	23	0	386	869
11:00 AM	0	0	1	0	1	3	81	0	0	84	2	0	4	0	6	1	93	12	0	106	197
11:15 AM	0	0	1	0	1	7	89	1	0	97	7	0	4	0	11	0	85	5	0	90	199
11:30 AM	0	0	2	0	2	6	98	0	0	104	9	0	6	0	15	1	109	7	0	117	238
11:45 AM	0	0	0	0	0	10	72	0	0	82	8	0	4	0	12	0	102	11	0	113	207
Total	0	0	4	0	4	26	340	1	0	367	26	0	18	0	44	2	389	35	0	426	841
12:00 PM	0	0	0	0	0	5	106	1	0	112	9	0	7	0	16	0	90	11	0	101	229
12:15 PM	0	0	2	0	2	6	83	0	0	89	10	0	9	0	19	0	104	12	0	116	226
12:30 PM	0	0	0	0	0	5	117	0	0	122	10	0	6	0	16	1	94	8	0	103	241
12:45 PM	0	0	1	0	1	9	93	0	0	102	8	0	3	0	11	0	96	10	0	106	220
Total	0	0	3	0	3	25	399	1	0	425	37	0	25	0	62	1	384	41	0	426	916
01:00 PM	0	0	0	0	0	3	108	0	0	111	15	0	4	0	19	1	104	6	0	111	241
01:15 PM	0	0	2	0	2	3	71	0	0	74	16	0	9	0	25	0	100	5	0	105	206
01:30 PM	0	0	0	0	0	5	110	1	0	116	8	0	6	0	14	0	99	9	0	108	238
01:45 PM	0	0	1	0	1	5	113	0	0	118	5	0	4	0	9	1	111	10	0	122	250
Total	0	0	3	0	3	16	402	1	0	419	44	0	23	0	67	2	414	30	0	446	935
02:00 PM	0	0	0	0	0	3	86	1	0	90	7	0	3	0	10	0	140	9	0	149	249
02:15 PM	0	0	0	0	0	7	109	0	0	116	8	0	6	0	14	0	101	21	0	122	252
02:30 PM	0	0	0	0	0	10	117	0	0	127	21	0	11	0	32	0	146	16	0	162	321
02:45 PM	0	0	0	0	0	20	118	0	0	138	20	0	14	0	34	0	149	26	0	175	347
Total	0	0	0	0	0	40	430	1	0	471	56	0	34	0	90	0	536	72	0	608	1169
03:00 PM	0	0	0	0	0	18	109	0	0	127	16	0	15	0	31	0	168	35	0	203	361
03:15 PM	0	0	0	0	0	25	128	0	0	153	20	0	15	0	35	0	159	28	0	187	375
03:30 PM	0	0	0	0	0	16	127	0	0	143	24	0	20	0	44	0	191	28	0	219	406
03:45 PM	0	0	2	0	2	14	117	0	0	131	22	0	12	0	34	0	175	19	0	194	361
Total	0	0	2	0	2	73	481	0	0	554	82	0	62	0	144	0	693	110	0	803	1503
04:00 PM	0	0	0	0	0	8	94	0	0	102	32	0	18	0	50	1	164	15	0	180	332

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 20. Seminary Road @ St. Stephens Rd
Site Code : 020
Start Date : 11/1/2018
Page No : 2

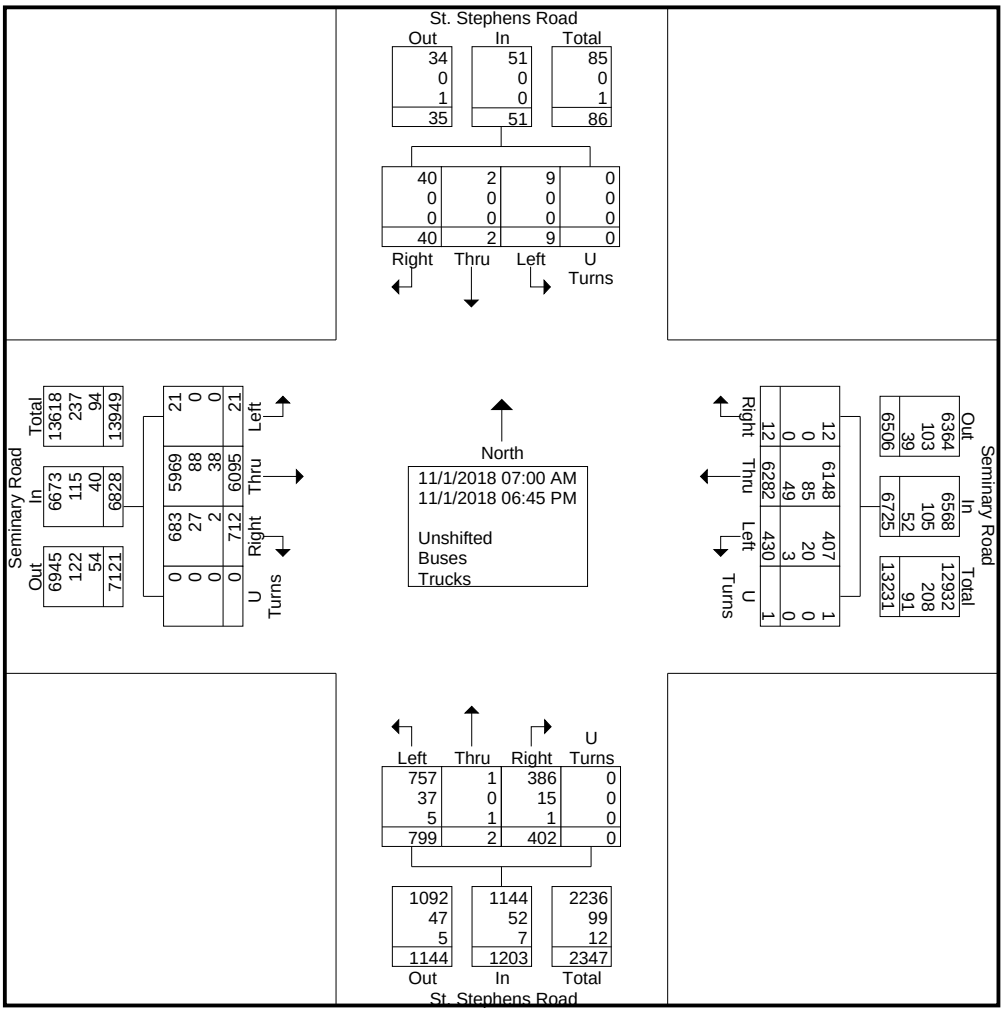
Groups Printed- Unshifted - Buses - Trucks

	St. Stephens Road From North					Seminary Road From East					St. Stephens Road From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	0	1	1	0	2	14	125	0	0	139	9	0	4	0	13	1	184	26	0	211	365
04:30 PM	0	0	3	0	3	13	125	0	1	139	16	0	11	0	27	0	188	16	0	204	373
04:45 PM	0	0	1	0	1	9	101	0	0	110	25	0	13	0	38	0	185	18	0	203	352
Total	0	1	5	0	6	44	445	0	1	490	82	0	46	0	128	2	721	75	0	798	1422
05:00 PM	0	0	0	0	0	7	134	0	0	141	32	0	15	0	47	1	192	16	0	209	397
05:15 PM	1	0	2	0	3	10	165	0	0	175	18	0	14	0	32	1	178	24	0	203	413
05:30 PM	1	0	0	0	1	8	146	0	0	154	24	0	14	0	38	1	157	9	0	167	360
05:45 PM	0	1	1	0	2	7	160	2	0	169	17	0	14	0	31	0	154	14	0	168	370
Total	2	1	3	0	6	32	605	2	0	639	91	0	57	0	148	3	681	63	0	747	1540
06:00 PM	3	0	2	0	5	4	146	1	0	151	24	0	17	0	41	1	143	23	0	167	364
06:15 PM	0	0	1	0	1	8	111	0	0	119	17	0	10	0	27	0	159	13	0	172	319
06:30 PM	0	0	0	0	0	11	99	0	0	110	18	0	16	0	34	0	181	14	0	195	339
06:45 PM	1	0	0	0	1	3	115	0	0	118	9	0	6	0	15	0	160	15	0	175	309
Total	4	0	3	0	7	26	471	1	0	498	68	0	49	0	117	1	643	65	0	709	1331
Grand Total	9	2	40	0	51	430	6282	12	1	6725	799	2	402	0	1203	21	6095	712	0	6828	14807
Apprch %	17.6	3.9	78.4	0		6.4	93.4	0.2	0		66.4	0.2	33.4	0		0.3	89.3	10.4	0		
Total %	0.1	0	0.3	0	0.3	2.9	42.4	0.1	0	45.4	5.4	0	2.7	0	8.1	0.1	41.2	4.8	0	46.1	
Unshifted	9	2	40	0	51	407	6148	12	1	6568	757	1	386	0	1144	21	5969	683	0	6673	14436
% Unshifted	100	100	100	0	100	94.7	97.9	100	100	97.7	94.7	50	96	0	95.1	100	97.9	95.9	0	97.7	97.5
Buses	0	0	0	0	0	20	85	0	0	105	37	0	15	0	52	0	88	27	0	115	272
% Buses	0	0	0	0	0	4.7	1.4	0	0	1.6	4.6	0	3.7	0	4.3	0	1.4	3.8	0	1.7	1.8
Trucks	0	0	0	0	0	3	49	0	0	52	5	1	1	0	7	0	38	2	0	40	99
% Trucks	0	0	0	0	0	0.7	0.8	0	0	0.8	0.6	50	0.2	0	0.6	0	0.6	0.3	0	0.6	0.7

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 20. Seminary Road @ St. Stephens Rd
Site Code : 020
Start Date : 11/1/2018
Page No : 3

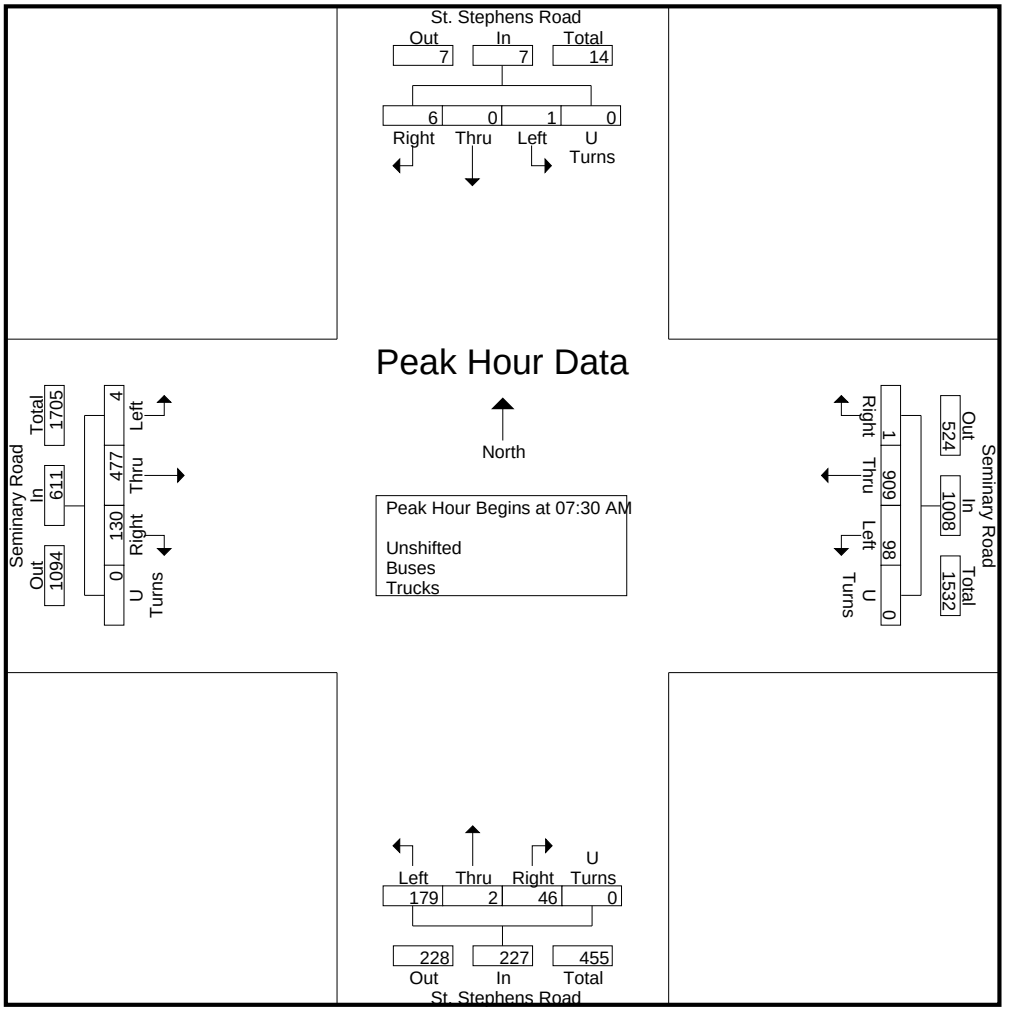


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 20. Seminary Road @ St. Stephens Rd
Site Code : 020
Start Date : 11/1/2018
Page No : 4

	St. Stephens Road From North					Seminary Road From East					St. Stephens Road From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	**2**	0	**2**	24	216	0	0	240	40	0	8	0	48	**1**	**140**	37	0	**178**	468
07:45 AM	**1**	0	1	0	2	**55**	226	0	0	**281**	**72**	0	**23**	0	**95**	1	118	**58**	0	177	**555**
08:00 AM	0	0	1	0	1	13	**252**	**1**	0	266	46	0	11	0	57	1	99	23	0	123	447
08:15 AM	0	0	2	0	2	6	215	0	0	221	21	**2**	4	0	27	1	120	12	0	133	383
Total Volume	1	0	6	0	7	98	909	1	0	1008	179	2	46	0	227	4	477	130	0	611	1853
% App. Total	14.3	0	85.7	0		9.7	90.2	0.1	0		78.9	0.9	20.3	0		0.7	78.1	21.3	0		
PHF	.250	.000	.750	.000	.875	.445	.902	.250	.000	.897	.622	.250	.500	.000	.597	1.00	.852	.560	.000	.858	.835

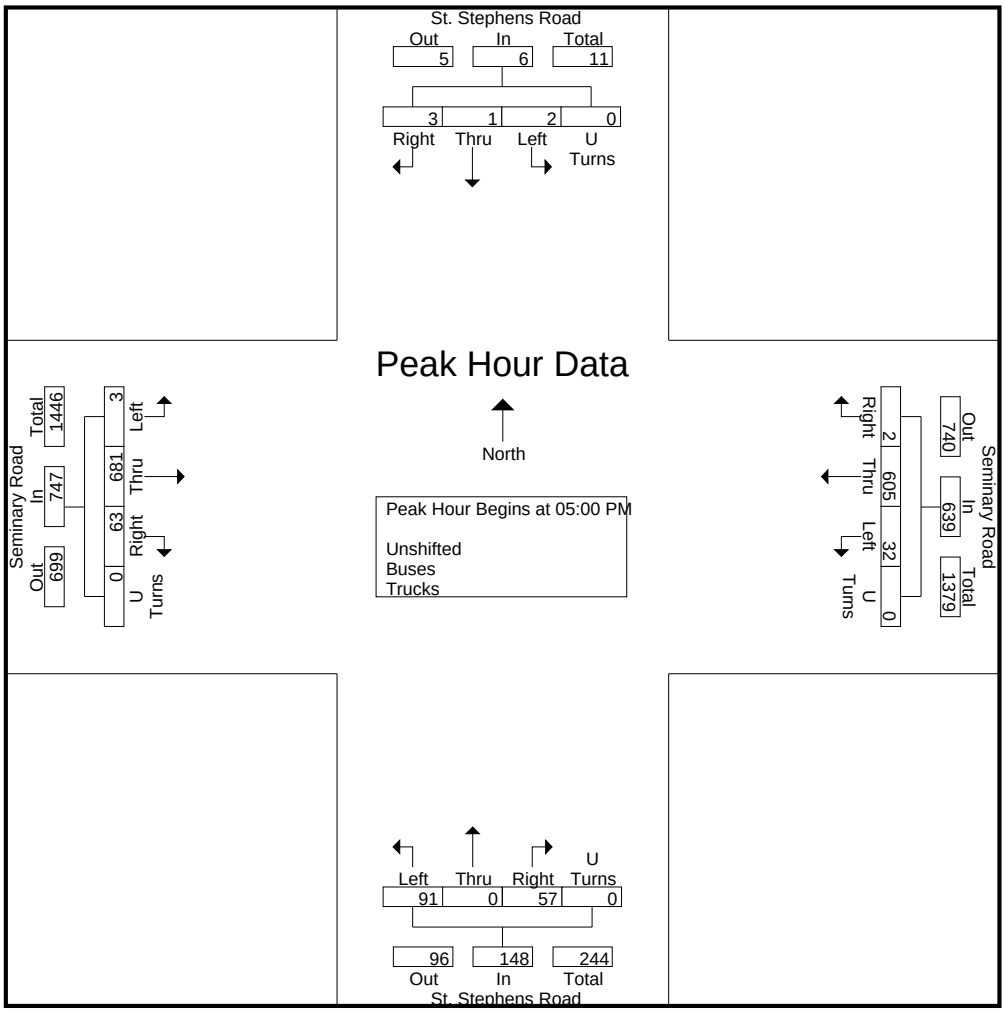


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 20. Seminary Road @ St. Stephens Rd
Site Code : 020
Start Date : 11/1/2018
Page No : 5

	St. Stephens Road From North					Seminary Road From East					St. Stephens Road From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	7	134	0	0	141	**32**	0	**15**	0	**47**	**1**	**192**	16	0	**209**	397
05:15 PM	**1**	0	**2**	0	**3**	**10**	**165**	0	0	**175**	18	0	14	0	32	1	178	**24**	0	203	**413**
05:30 PM	1	0	0	0	1	8	146	0	0	154	24	0	14	0	38	1	157	9	0	167	360
05:45 PM	0	**1**	1	0	2	7	160	**2**	0	169	17	0	14	0	31	0	154	14	0	168	370
Total Volume	2	1	3	0	6	32	605	2	0	639	91	0	57	0	148	3	681	63	0	747	1540
% App. Total	33.3	16.7	50	0		5	94.7	0.3	0		61.5	0	38.5	0		0.4	91.2	8.4	0		
PHF	.500	.250	.375	.000	.500	.800	.917	.250	.000	.913	.711	.000	.950	.000	.787	.750	.887	.656	.000	.894	.932



File Name: 20. Seminary Road @ St. Stephens Rd - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 020
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	St. Stephens Road From North				Seminary Road From East				St. Stephens Road From South				Seminary Road From West			
Start Time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped
07:00 AM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	1	0	0	0	8	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	6	0	0	0	1	0	0	0	0
08:00 AM	0	0	0	4	0	0	0	2	0	0	0	1	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
09:00 AM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0
09:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
09:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0
10:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0
01:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
02:45 PM	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0

03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	9	0	0	0	10	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
04:15 PM	0	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	1	0	0	0	2	0	0	0	1	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0
05:15 PM	0	0	0	2	0	0	0	1	0	0	0	1	0	0	0	1
05:30 PM	0	0	0	3	0	0	0	3	0	0	0	1	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0
06:00 PM	0	0	0	2	0	0	0	2	0	0	0	3	0	0	0	0
06:15 PM	0	0	0	1	0	0	0	0	0	0	0	5	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 21. Seminary Road @ Fort William Pkwy
Site Code : 021
Start Date : 11/1/2018
Page No : 1

Groups Printed- Unshifted - Buses - Trucks

	From North					Seminary Road From East					Fort William Pkwy From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	0	0	0	0	0	3	180	0	0	183	8	0	5	0	13	0	79	5	0	84	280
07:15 AM	0	0	0	0	0	1	207	0	0	208	12	0	7	0	19	0	92	6	0	98	325
07:30 AM	0	0	0	0	0	2	225	0	0	227	24	0	8	0	32	0	130	3	0	133	392
07:45 AM	0	0	0	0	0	8	244	0	0	252	35	0	15	0	50	0	136	9	0	145	447
Total	0	0	0	0	0	14	856	0	0	870	79	0	35	0	114	0	437	23	0	460	1444
08:00 AM	0	0	0	0	0	11	236	0	0	247	33	0	11	0	44	0	102	13	0	115	406
08:15 AM	0	0	0	0	0	6	211	0	0	217	22	0	5	0	27	0	116	12	0	128	372
08:30 AM	0	0	0	0	0	4	208	0	0	212	10	0	8	0	18	0	111	8	0	119	349
08:45 AM	0	0	0	0	0	0	177	0	0	177	10	0	13	0	23	0	100	14	0	114	314
Total	0	0	0	0	0	21	832	0	0	853	75	0	37	0	112	0	429	47	0	476	1441
09:00 AM	0	0	0	0	0	5	161	0	0	166	7	0	6	0	13	0	94	7	0	101	280
09:15 AM	0	0	0	0	0	3	161	0	0	164	8	0	5	0	13	0	107	7	0	114	291
09:30 AM	0	0	0	0	0	3	152	0	0	155	7	0	3	0	10	0	85	6	0	91	256
09:45 AM	0	0	0	0	0	1	117	0	0	118	5	0	4	0	9	0	94	8	0	102	229
Total	0	0	0	0	0	12	591	0	0	603	27	0	18	0	45	0	380	28	0	408	1056
10:00 AM	0	0	0	0	0	1	94	0	0	95	5	0	2	0	7	0	77	11	0	88	190
10:15 AM	0	0	0	0	0	2	115	0	0	117	3	0	2	0	5	0	87	5	0	92	214
10:30 AM	0	0	0	0	0	2	105	0	0	107	3	0	3	0	6	0	75	6	0	81	194
10:45 AM	0	0	0	0	0	2	114	0	0	116	3	0	3	0	6	0	96	1	0	97	219
Total	0	0	0	0	0	7	428	0	0	435	14	0	10	0	24	0	335	23	0	358	817
11:00 AM	0	0	0	0	0	3	80	0	0	83	3	0	5	0	8	0	96	2	0	98	189
11:15 AM	0	0	0	0	0	3	93	0	0	96	7	0	5	0	12	0	88	3	0	91	199
11:30 AM	0	0	0	0	0	3	94	0	0	97	2	0	5	0	7	0	105	6	0	111	215
11:45 AM	0	0	0	0	0	1	75	0	0	76	6	0	16	0	22	0	101	7	0	108	206
Total	0	0	0	0	0	10	342	0	0	352	18	0	31	0	49	0	390	18	0	408	809
12:00 PM	0	0	0	0	0	4	100	0	0	104	8	0	4	0	12	0	90	7	0	97	213
12:15 PM	0	0	0	0	0	2	86	0	0	88	7	0	2	0	9	0	109	1	0	110	207
12:30 PM	0	0	0	0	0	5	119	0	0	124	3	0	3	0	6	0	87	7	0	94	224
12:45 PM	0	0	0	0	0	4	90	0	0	94	6	0	1	0	7	0	102	4	0	106	207
Total	0	0	0	0	0	15	395	0	0	410	24	0	10	0	34	0	388	19	0	407	851
01:00 PM	0	0	0	0	0	5	101	0	0	106	7	0	1	0	8	0	95	6	0	101	215
01:15 PM	0	0	0	0	0	7	62	0	0	69	7	0	5	0	12	0	94	7	0	101	182
01:30 PM	0	0	0	0	0	1	112	0	0	113	4	0	4	0	8	0	98	10	0	108	229
01:45 PM	0	0	0	0	0	1	64	0	0	65	5	0	5	0	10	0	106	10	0	116	191
Total	0	0	0	0	0	14	339	0	0	353	23	0	15	0	38	0	393	33	0	426	817
02:00 PM	0	0	0	0	0	6	84	0	0	90	2	0	4	0	6	0	134	5	0	139	235
02:15 PM	0	0	0	0	0	4	101	0	0	105	9	0	2	0	11	0	116	5	0	121	237
02:30 PM	0	0	0	0	0	5	121	0	0	126	1	0	12	0	13	0	146	9	0	155	294
02:45 PM	0	0	0	0	0	6	129	0	0	135	5	0	6	0	11	0	148	13	0	161	307
Total	0	0	0	0	0	21	435	0	0	456	17	0	24	0	41	0	544	32	0	576	1073
03:00 PM	0	0	0	0	0	3	114	0	0	117	5	0	6	0	11	0	161	9	0	170	298
03:15 PM	0	0	0	0	0	5	143	0	0	148	6	0	5	0	11	0	174	11	0	185	344
03:30 PM	0	0	0	0	0	6	121	0	0	127	5	0	1	0	6	0	192	8	0	200	333
03:45 PM	0	0	0	0	0	10	127	0	0	137	4	0	7	0	11	0	177	9	0	186	334
Total	0	0	0	0	0	24	505	0	0	529	20	0	19	0	39	0	704	37	0	741	1309
04:00 PM	0	0	0	0	0	17	98	0	0	115	9	0	4	0	13	0	163	22	0	185	313

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 21. Seminary Road @ Fort William Pkwy
Site Code : 021
Start Date : 11/1/2018
Page No : 2

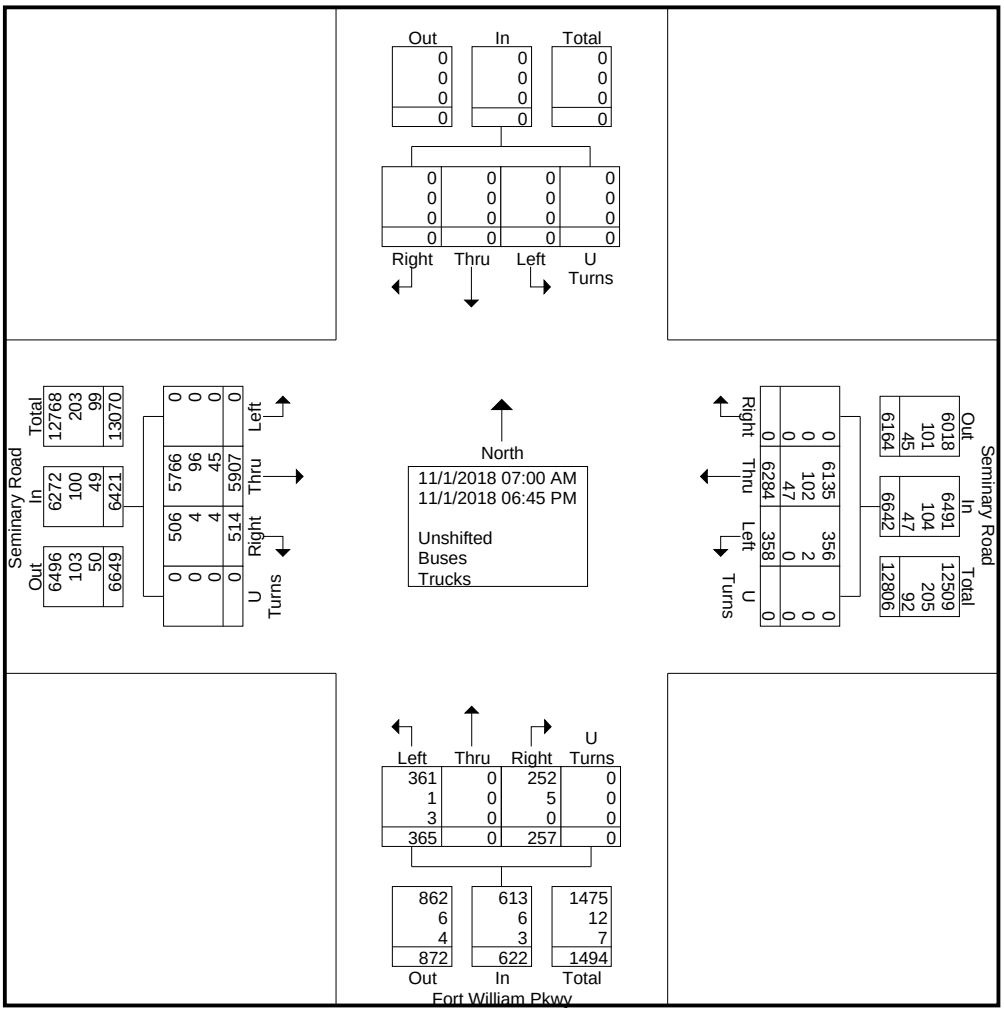
Groups Printed- Unshifted - Buses - Trucks

	From North					Seminary Road From East					Fort William Pkwy From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:15 PM	0	0	0	0	0	7	136	0	0	143	4	0	4	0	8	0	162	25	0	187	338
04:30 PM	0	0	0	0	0	14	139	0	0	153	7	0	3	0	10	0	172	31	0	203	366
04:45 PM	0	0	0	0	0	20	105	0	0	125	2	0	7	0	9	0	177	26	0	203	337
Total	0	0	0	0	0	58	478	0	0	536	22	0	18	0	40	0	674	104	0	778	1354
05:00 PM	0	0	0	0	0	16	129	0	0	145	6	0	5	0	11	0	177	26	0	203	359
05:15 PM	0	0	0	0	0	17	166	0	0	183	4	0	7	0	11	0	189	23	0	212	406
05:30 PM	0	0	0	0	0	31	151	0	0	182	4	0	5	0	9	0	149	25	0	174	365
05:45 PM	0	0	0	0	0	26	158	0	0	184	3	0	7	0	10	0	144	18	0	162	356
Total	0	0	0	0	0	90	604	0	0	694	17	0	24	0	41	0	659	92	0	751	1486
06:00 PM	0	0	0	0	0	30	144	0	0	174	7	0	5	0	12	0	143	17	0	160	346
06:15 PM	0	0	0	0	0	17	104	0	0	121	10	0	3	0	13	0	146	14	0	160	294
06:30 PM	0	0	0	0	0	12	114	0	0	126	3	0	2	0	5	0	143	12	0	155	286
06:45 PM	0	0	0	0	0	13	117	0	0	130	9	0	6	0	15	0	142	15	0	157	302
Total	0	0	0	0	0	72	479	0	0	551	29	0	16	0	45	0	574	58	0	632	1228
Grand Total	0	0	0	0	0	358	6284	0	0	6642	365	0	257	0	622	0	5907	514	0	6421	13685
Apprch %	0	0	0	0		5.4	94.6	0	0		58.7	0	41.3	0		0	92	8	0		
Total %	0	0	0	0	0	2.6	45.9	0	0	48.5	2.7	0	1.9	0	4.5	0	43.2	3.8	0	46.9	
Unshifted	0	0	0	0	0	356	6135	0	0	6491	361	0	252	0	613	0	5766	506	0	6272	13376
% Unshifted	0	0	0	0	0	99.4	97.6	0	0	97.7	98.9	0	98.1	0	98.6	0	97.6	98.4	0	97.7	97.7
Buses	0	0	0	0	0	2	102	0	0	104	1	0	5	0	6	0	96	4	0	100	210
% Buses	0	0	0	0	0	0.6	1.6	0	0	1.6	0.3	0	1.9	0	1	0	1.6	0.8	0	1.6	1.5
Trucks	0	0	0	0	0	0	47	0	0	47	3	0	0	0	3	0	45	4	0	49	99
% Trucks	0	0	0	0	0	0	0.7	0	0	0.7	0.8	0	0	0	0.5	0	0.8	0.8	0	0.8	0.7

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 21. Seminary Road @ Fort William Pkwy
Site Code : 021
Start Date : 11/1/2018
Page No : 3

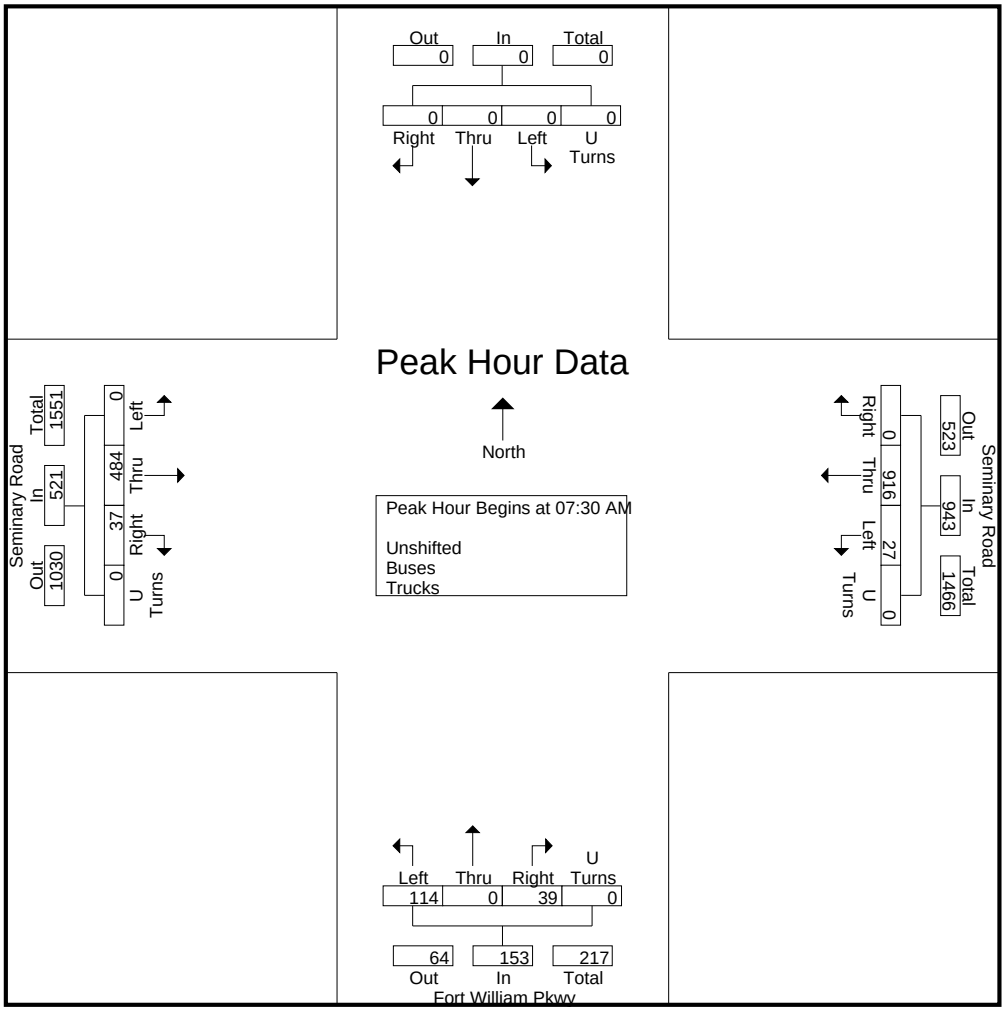


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 21. Seminary Road @ Fort William Pkwy
Site Code : 021
Start Date : 11/1/2018
Page No : 4

	From North					Seminary Road From East					Fort William Pkwy From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	2	225	0	0	227	24	0	8	0	32	0	130	3	0	133	392
07:45 AM	0	0	0	0	0	8	**244**	0	0	**252**	**35**	0	**15**	0	**50**	0	**136**	9	0	**145**	**447**
08:00 AM	0	0	0	0	0	**11**	236	0	0	247	33	0	11	0	44	0	102	**13**	0	115	406
08:15 AM	0	0	0	0	0	6	211	0	0	217	22	0	5	0	27	0	116	12	0	128	372
Total Volume	0	0	0	0	0	27	916	0	0	943	114	0	39	0	153	0	484	37	0	521	1617
% App. Total	0	0	0	0		2.9	97.1	0	0		74.5	0	25.5	0		0	92.9	7.1	0		
PHF	.000	.000	.000	.000	.000	.614	.939	.000	.000	.936	.814	.000	.650	.000	.765	.000	.890	.712	.000	.898	.904

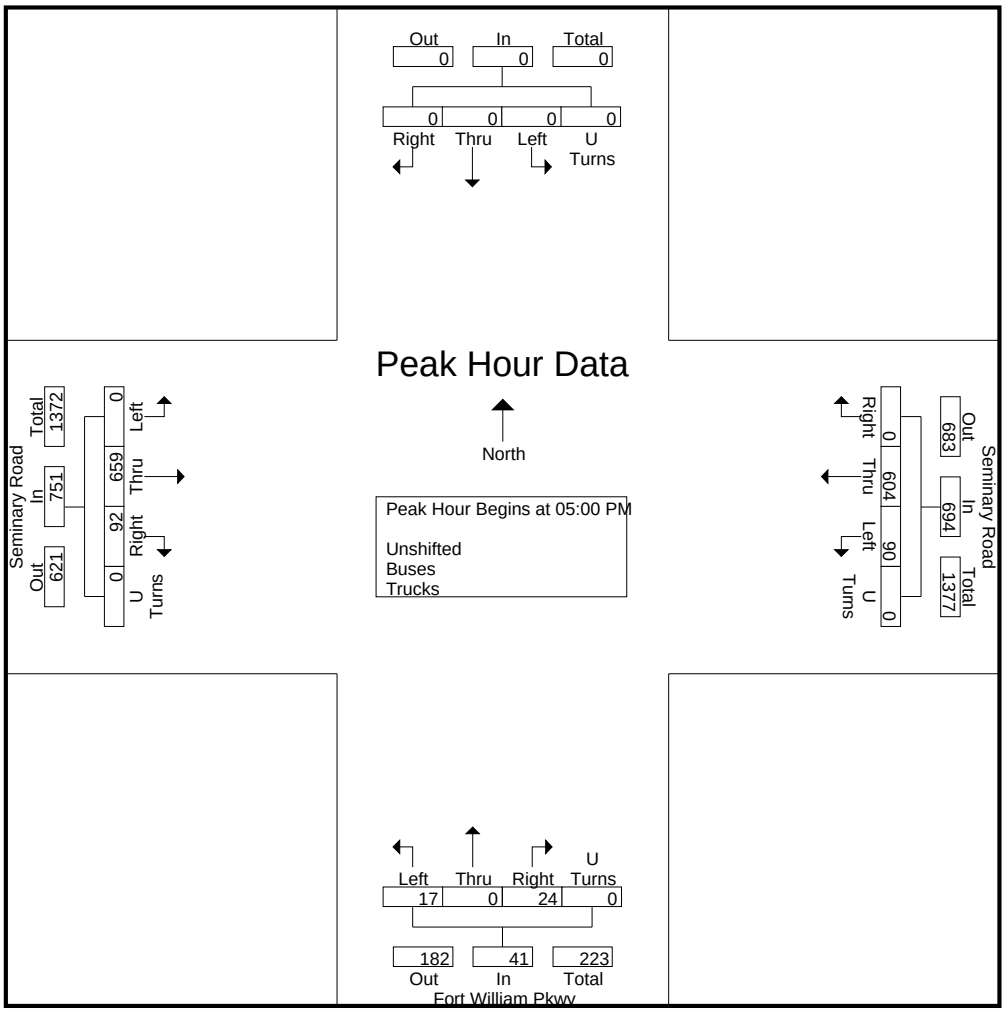


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : 21. Seminary Road @ Fort William Pkwy
Site Code : 021
Start Date : 11/1/2018
Page No : 5

	From North					Seminary Road From East					Fort William Pkwy From South					Seminary Road From West					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	16	129	0	0	145	**6**	0	5	0	**11**	0	177	**26**	0	203	359
05:15 PM	0	0	0	0	0	17	**166**	0	0	183	4	0	**7**	0	11	0	**189**	23	0	**212**	**406**
05:30 PM	0	0	0	0	0	**31**	151	0	0	182	4	0	5	0	9	0	149	25	0	174	365
05:45 PM	0	0	0	0	0	26	158	0	0	**184**	3	0	7	0	10	0	144	18	0	162	356
Total Volume	0	0	0	0	0	90	604	0	0	694	17	0	24	0	41	0	659	92	0	751	1486
% App. Total	0	0	0	0		13	87	0	0		41.5	0	58.5	0		0	87.7	12.3	0		
PHF	.000	.000	.000	.000	.000	.726	.910	.000	.000	.943	.708	.000	.857	.000	.932	.000	.872	.885	.000	.886	.915



File Name: 21. Seminary Road @ Fort William Pkwy - Pedestrians
Start Date: 11/1/2018
Start Time: 7:00:00 AM
Site Code: 021
Comment 1: Default Comments
Comment 2: Change These in The Preferences Window
Comment 3: Select File/Preference in the Main Scree
Comment 4: Then Click the Comments Tab

	From North				Seminary Road From East				Fort William Pkwy From South				Seminary Road From West			
Start Time	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped	Left	Thru	Right	Ped
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0

03:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0

APPENDIX M

INPUT FROM FEDERAL HIGHWAY ADMINISTRATION REPRESENTATIVES ON THE PROPOSED SEMINARY ROAD MODIFICATIONS

Theron Knouse | Abraham Lerner

FW: I-395 South-Facing Ramp at Seminary Road - Conversion from HOV to HOT

You forwarded this message on 10/24/2019 9:12 AM.

For your use

From: DeLeon, Gilberto (FHWA) <gilberto.deleon@dot.gov>
Sent: Wednesday, October 16, 2019 10:59 AM
To: Knouse, Theron I., P.E. (VDOT) <Theron.Knouse@VDOT.Virginia.gov>
Subject: RE: I-395 South-Facing Ramp at Seminary Road - Conversion from HOV to HOT

FHWA does not have any concerns with this operational change.

Thanks,

Gilberto De León P.E.

Program Delivery Team Leader

FHWA VA-DIV

gilberto.deleon@dot.gov

From: DeLeon, Gilberto (FHWA)
Sent: Friday, October 4, 2019 2:35 PM
To: Knouse, Theron I., P.E. (VDOT) (Theron.Knouse@VDOT.Virginia.gov) <Theron.Knouse@VDOT.Virginia.gov>
Subject: FW: I-395 South-Facing Ramp at Seminary Road - Conversion from HOV to HOT

FYI, it's such a minimal change I don't know why this is being referred to as an IMR, really it's a minor operational change.

From: DeLeon, Gilberto (FHWA)
Sent: Thursday, October 3, 2019 8:50 AM
To: Simkins, John (FHWA) <John.Simkins@dot.gov>; Marston, Chris (FHWA) <Chris.Marston@dot.gov>
Subject: RE: I-395 South-Facing Ramp at Seminary Road - Conversion from HOV to HOT

No concerns

APPENDIX N

EXPLANATION WHY THERE WAS A DELAY IN SIGNING THIS DOCUMENT

EXPLANATION WHY THERE WAS A DELAY IN SIGNING THIS DOCUMENT

This document was completed in October of 2019. It was reviewed and approved by the delegated approvers of the two approving sections, VDOT Northern Virginia District (NOVA) Traffic Engineering and VDOT Central Office Location & Design. In October 2019, Federal Highway Administration (FHWA) representatives indicated that they did not have any concerns with the operational change (see Appendix M). However, as of October 2019, VDOT had not received the letter with the input from the local jurisdiction (City of Alexandria). The approvers could not sign the document prior to receiving the input from the City of Alexandria. VDOT received the input from the City of Alexandria in December of 2019 (see Appendix J). Because of the delay between the finalization of the VDOT review and receipt of the input letter from Alexandria, changes in personnel in charge of approving the document and changes in project priorities within VDOT, this document sat unapproved for a period of two years. The new NOVA District Traffic Engineer and Central Office Location & Design Engineer have reviewed this document and have signed it indicating the acceptability of the findings and recommendations.