



Eisenhower West Transportation Study

Small Area Plan Transportation Effects Report



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1 Introduction

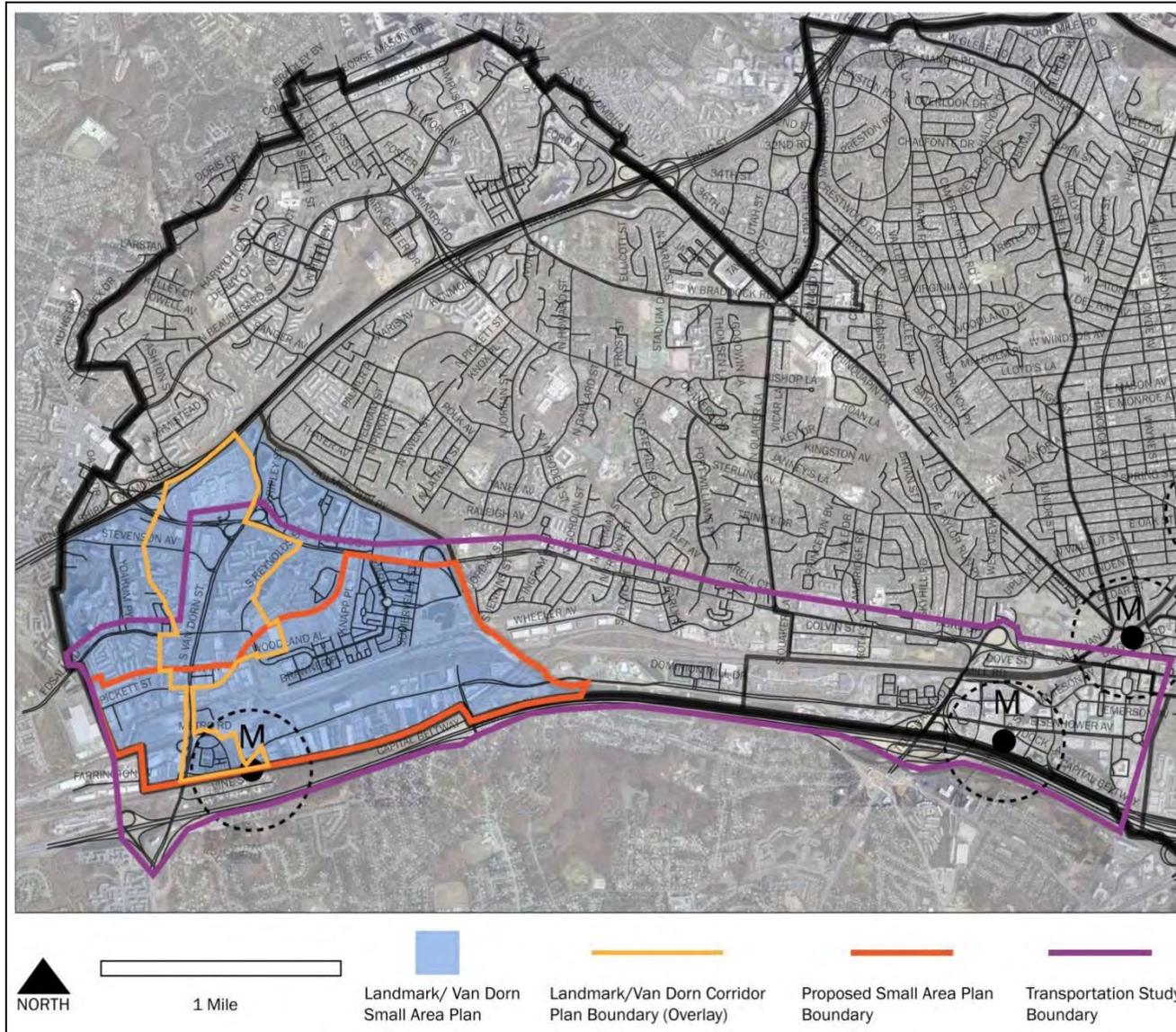
The Eisenhower West Transportation Study (EWTS) is a component of the Eisenhower West Small Area Plan (SAP). The EWTS serves as the transportation analysis component of the SAP. The EWTS also evaluates the Multimodal Bridge concept recommended in the 2009 Landmark/Van Dorn Corridor Plan to refine the alignment and cross-section of the proposed bridge. This bridge would eliminate the need for VDOT to extend the existing Clermont Avenue Connector between Eisenhower Avenue and Duke Street.

This study includes an assessment of the Existing Conditions, summarizing an extensive review of the current state of the traffic operating conditions, transportation infrastructure (including pedestrian and bicycle facilities), transit service (bus and Metrorail), and freight and passenger railroad operations. This study also examines the Year 2040 Baseline Conditions, summarizing the planned transportation system improvements slated for implementation by Year 2040, based on the latest approved Constrained Long Range Plan (CLRP) and current zoning and planned/approved projects within and near the Eisenhower West Transportation Study area. It also presents the findings of operational analysis of the planned roadway network under these 2040 Baseline conditions. Lastly, the 2040 Build conditions are evaluated in this report, consisting of proposed additional residential, office and retail development that is assumed as part of the Small Area Plan. The 2040 Build scenario includes additional proposed transportation network enhancements, whose traffic operations were analyzed as part of this study.

Figure 1.1 is a map of the Eisenhower West Transportation Study (EWTS) area. This map also shows the boundary for the Eisenhower West Small Area Plan, the Landmark/Van Dorn Corridor Plan, and the area included in the Landmark/Van Dorn Small Area Plan. The limits of the EWTS area are approximately defined by Duke Street and Edsall Road on the north, I-495 (Capital Beltway) on the south (including the Van Dorn Street, Eisenhower Avenue Connector, and Telegraph Road interchanges, Holland Lane on the east, and the Fairfax County/Alexandria City border on the west.

The boundary for the Eisenhower West Transportation Study (EWTS) is larger than the region included in the Small Area Plan. The EWTS study area is based on the boundary that was defined in the Clermont Avenue Interchange with Interstate 95 Final Environmental Assessment, which completed by the Virginia Department of Transportation (VDOT) in 1993. One of the purposes of the EWTS is to provide the transportation evaluation for the update to this environmental assessment. Therefore, it was imperative that the study area for the current study be consistent with the previous study, which includes a larger area of influence than the Small Area Plan.

Figure 1.1 – Map of the Eisenhower West Transportation Study Area (Purple)



2 The Existing Transportation Network

The EWTS area includes roadways of various functional classifications ranging from local streets to freeways. The area also includes railroads that are used by both freight (Norfolk Southern and CSX) and passenger trains (AMTRAK and Virginia Railway Express), as well as Metrorail routes (WMATA Blue and Yellow lines). There is a network of facilities for pedestrians and bicycles consisting primarily of sidewalks and shared-use paths.

2.1 Roads and Intersections

Although the EWTS area can be described rightfully as multimodal, the roadways in the area move the highest number of people on a daily basis when compared to the other available transportation modes. **Table 2.1** categorizes the existing roads in the study area by their City of Alexandria functional classification. Most of the streets in the study area are Local Streets. These streets are the lowest level of roadway classification, and are too numerous to include in the table. However, the table does show the streets that fall under the next lowest classification level (residential collector) through the highest classification level (freeway).

Table 2.1 – City of Alexandria Functional Classification of Roadways in the Study Area

Residential Collector	Primary Collector	Arterial	Expressway
S. Reynolds St.	S. Pickett St. Wheeler Ave. E. & W. Mill Rd. Pershing Ave. Stovall St.	Eisenhower Ave. Duke St. Edsall Rd. S. Van Dorn St. Eisenhower Connector Telegraph Rd. Holland Ln.	I-95/495 (Capital Beltway)

Although only one (1) Residential Collector is shown, there are others that intersect with arterials in the study area but do not have significant portions of their lengths located within the boundary (such as Fort Williams Pkwy and W. Taylor Run Pkwy). Similarly, there is one (1) arterial not listed (N. Quaker Ln.) that intersects with Duke Street but is mostly outside of the study area boundary, as well as several primary collectors. **Figure 2.1** is a map showing the EWTS area with the City of Alexandria roadway functional classifications shown, including the local streets.

Figures 2.2 and 2.3 are maps that show the western and eastern halves of the EWTS area with each of the signalized intersections highlighted, along with the lane configurations at each intersection. A total of 48 existing intersections were evaluated for this study. These are the intersections that are included in the existing conditions capacity and operational analyses that were performed using VISSIM (the traffic operations simulation model), the results of which are described later in this report.

Figure 2.1 – Existing Roadway Functional Classifications

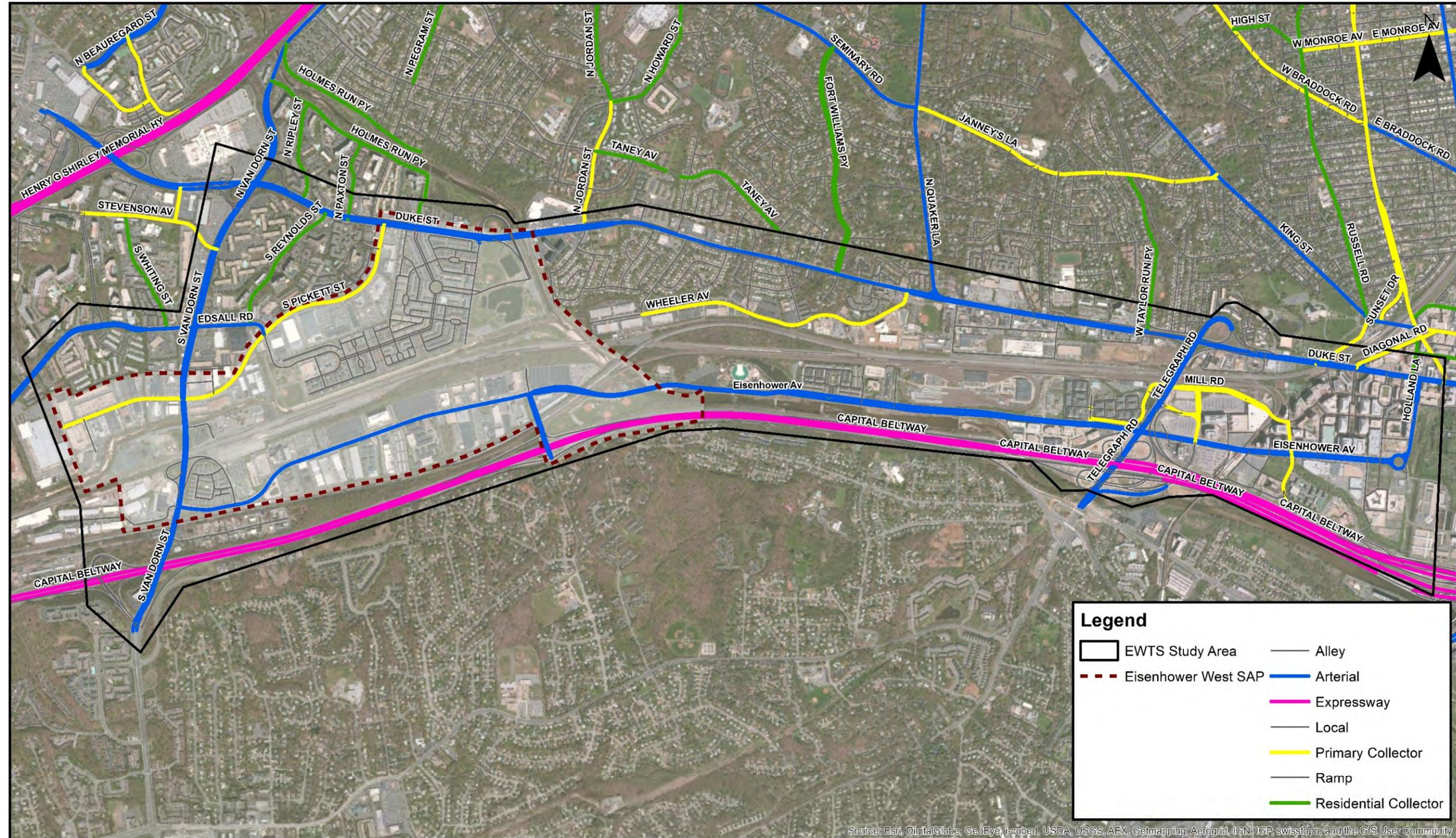


Figure 2.2 – Existing Intersection Lane Configurations (Western Area)

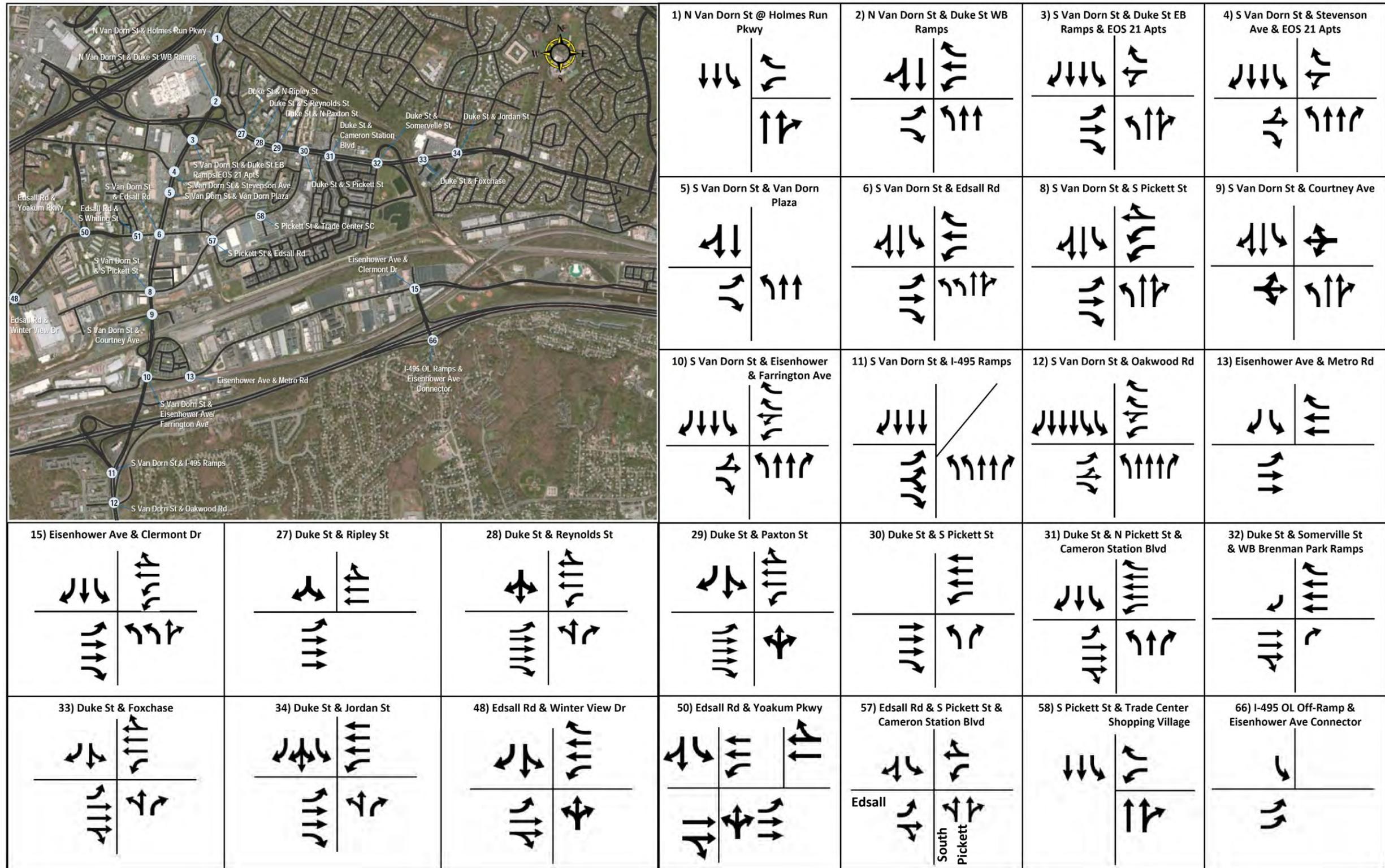


Figure 2.3 – Existing Intersection Lane Configurations (Eastern Area)



2.2 Railroads

There are two railroad facilities located along the southern edge of the EWTS area that are maintained by Norfolk Southern and CSX. The CSX line travels through the entire study area from end to end, with the railroad dividing about midway through the area, near the eastern boundary of the Small Area Plan study area. At this point, the southern tier of tracks are operated by CSX and head south toward Fredericksburg and Richmond, and the northern tier of tracks, operated by Norfolk Southern, head west toward Manassas. **Figure 2.4** is a map showing the locations of these railroads within the study area. The frequency of trains (freight and passenger) using the Norfolk Southern tracks is summarized in Section 3.5 of this report. Since none of the potential new north-south connections being considered as part of this study would cross the CSX tracks, the frequency of trains on those tracks is not discussed in this report. There is also a WMATA Metrorail Maintenance Facility located within the study area, which is also shown in the figures described above.

2.3 Transit

The Eisenhower West Transportation Study (EWTS) area is served by several different modes of transit, including WMATA Metrorail (Blue and Yellow Lines), WMATA Metrobus, Alexandria DASH bus, and Fairfax Connector bus routes. **Figure 2.5** shows the locations of these transit routes within the study area, along with all of the bus stops located along these routes.

The specific DASH bus routes that serve the study area are AT1, AT5, AT7, and AT8. The Van Dorn Street Metrorail Station is served by all four of these DASH bus routes, as well as Metrobus route 25B and Fairfax Connector bus routes 109, 231, 232, 321, and 322. Metrobus 29N and 29K also serve the study area, traveling primarily along Duke Street. The WMATA REX (Richmond Highway Express) bus serves the eastern portion of the study area by way of the Eisenhower Avenue Metrorail station.

There are also numerous private shuttle vans/buses that serve the Van Dorn Street Metrorail station. According to the WMATA Shuttle Services at Metro Facilities report dated August 2011, the Van Dorn Street Metrorail station is served by approximately 41 shuttle trips per peak hour and is listed second to the Pentagon City Metrorail station which is served by approximately 60 shuttles trip per peak hour, the most of any other Metrorail station in the system.

These shuttle services to the Van Dorn Metrorail Station are mostly provided by apartment and condominium complexes within the study area, along with nearby hotels. A cursory survey indicates there are at least 10 residential communities operating shuttle services to Van Dorn Street Metrorail station. A comprehensive list of private shuttles is provided in Section 3.4 of this report. Several local businesses also offer shuttles to the Van Dorn Metrorail station, including offices and automobile dealerships/service centers.

Private shuttles also service the Eisenhower Avenue Metrorail station. However, a cursory survey indicates that this station is served by fewer shuttles compared to the Van Dorn Street station, and there are more shuttles serving the Eisenhower Avenue station from nearby hotels, as opposed to residential communities. According to the Shuttle Services at Metro Facilities report, approximately 7 shuttle trips per peak hour service the Eisenhower Metrorail Station.

Figure 2.4 – Existing Railroads

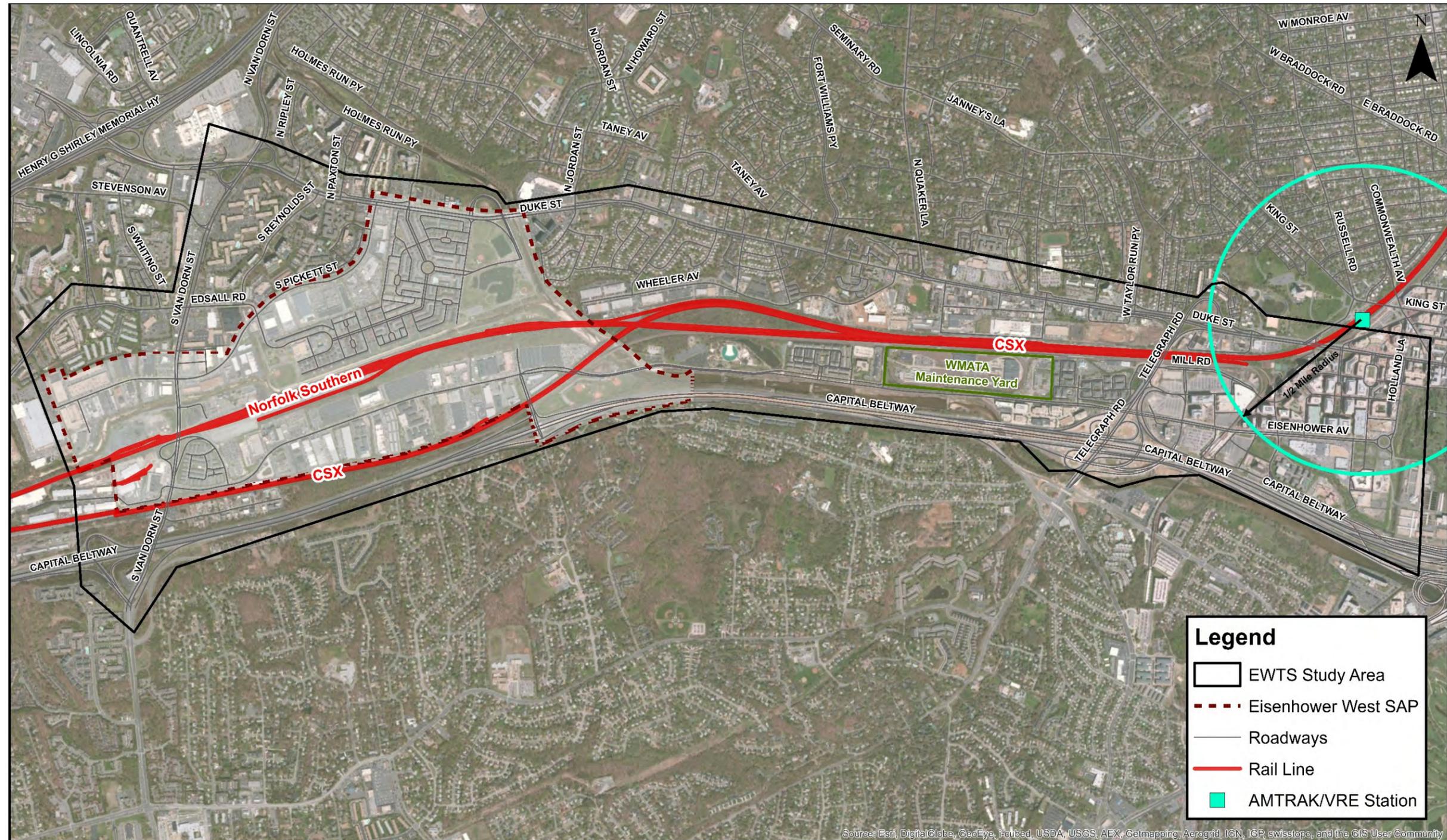
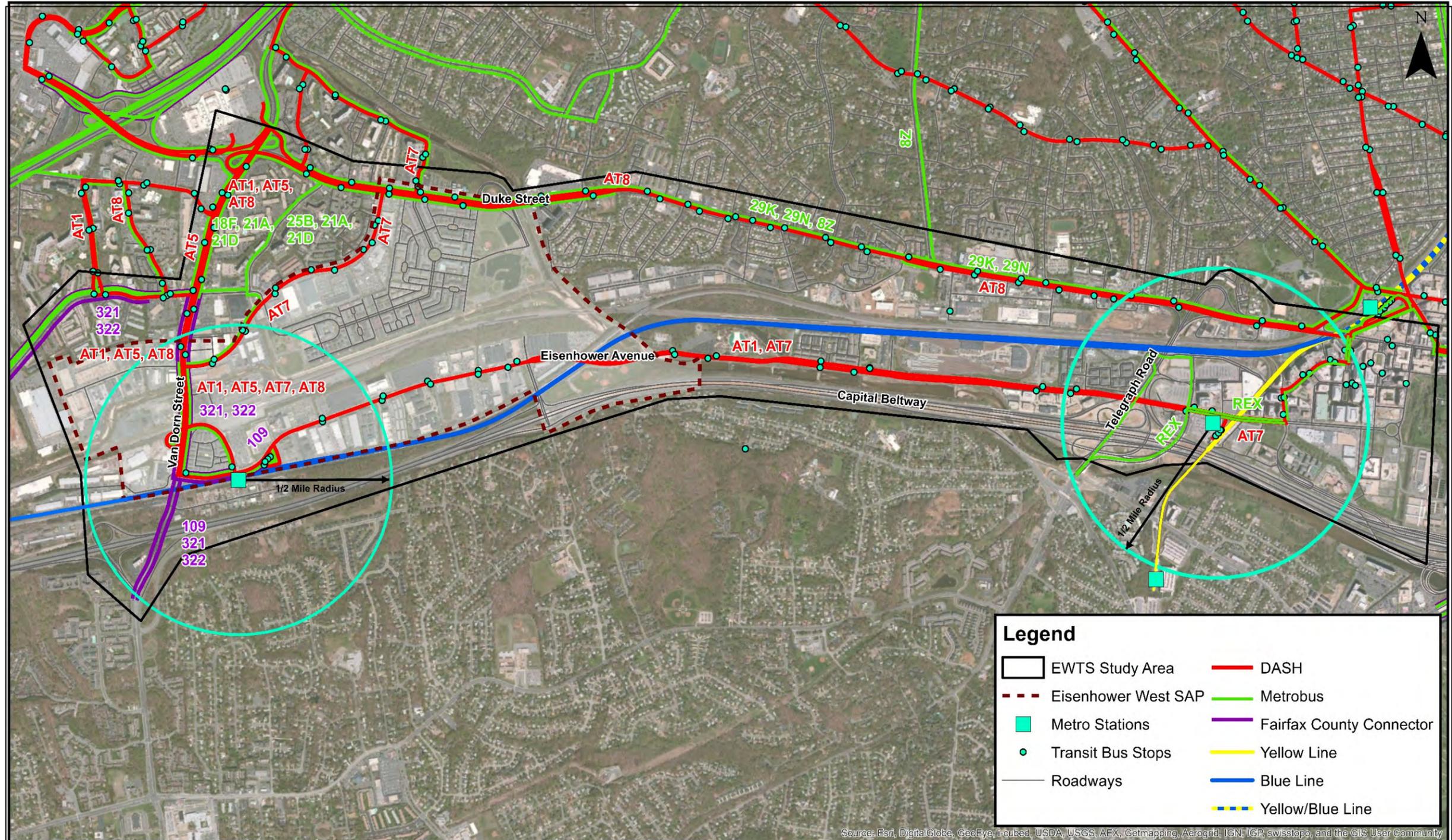
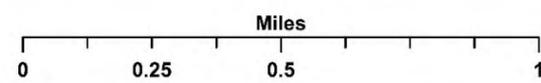


Figure 2.5 – Existing Transit Routes



City of Alexandria
Transportation and Environmental Services



Eisenhower West Transportation Study
Overview Map of Study Area:
Existing Transit



Rummel, Klepper, and Kahl, LLP.
12600 Fair Lakes Circle, Suite 300
Fairfax, VA 22033

2.4 Pedestrians

Figure 2.6 is a map showing the existing pedestrian facilities in the study area. Most sidewalks are clustered within residential neighborhoods. In the commercial areas, separate parcels are generally not connected via sidewalks, requiring pedestrians to continue on an unpaved path to access adjacent parcels. Additionally, an abundance of surface parking lots between the street and the businesses inhibit walking. One exception is the Carlyle mixed-use development in the eastern portion of the study area, which has an extensive network of sidewalks.

Sidewalk connections between the northern and southern portions of the study area (across the CSX and Norfolk Southern railroad tracks) are limited in number. Pedestrians must use South Van Dorn Street, Telegraph Road, or the Holmes Run Trail adjacent to Ben Brenman Park to traverse the railroad tracks that bisect the study area. The Carlyle development at the east end of the study area is the exception, since it is located entirely south of the railroad tracks, and has a number of north-south streets including Holland Lane and John Carlyle Street.

There are sidewalks along the major roadways in the study area such as Eisenhower Avenue, Duke Street, South Van Dorn Street, South Pickett Street, Edsall Road, and Telegraph Road though these sidewalks do have some gaps. There is also a shared-use path adjacent to Eisenhower Avenue extending from the confluence of Holmes Run and Cameron Run to just east of Telegraph Road. There are some gaps in the sidewalk network, including along arterials such as Van Dorn Street (on the west side, from south of Courtney Avenue to the Fairfax County line). Other streets with gaps in sidewalks include Wheeler Avenue, which has three gaps; Mill Road, which has a long gap on its north side adjacent to the WMATA Metrorail tracks; and South Pickett Street, which has a gap along its north side just east of Van Dorn Street (however, a significant portion of this gap will soon be replaced with a new sidewalk as part of the Landmark Gateway development). Additionally, the commercial parcels along the south side of South Pickett Street between Cameron Station Boulevard and Duke Street are completely disconnected from the adjacent Cameron Station development, which is primarily residential with a small number of retail uses.

There are several locations throughout the study area where pedestrian crossings at intersections are less than ideal. For example, at the intersection of Duke Street and West Taylor Run Parkway, the size of the intersection is unusually large due to the presence of parallel access roads along the north side of Duke Street. To remain on sidewalks and within crosswalks, pedestrians walking along the north side of Duke Street must take a circuitous path around the north side of the intersection, crossing the access roads twice. However, the shortest path across W. Taylor Run Parkway for these pedestrians would take them across an area between Duke Street and the parallel access roads, where there is no crosswalk and there are many potential pedestrian/vehicle conflict points.

There are bus stops for Metrobus and DASH located on Duke Street approximately 600 feet east of the W. Taylor Run Parkway intersection, just west of the Telegraph Road overpass. The location of these stops encourages pedestrians to cross Duke Street right at the bus stop locations instead of using the crosswalks located at the signalized W. Taylor Run Parkway intersection. Furthermore, the raised median along Duke Street where the bus stops are located is concrete, whereas the rest of the median upstream and downstream of this point is grassy. The concrete median here, directly across from the E. Taylor Run Parkway intersection with the access road on the north side of Duke Street, may also encourage pedestrians to cross at this location instead of at the nearby traffic signal. Pedestrians who cross Duke Street right at these bus stops are exposed to higher-speed traffic along westbound Duke Street that is coming from the loop ramp from Telegraph Road.

In this same area along Duke Street, there is limited pedestrian connectivity between the residential areas on the north side of Duke Street and the soccer and baseball fields on the south side of Witter Street (one block south of Duke Street). The only signalized pedestrian crossing across Duke Street in this area is at the W. Taylor Run Parkway intersection, and once pedestrians have reached the south side of Duke Street, they must walk 800 feet west along Duke Street to the Witter Street intersection if they wish to remain on sidewalks, or they can take the more direct route to the ball fields by cutting across the Land Rover Alexandria parking lot.

There is a pedestrian tunnel in the same vicinity as the ball fields described above, connecting Mill Road (south of the WMATA Metrorail and CSX railroad tracks) to Duke Street north of the railroad tracks. The south tunnel portal is located below the grade of Mill Road and is accessible only via a stairway or a worn dirt path adjacent to the stairway. Therefore, the tunnel is not ADA-compliant.

The intersection of South Van Dorn Street and Edsall Road has a very long (120 feet) crosswalk for pedestrians to cross Van Dorn Street. Although there are raised medians on both the north and south legs of the intersection on Van Dorn Street, the crosswalks cross in front of the medians. Therefore, the medians can only be used as a refuge area for pedestrians if pedestrians leave the crosswalk. It would require about 35 seconds for a typical pedestrian to cross Van Dorn Street at this location, assuming a walk speed of 3.5 feet per second.

The intersection of South Van Dorn Street at Eisenhower Avenue and Farrington Avenue is also a dangerous intersection for pedestrians. There is only one painted crosswalk at this intersection crossing Eisenhower Avenue with sidewalk access at both approaches to the crosswalk. The crosswalk is adjacent to the South Van Dorn Street northbound lanes however there are no pedestrian signals for this crossing. Pedestrians are forced to walk during the South Van Dorn Street northbound green movement but must be observant of vehicles turning right from northbound South Van Dorn Street to eastbound Eisenhower Avenue. Currently there is a 3-section traffic signal head with a green right arrow located on mast arm for the northbound approach. This signal head indicates that vehicles turning right have the right-of-way and not pedestrians. This configuration has the potential to cause confusion. There is also a Metrobus and DASH bus stop located along the westbound lanes of Eisenhower Avenue, approximately 50 feet prior to the intersection with South Van Dorn Street. There are no sidewalks adjacent to southbound South Van Dorn Street or crosswalks available to access Farrington Avenue.

West of Telegraph Road, there are limited opportunities beyond the intersection with Mill Road for pedestrians to cross Eisenhower Avenue using marked crosswalks. However, the existing land uses along this portion of Eisenhower Avenue are not likely to generate significant volumes of pedestrians.

The limited number of north-south pedestrian connections across the study area results in poor connectivity between the residential areas in the northern tier of the study area and the two Metrorail stations in the southern tier along Eisenhower Avenue (the Van Dorn Street station and Eisenhower Avenue station).

2.5 Bicycles

Figure 2.7 is a map showing the existing bicycle facilities in the study area. There is an off-street bike path (shared-use path) along Eisenhower Avenue extending from just east of Telegraph Road westward to Cameron Run Regional Park. From this point, the path turns northwestward along Holmes Run (as the Holmes Run Trail) toward Ben Brenman Park, and continues under Duke Street and out of the north side of the study area. There is also an off-street path along the southern edge of the Cameron Station

community that traverses Ben Brenman Park and connects to the Holmes Run Trail described previously.

There are several streets within the study area that are designated as bike routes. Of these, the major streets include Eisenhower Avenue for its entire length; Duke Street between Somerville Street and South Pickett Street, and also between South Quaker Lane and Wheeler Avenue; Wheeler Avenue south of Duke Street; and South Pickett Street between Duke Street and the Fairfax County line. Only a portion of Wheeler Avenue has separate on-road bike lanes; bicycles must share the travel lanes with automobile traffic on all other routes. The only route listed above that is signed is along Eisenhower Avenue between Bluestone Road and Mill Road (West).

The only bicycle facility that connects the northern and southern tiers of the study area, which is bisected by railroad tracks, is the Holmes Run Trail. Neither South Van Dorn Street nor Telegraph Road are designated bike routes; however as of 2013 bicyclists within the City of Alexandria including these two streets, can legally ride on the sidewalks. With the exception of a few blocks in the center of Old Town, biking on the sidewalk is permitted throughout Alexandria, bringing the city in line with the rest of Virginia. Riding on the sidewalk has long been allowed throughout the state, except where locally restricted. According the Code of Virginia 46.2-904, bicyclists must always yield the right of way to pedestrians and give an audible signal before passing a pedestrian while on sidewalks and shared use paths. Bicyclists pulling onto a sidewalk or highway from a driveway must yield the right of way to pedestrians or vehicles already on the sidewalk or highway. Bicyclists must obey all traffic signs, signals, lights, and markings.

Figure 2.6 – Existing Pedestrian Facilities

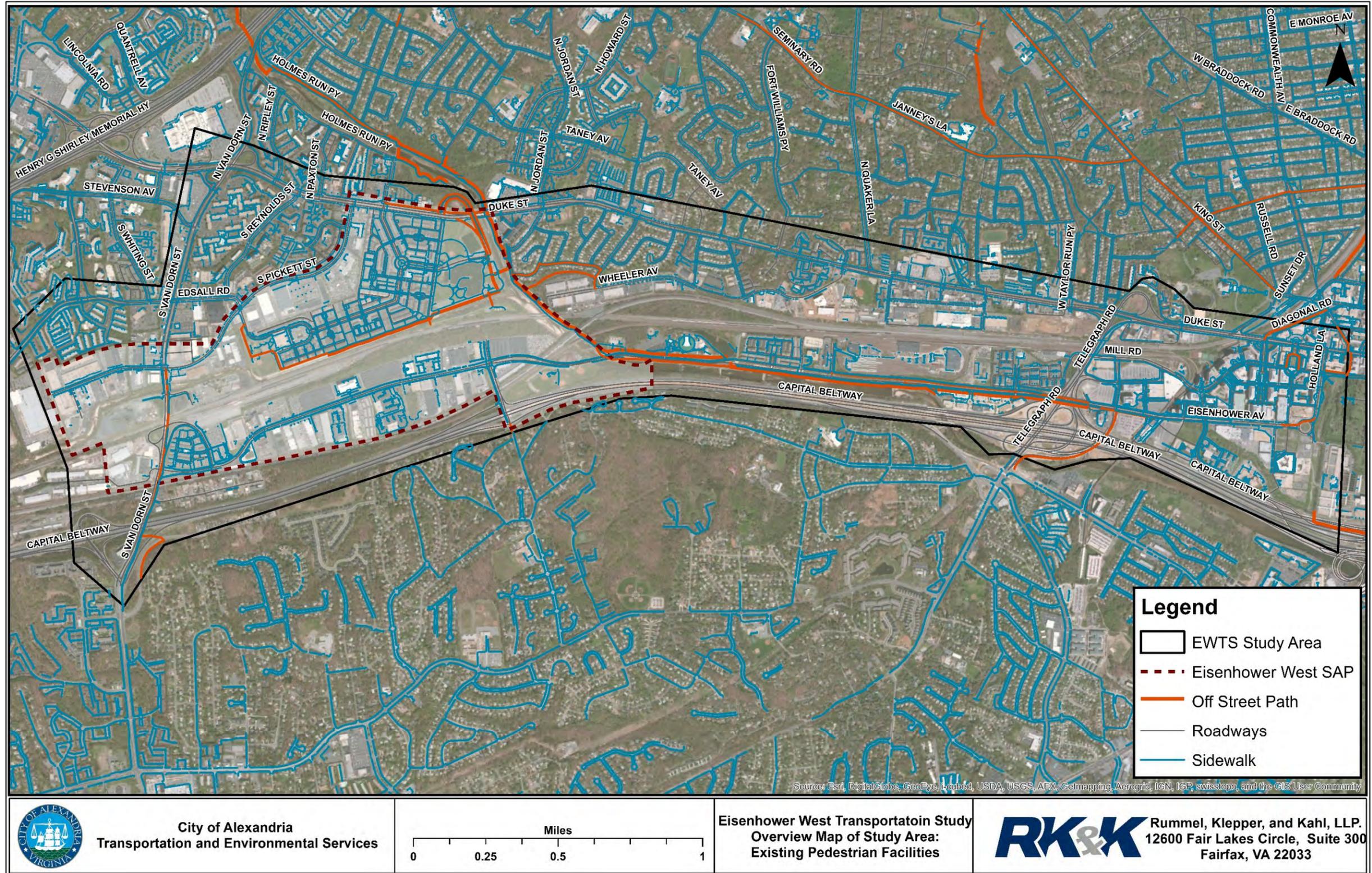
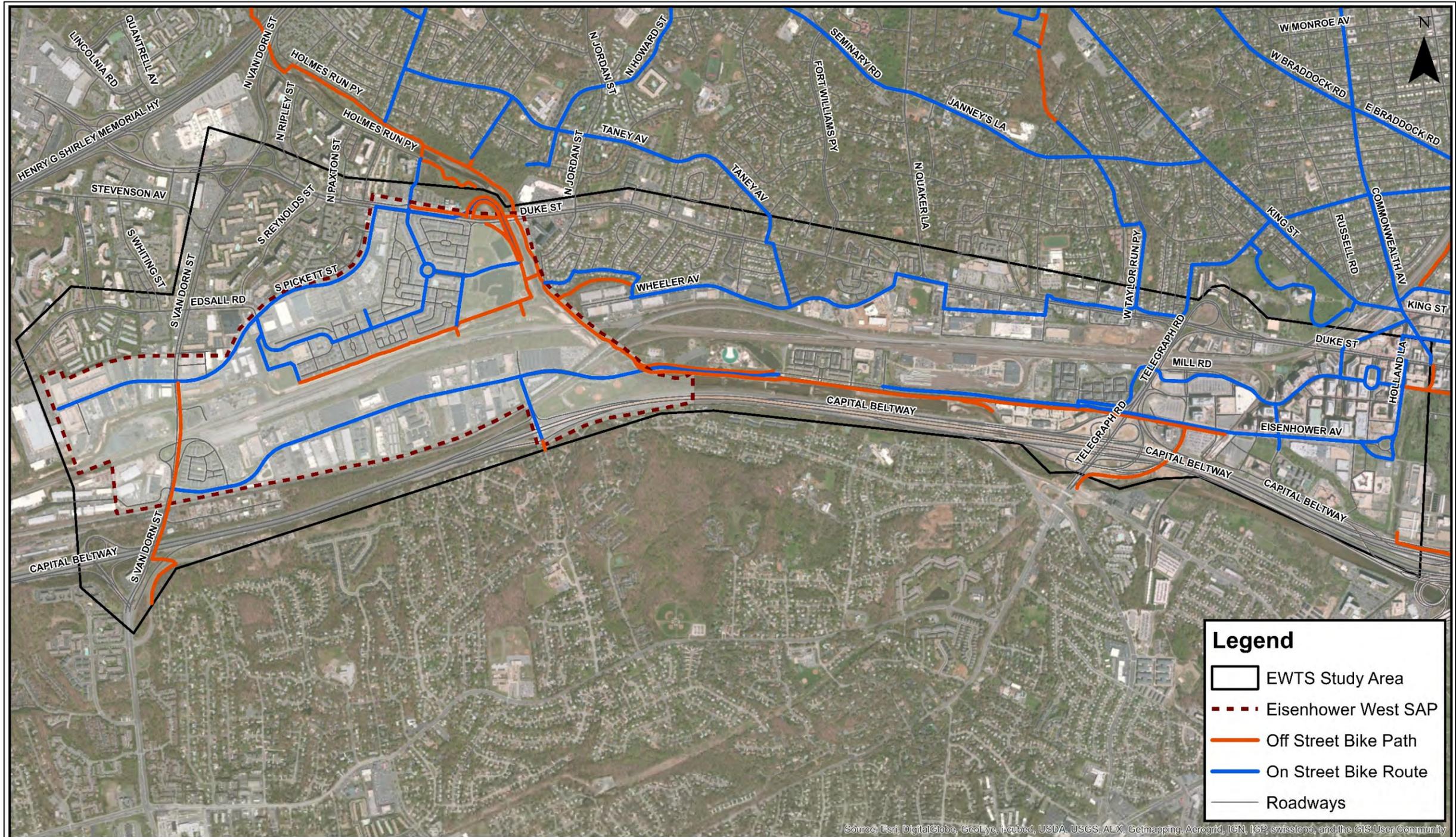
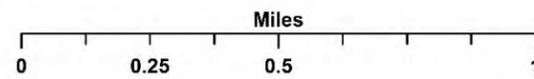


Figure 2.7 – Existing Bicycle Facilities



City of Alexandria
Transportation and Environmental Services



Eisenhower West Transportation Study
Overview Map of Study Area:
Existing Bicycle Facilities



Rummel, Klepper, and Kahl, LLP.
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Fairfax, VA 22033

3 Existing Operations

The existing traffic and transit operations were evaluated based on data collected in the field specifically for the Eisenhower West Transportation Study, as well as using data obtained from various transportation agencies such as the City of Alexandria T&ES, VDOT, Fairfax County DOT, WMATA, AMTRAK, Virginia Railway Express, Norfolk Southern, and CSX. The operational data and results of the existing conditions analysis results are summarized in the following sections.

3.1 Intersection Peak Hour Volumes

Intersection turning movement counts were performed in spring 2014 prior to the end of the 2013-2014 school year for Alexandria City Public Schools. Additional traffic data for recent years was provided by the City of Alexandria T&ES division. **Figures 3.1 and 3.2** show the current intersection turning movement volumes for the AM and PM peak hours at each of the intersections that were evaluated using VISSIM, along with additional ramp locations at interchanges (analysis results are summarized later in this report).

Along the Eisenhower Avenue corridor, there is no predominant directional flow of traffic during either the AM or PM peak hours. On some segments of Eisenhower Avenue, the eastbound traffic volumes are highest during the AM peak hour, and on other segments the westbound traffic volumes are highest during the AM peak hour. The same directional variability exists along the corridor during the PM peak hour as well. In terms of total bi-directional traffic volumes, the highest volumes along the corridor occur east of Telegraph Road during both the AM and PM peak hours, peaking at approximately 2,050 vehicles per hour during the AM peak, and approximately 1,725 vehicles per hour during the PM peak. Note that Eisenhower Avenue has full access to and from Telegraph Road via ramps along Mill Road (west of Telegraph Road) and Pershing Avenue/Stovall Street (east of Telegraph Road).

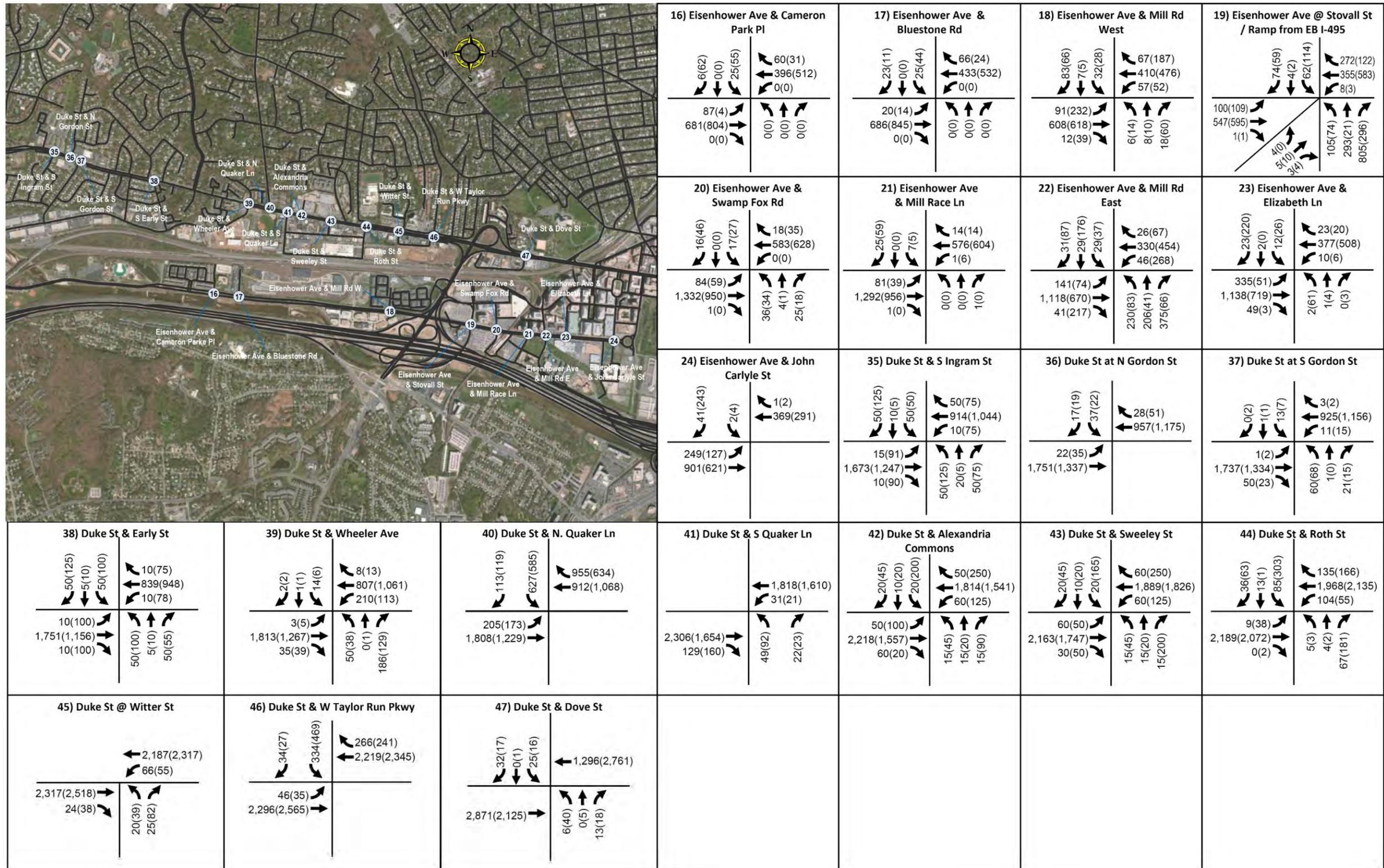
The Van Dorn Street corridor does exhibit a clear directional flow pattern during the AM and PM peak hours. During the AM peak hour, the traffic volume along northbound Van Dorn Street is highest, while during the PM peak hour, southbound traffic volumes are highest. Between Edsall Road and Duke Street, the total AM peak hour bi-directional traffic volume on Van Dorn Street is approximately equal to the PM peak hour bi-directional volume. However, north of Duke Street, the bi-directional volumes are higher during the AM peak than during the PM peak, and south of Edsall Road, the bi-directional volumes are higher during the PM peak than during the AM peak. The highest bi-directional volumes on Van Dorn Street occur between Eisenhower Avenue and South Pickett Street, with approximately 3,675 vehicles per hour during the AM peak hour and approximately 4,000 vehicles per hour during the PM peak hour.

Duke Street can be divided into two distinct sections according to its peak hour traffic patterns, with North Quaker Lane serving as the dividing line. At the eastern end of the corridor within the study area, Telegraph Road (which provides a direct connection between Duke Street and the I-495 Capital Beltway) is the primary source and destination for traffic along Duke Street. During the AM peak hour, more traffic exits from northbound Telegraph Road onto eastbound and westbound Duke Street than the volume turning from Duke Street onto southbound Telegraph Road. During the PM peak hour, this travel pattern reverses, with more traffic turning from both directions of Duke Street onto southbound Telegraph Road than the volume of traffic exiting from northbound Telegraph Road onto both directions of Duke Street. The highest bi-directional volume along the Duke Street corridor occurs just west of the Telegraph Road interchange, with approximately 5,125 vehicles per hour during the AM peak hour and about 5,625 vehicles per hour during the PM peak hour. West of North Quaker Lane, the highest traffic volumes are in the eastbound direction during both the AM and PM peak hours. The highest bi-directional traffic volume along Duke Street west of N. Quaker Lane is approximately 3,050 vehicles per hour during the AM peak, and about 3,000 vehicles per hour during the PM peak.

Figure 3.1 – Existing Intersection and Ramp AM (PM) Peak Hour Volumes (Western Area)



Figure 3.2 – Existing Intersection and Ramp AM (PM) Peak Hour Volumes (Eastern Area)



3.2 VISSIM Model Calibration and Travel Time Analysis

VISSIM was used to perform the operational analysis of the existing conditions along the three major corridors within the study area: Eisenhower Avenue, Duke Street, and Van Dorn Street, as well as a portion of the Capital Beltway (I-95/I-495). To calibrate the simulation, travel time runs were performed along each of the arterial roadways during the weekday AM and PM peak periods. The beltway analysis was calibrated based on VDOT-supplied traffic count data and travel speeds provided by INRIX, in lieu of actual travel time runs. INRIX is a frequently-used free source of quality traffic data for transportation professionals in both the public and private sectors. In addition to calibrating the simulations based on travel times, speeds, and queue lengths, modeled vehicle throughput was also compared to the actual volumes that were based on real traffic count data.

The VISSIM analysis adhered to the calibration objectives established in the VDOT Traffic Operations Analysis Tool Guidebook (TOATG). The TOATG Sample Size Determination Tool indicated that a minimum of ten (10) VISSIM simulation runs would be required to provide acceptable analysis results. The following additional objectives were met:

- Modeled corridor travel times to be within 15% (or 1 minute, if higher) of the field-measured times.
- Calibrate capacity to within 10% of field-measured flow rates (throughput) between intersections.
- Visually acceptable utilization of the lanes at lane drop locations.

To achieve these calibration objectives, the following VISSIM parameters can be adjusted:

On I-95/I-495:

Free-flow speed – desired speed decisions

- Origin-Destination matrix – routing decisions
- Connector lane change and emergency stop distances
- Location of static route decision points
- Car following parameters
 - Wiedemann 99 model – freeway traffic
 - Standstill distance
 - Headway time
 - Necessary lane change parameters
 - Waiting time before diffusion
 - Safety distance reduction factor
 - Advanced merging
 - Cooperative lane change

On Eisenhower Ave, Duke St, and Van Dorn St:

- Free-flow speed – desired speed decisions
- Turning speeds – reduced speed areas
- Existing signal timing
- Connector lane change and emergency stop distances
- Location of static route decision points
- Minimum headway – priority rules
- Conflict area parameters
 - Front gap

- Rear gap
- Safety Distance Factor
- Car following parameters
 - Wiedemann 74 model – arterial / urban traffic
 - Average standstill distance
 - Saturation flow rate (additive/multiplicative part of safety distance)
 - Necessary lane change parameters
 - Waiting time before diffusion
 - Safety distance reduction factor
 - Advanced merging
 - Cooperative lane change

Tables 3.1 and 3.2 show the comparison of the VISSIM-modeled travel times and the field-measured travel times for the AM and PM peak hours, respectively. The results in the table show the total modeled travel times for each corridor are within 15% of the field-measured travel times, even if the travel time differences on some of the shorter individual segments exceed this threshold.

Tables 3.3 and 3.4 show the comparison of the VISSIM-modeled throughput along I-95/I-495 between the I-395 and Telegraph Road interchanges and the input volumes based on recent traffic data obtained from VDOT. The results indicate that the modeled throughput on the segments between these interchanges is within 10% of the count data provided by VDOT.

Table 3.5 shows the actual field-measured AM peak hour throughput for each turning movement at each of the intersections evaluated for this study. **Table 3.6** shows the VISSIM-modeled AM peak hour throughput for each turning movement at each of these intersections. **Table 3.7** compares the actual throughput to the modeled throughput and shows the value of the differences. **Table 3.8** shows the percent difference between the AM peak hour actual throughputs versus the modeled throughputs. The results show that most of the modeled AM peak hour throughput values for the movements along the major street at these intersections are within 10% of the actual traffic count data. **Table 3.9** shows the actual field-measured PM peak hour throughput for each turning movement at each of the intersections evaluated for this study. **Table 3.10** shows the VISSIM-modeled PM peak hour throughput for each turning movement at each of these intersections. **Table 3.11** compares the actual throughput to the modeled throughput and shows the value of the differences. **Table 3.12** shows the percent difference between the PM peak hour actual throughputs versus the modeled throughputs. The results show that most of the modeled PM peak hour throughput values for the movements along the major street at these intersections are within 10% of the actual traffic count data.

These calibration objectives were achieved without requiring the adjustment of any of the parameters listed above.

Tables 3.13, 3.14, and 3.15 show the field-measured AM peak hour maximum queue lengths by turning movement at selected key intersections within the study area, the VISSIM-modeled maximum queue lengths by turning movement at these same intersections, and the comparison of the field-measured versus simulated queues. **Tables 3.16, 3.17, and 3.18** show this same queuing information and comparison, but for the PM peak hour.

Tables 3.19 and 3.20 show the comparison of the INRIX travel speed data for I-95/I-495 in the study area with the VISSIM-modeled travel speeds, for the AM and PM peak hours, respectively. The results show that the modeled speeds are within 10% of the actual speeds as measured by INRIX.

Table 3.1 – VISSIM Calibration: Actual vs. Modeled Existing Travel Times (AM Peak Hour)

Road Name	Direction	Travel Time Section	From	To	Field Travel Time (Sec)	Model Travel Time (Sec)	Difference	Percent Difference
Van Dorn St	NB	1011	Oakwood Rd	I-495 Ramps	23.3	19.1	4.3	18.3
		1012	I-495 Ramps	Eisenhower Ave	70.7	72.6	-1.9	-2.7
		1013	Eisenhower Ave	Courtney Ave	27.3	31.0	-3.7	-13.4
		1014	Courtney Ave	Pickett St	12.3	17.9	-5.6	-45.1
		1015	Pickett St	Edsall Rd	58.7	43.4	15.3	26.0
		1016	Edsall Rd	Van Dorn Plaza	26.3	29.4	-3.1	-11.6
		1017	Van Dorn Plaza	Stevenson Ave	15.7	15.4	0.3	1.7
		1018	Stevenson Ave	Duke St EB Ramps	17.3	20.0	-2.7	-15.4
		1019	Duke St EB Ramps	Duke St WB/ Landmark Mall	18.3	24.4	-6.1	-33.1
		1020	Duke St WB/ Landmark Mall	Holmes Run Pkwy	26.7	38.0	-11.3	-42.5
Total Travel Time		1000	Oakwood Rd	Holmes Run Pkwy	296.7	311.2	-14.5	-4.9
Van Dorn St	SB	2011	Holmes Run Pkwy	Duke St WB/ Landmark Mall	55.3	33.0	22.3	40.3
		2012	Duke St WB/ Landmark Mall	Duke St EB Ramps	19.3	24.3	-5.0	-25.9
		2013	Duke St EB Ramps	Stevenson Ave	13.3	27.2	-13.9	-104.5
		2014	Stevenson Ave	Van Dorn Plaza	6.0	8.8	-2.8	-46.7
		2015	Van Dorn Plaza	Edsall Rd	55.5	47.4	8.1	14.6
		2016	Edsall Rd	Pickett St	27.0	36.8	-9.8	-36.3
		2017	Pickett St	Courtney Ave	8.3	10.8	-2.5	-30.5
		2018	Courtney Ave	Eisenhower Ave	63.3	55.6	7.7	12.2
		2019	Eisenhower Ave	I-495 Ramps	67.0	71.6	-4.6	-6.9
		2020	I-495 Ramps	Oakwood Rd	34.5	15.8	18.7	54.2
Total Travel Time		2000	Holmes Run Pkwy	Oakwood Rd	349.5	331.3	18.2	5.2
Eisenhower Ave	EB	3011	Van Dorn St	Metro Rd	21.0	24.4	-3.4	-16.2
		3012	Metro Rd	Clermont Dr	111.3	129.2	-17.9	-16.1
		3013	Clermont Dr	Stovall St	225.8	239.4	-13.6	-6.0
		3014	Stovall St	John Carlyle St	105.8	94.9	10.9	10.3
Total Travel Time		3000	Van Dorn St	John Carlyle St	463.9	487.9	-24.0	-5.2
Eisenhower Ave	WB	4011	John Carlyle St	Stovall St	142.9	145.8	-2.9	-2.0
		4012	Stovall St	Clermont Dr	143.3	178.0	-34.7	-24.2
		4013	Clermont Dr	Metro Rd	176.3	185.4	-9.1	-5.2
		4014	Metro Rd	Van Dorn St	462.5	509.2	-46.7	-10.1
Total Travel Time		4000	John Carlyle St	Van Dorn St	573.0	585.8	-12.8	-2.2
Duke Street	EB	5011	Ripley St	Jordan St	142.9	145.8	-2.9	-2.0
		5012	Jordan St	Quaker Ln	143.3	178.0	-34.7	-24.2
		5013	Quaker Ln	Dove St	176.3	185.4	-9.1	-5.2
Total Travel Time		3000	Ripley St	Dove St	462.5	509.2	-46.7	-10.1
Duke Street	WB	6011	Dove St	Quaker Ln	179.4	194.4	-15.0	-8.4
		6012	Quaker Ln	Jordan St	147.3	181.2	-33.9	-23.0
		6013	Jordan St	Ripley St	160.6	147.7	12.9	8.0
Total Travel Time		4000	Dove St	Ripley St	487.3	523.3	-36.0	-7.4

Table 3.2 – VISSIM Calibration: Actual vs. Modeled Existing Travel Times (PM Peak Hour)

Road Name	Direction	Travel Time Section	From	To	Field Travel Time (Sec)	Model Travel Time (Sec)	Difference	Percent Difference
Van Dorn St	NB	1011	Oakwood Rd	I-495 Ramps	28.7	23.6	5.1	17.7
		1012	I-495 Ramps	Eisenhower Ave	49.3	65.2	-15.9	-32.2
		1013	Eisenhower Ave	Courtney Ave	62.3	42.1	20.2	32.5
		1014	Courtney Ave	Pickett St	12.0	26.0	-14.0	-116.7
		1015	Pickett St	Edsall Rd	28.7	41.1	-12.4	-43.4
		1016	Edsall Rd	Van Dorn Plaza	20.7	29.9	-9.2	-44.7
		1017	Van Dorn Plaza	Stevenson Ave	8.7	18.4	-9.7	-112.3
		1018	Stevenson Ave	Duke St EB Ramps	24.7	22.9	1.8	7.2
		1019	Duke St EB Ramps	Duke St WB/ Landmark Mall	25.3	28.4	-3.1	-12.1
		1020	Duke St WB/ Landmark Mall	Holmes Run Pkwy	38.0	37.1	0.9	2.4
Total Travel Time		1000	Oakwood Rd	Holmes Run Pkwy	298.3	334.7	-36.4	-12.2
Van Dorn St	SB	2011	Holmes Run Pkwy	Duke St WB/ Landmark Mall	58.8	44.2	14.6	24.8
		2012	Duke St WB/ Landmark Mall	Duke St EB Ramps	24.3	23.8	0.5	2.1
		2013	Duke St EB Ramps	Stevenson Ave	44.3	34.6	9.7	21.9
		2014	Stevenson Ave	Van Dorn Plaza	9.5	8.0	1.5	15.8
		2015	Van Dorn Plaza	Edsall Rd	49.0	58.6	-9.6	-19.6
		2016	Edsall Rd	Pickett St	63.8	53.9	9.9	15.5
		2017	Pickett St	Courtney Ave	11.8	11.0	0.8	6.8
		2018	Courtney Ave	Eisenhower Ave	39.8	50.0	-10.2	-25.6
		2019	Eisenhower Ave	I-495 Ramps	90.8	101.4	-10.6	-11.7
		2020	I-495 Ramps	Oakwood Rd	14.0	12.9	1.1	7.9
Total Travel Time		2000	Holmes Run Pkwy	Oakwood Rd	406.1	398.4	7.7	1.9
Eisenhower Ave	EB	3011	Van Dorn St	Metro Rd	22.5	24.2	-1.7	-7.6
		3012	Metro Rd	Clermont Dr	114.5	120.7	-6.2	-5.4
		3013	Clermont Dr	Stovall St	216.1	227.3	-11.2	-5.2
		3014	Stovall St	John Carlyle St	119.8	105.1	14.7	12.3
Total Travel Time		3000	Van Dorn St	John Carlyle St	472.9	477.3	-4.4	-0.9
Eisenhower Ave	WB	4011	John Carlyle St	Stovall St	117.4	104.6	12.8	10.9
		4012	Stovall St	Clermont Dr	236.1	227.7	8.4	3.6
		4013	Clermont Dr	Metro Rd	111.8	109.3	2.5	2.2
		4014	Metro Rd	Van Dorn St	64.5	63.5	1.0	1.6
Total Travel Time		4000	John Carlyle St	Van Dorn St	529.8	505.1	24.7	4.7
Duke Street	EB	5011	Ripley St	Jordan St	219.6	164.0	55.6	25.3
		5012	Jordan St	Quaker Ln	145.0	171.8	-26.8	-18.5
		5013	Quaker Ln	Dove St	207.6	184.4	23.2	11.2
Total Travel Time		5000	Ripley St	Dove St	572.2	520.2	52.0	9.1
Duke Street	WB	6011	Dove St	Quaker Ln	215.8	222.4	-6.6	-3.1
		6012	Quaker Ln	Jordan St	141.4	158.1	-16.7	-11.8
		6013	Jordan St	Ripley St	122.2	119.4	2.8	2.3
Total Travel Time		6000	Dove St	Ripley St	479.4	499.9	-20.5	-4.3

Table 3.3 – VISSIM Calibration: Actual vs. Simulated Existing Throughput on I-95/I-495 (AM Peak Hour)

Road Name	From	To	Input Volume	Processed Volume	Difference	Percent Difference
NB I-95/I-495	I-395	Van Dorn St	6,910	6,893	17.0	0.2
	I-495 NB off Ramp	Van Dorn St	578	563	15.0	2.6
	Van Dorn St	I-495	496	480	16.0	3.2
	NB Van Dorn St	I-495	492	492	0.0	0.0
	Van Dorn St	Eisenhower Ave Connector	7,320	7,291	29.0	0.4
	I-495 NB off Ramp	Eisenhower Ave Connector	575	582	-7.0	-1.2
	Eisenhower Ave Connector	I-495	178	170	8.0	4.5
	Eisenhower Ave Connector	Telegraph Road	6,923	6,917	6.0	0.1
SB I-95/I-495	Telegraph Road Int.	Eisenhower Connector Int.	7,892	7,884	8.0	0.1
	Ramp from I-495	Eisenhower Connector	375	378	-3.0	-0.8
	Eisenhower Connector Ramp	I-495	185	179	6.0	3.2
	Eisenhower Connector Int.	Van Dorn St Int.	7,702	7,666	36.0	0.5
	I-495 Ramp	Van Dorn St	644	625	19.0	3.0
	Ramp from Van Dorn St	I-495	522	540	-18.0	-3.4
	Van Dorn St Int.	I-395	7,610	7,570	40.0	0.5

Table 3.4 – VISSIM Calibration: Actual vs. Simulated Existing Throughput on I-95/I-495 (PM Peak Hour)

Road Name	From	To	Input Volume	Processed Volume	Difference	Percent Difference
NB I-95/I-495	I-395	Van Dorn St	7,284	7,823	-539.0	-7.4
	I-495 NB off Ramp	Van Dorn St	893	941	-48.0	-5.4
	Van Dorn St	I-495	471	468	3.0	0.6
	NB Van Dorn St	I-495	347	346	1.0	0.3
	Van Dorn St	Eisenhower Ave Connector	7,209	7,662	-453.0	-6.3
	I-495 NB off Ramp	Eisenhower Ave Connector	255	275	-20.0	-7.8
	Eisenhower Ave Connector	I-495	242	239	3.0	1.2
	Eisenhower Ave Connector	Telegraph Road	7,196	7,651	-455.0	-6.3
SB I-95/I-495	Telegraph Road Int.	Eisenhower Connector Int.	7,060	7,035	25.0	0.4
	Ramp from I-495	Eisenhower Connector	444	436	8.0	1.8
	Eisenhower Ave Connector Ramp	I-495	259	256	3.0	1.2
	Eisenhower Ave Connector Int.	Van Dorn St Int.	6,875	6,842	33.0	0.5
	I-495 Ramp	Van Dorn St	801	799	2.0	0.2
	Ramp from Van Dorn St	I-495	422	430	-8.0	-1.9
	Van Dorn St Int.	I-395	6,496	6,472	24.0	0.4

Table 3.5 – VISSIM Calibration: Actual Field-Measured Throughput (AM Peak Hour)

Volume (vph)	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Duke St at Witter St	20		25					2,317	24	66	2,187	
Van Dorn St at Holmes Run Pkwy	10	1,851	16	93	520	4	5	4	12	14	1	361
Van Dorn St at Duke St WB Ramp	30	1,737			546		8		25	24	20	132
Van Dorn St at Duke St EB Ramp	41	1,837	13	12	367	53	175	14	315	6	3	41
Van Dorn St at Stevenson Ave	125	1,704	22	8	605	75	159	13	117	40	36	28
Van Dorn St at Van Dorn Plaza	62	1,836			744	18	15		27			
Van Dorn St at Edsall Rd	196	1,598	73	61	651	59	210	192	264	120	207	90
Van Dorn St at S Pickett St	140	1,814	416	20	970	45	37	39	102	238	32	16
Van Dorn St at I-495 Ramps	615	1,341			645	433	556		666			
Van Dorn St at Eisenhower Ave	56	1,594	247	225	827	58	56	9	51	200	16	752
Eisenhower Ave at Metro Rd				177		142	39	442			826	26
Eisenhower Ave at Metro Bus Loop Rd	29		5	2		19	0	589	30	4	804	0
Eisenhower Ave at Clermont Dr	471	18	461	2	11	2	2	305	289	63	335	4
Eisenhower Ave at Cameron Parke Pl				25		6	87	681			396	60
Eisenhower Ave at Bluestone Rd				25		23	20	686			433	66
Eisenhower Ave at Mill Road	6	8	18	32	7	83	91	608	12	57	410	67
Eisenhower Ave at Swamp Fox Road	36	4	25	17		16	84	1,332	1	0	583	18
Duke St at Reynolds St	161	2	116	10	13	35	14	1,285	83	66	894	11
Duke St at Paxton St	32	6	20	78	4	119	92	1,312	7	12	820	89
Duke St at S Pickett St	189		343					1,258	152	281	732	
Duke St at Cameron Stn Blvd/N Pickett St	163	86	63	99	14	49	83	1,463	55	33	801	65
Duke St at Ripley St				59		103	90	1,323			1,056	34
Duke St at Shops @ Fox Chase	50	5	80	145	15	115	200	1,511	15	15	754	215
Duke St at Jordan St	57	83	47	253	36	141	287	1,398	51	32	786	196
Duke St at Ingram St	50	20	50	50	10	50	15	1,673	10	10	914	50
Duke St at S Gordon St	60	1	21	13	1	0	1	1,737	50	11	925	3
Duke St at Early St	50	5	50	50	5	50	10	1,751	10	10	839	10
Duke St at Wheeler Ave	50	0	186	14	1	2	3	1,813	35	210	807	8
Duke St at N Quaker Ln				627		113	205	1,808			912	955
Duke St at S Quaker Ln	49		22					2,306	129	31	1,818	
Duke St at Sweeley St	15	15	15	20	10	20	60	2,163	30	60	1,889	60
Duke St at Roth St	5	4	67	85	13	36	9	2,189	0	104	1,968	135
Duke St at Taylor Run Pkwy				334		34	46	2,296			2,219	266
Duke St at Dove St	6	0	13	25	0	32		2,871	48		1,296	15
Duke St at Alexandria Commons	15	15	15	20	10	20	50	2,218	60	60	1,814	50
Edsall Rd at Yoakum Pkwy	21	12	61	89	19	147	160	625	10	33	299	64
Edsall Rd at Whiting St	4	5	16	94	5	61	64	556	5	31	331	100
Van Dorn St at Courtney Ave	0	2,362	7	3	1,307	0	1	0	0	3	0	7
Edsall Rd at Winterview Dr	75	1	21	23	4	26	16	601	208	32	423	12
Eisenhower Ave at Mill Race Ln	0	0	1	7	0	25	81	1,292	1	1	576	14
Eisenhower Ave at Mill Road	230	206	375	29	29	31	141	1,118	41	46	330	26
Eisenhower Ave at Elizabeth Ln	2	1	0	12	2	23	335	1,138	49	10	377	23
Duke St at Somerville St			119			8		1,617	8		891	28
Van Dorn St at Oakwood Rd	4	2,218	8	20	1,257	34	210	0	14	6	1	20
Eisenhower Ave at Stovall St/Ramp	105	293	805	62	4	74	110	547	1	8	355	272
Eisenhower Ave at John Carlyle St				2		41	249	901			369	1
Van Dorn St at N Gordon St				37		17	22	1,751			957	28
S Pickett St at Edsall Rd	116	141	35	179	112	35	31	343	101	24	135	245
S Pickett St at Home Depot	37		45					487	70	66	367	
I-495 NB Off-Ramp to Eisenhower Conn				178			575					

Table 3.6 – VISSIM Calibration: Simulated Existing Throughput (AM Peak Hour)

Volume (vph)	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Duke St at Witter St	21		25					2,304	22	67	2,205	
Van Dorn St at Holmes Run Pkwy	11	1,795	16	99	521	4	4	4	13	15	0	359
Van Dorn St at Duke St WB Ramp	29	1,683			549		8		25	21	20	123
Van Dorn St at Duke St EB Ramp	38	1,785	12	13	373	54	177	15	311	6	4	43
Van Dorn St at Stevenson Ave	116	1,660	20	8	608	74	156	11	115	37	36	27
Van Dorn St at Van Dorn Plaza	61	1,788			743	18	18		25			
Van Dorn St at Edsall Rd	192	1,549	71	61	642	58	211	191	266	122	203	91
Van Dorn St at S Pickett St	139	1,766	401	21	976	42	30	38	91	244	30	17
Van Dorn St at I-495 Ramps	594	1,338			650	431	537		653			
Van Dorn St at Eisenhower Ave	57	1,581	242	214	832	57	52	9	48	203	15	737
Eisenhower Ave at Metro Rd				176		145	39	426			839	32
Eisenhower Ave at Metro Bus Loop Rd	30		5	2		19	0	571	31	5	823	0
Eisenhower Ave at Clermont Dr	481	16	468	3	10	3	2	299	279	63	343	4
Eisenhower Ave at Cameron Parke Pl				23		8	88	678			401	56
Eisenhower Ave at Bluestone Rd				26		23	21	680			434	59
Eisenhower Ave at Mill Road	7	10	17	35	6	82	86	609	12	58	406	68
Eisenhower Ave at Swamp Fox Road	35		27	17	0	19	87	1,291			578	19
Duke St at Reynolds St	163	2	119	9	14	36	14	1,285	85	65	919	12
Duke St at Paxton St	35	6	19	78	4	118	89	1,316	7	11	843	92
Duke St at S Pickett St	182		332					1,256	157	292	764	
Duke St at Cameron Stn Blvd/N Pickett St	159	86	60	100	14	52	83	1,449	52	36	845	69
Duke St at Ripley St				64		105	89	1,320			1,079	37
Duke St at Shops @ Fox Chase	53	5	81	146	14	117	199	1,505	15	18	806	235
Duke St at Jordan St	56	87	48	252	38	144	276	1,397	50	37	855	210
Duke St at Ingram St	50	25	55	48	10	52	14	1,678	12	12	950	58
Duke St at S Gordon St	59	1	20	13	1	0	1	1,729	57	10	955	3
Duke St at Early St	54	5	56	53	5	56	10	1,742	9	11	861	9
Duke St at Wheeler Ave	54	0	190	13	1	2	3	1,810	37	212	827	8
Duke St at N Quaker Ln				633		115	209	1,801			935	960
Duke St at S Quaker Ln	52		22					2,301	130	29	1,837	0
Duke St at Sweeley St	14	15	16	18	10	22	62	2,151	30	63	1,907	61
Duke St at Roth St	5	4	68	78	12	35	10	2,176	0	104	1,991	135
Duke St at Taylor Run Pkwy				332		35	46	2,285			2,234	268
Duke St at Dove St	6	0	13	26	0	31		2,886	36		1,305	8
Duke St at Alexandria Commons	16	15	13	19	10	21	50	2,213	62	60	1,828	52
Edsall Rd at Yoakum Pkwy	22	11	47	88	18	147	156	494	12	34	292	65
Edsall Rd at Whiting St	4	4	16	90	3	59	61	562	5	31	327	96
Van Dorn St at Courtney Ave	0	2,301	6	3	1,308	0	1	0	0	3	0	8
Edsall Rd at Winterview Dr	73	2	20	25	4	29	18	616	210	29	420	12
Eisenhower Ave at Mill Race Ln	0	0	1	7	0	27	81	1,251	1	2	569	18
Eisenhower Ave at Mill Road	230	201	387	30	30	31	135	1,088	38	49	327	26
Eisenhower Ave at Elizabeth Ln	2	1	0	14	3	21	339	1,117	50	11	378	26
Duke St at Somerville St			123			10		1,600	8		942	33
Van Dorn St at Oakwood Rd	4	2,209	8	20	1,249	35	209	0	12	6	1	18
Eisenhower Ave at Stovall St/Ramp	96	284	770	58	4	80	112	548	0	7	354	271
Eisenhower Ave at John Carlyle St				2		42	241	890			372	1
Van Dorn St at N Gordon St				38		18	22	1,747			982	33
S Pickett St at Edsall Rd	116	137	36	178	112	34	32	328	100	27	140	246
S Pickett St at Home Depot	36		48					468	71	71	377	
I-495 NB Off-Ramp to Eisenhower Conn				173			584					

Table 3.7 – VISSIM Calibration: Actual vs. Simulated Existing Throughput (AM Peak Hour)

Volume (vph)	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Duke St at Witter St	-1		0					13	2	-1	-18	
Van Dorn St at Holmes Run Pkwy	-1	56	0	-6	-1	0	1	0	-1	-1	1	2
Van Dorn St at Duke St WB Ramp	1	54			-3		0		0	3	0	9
Van Dorn St at Duke St EB Ramp	4	52	1	-1	-6	-1	-2	-1	4	0	-1	-2
Van Dorn St at Stevenson Ave	9	44	2	0	-3	1	3	2	2	3	0	1
Van Dorn St at Van Dorn Plaza	1	48			1	0	-3		2			
Van Dorn St at Edsall Rd	4	49	2	0	9	1	-1	1	-2	-2	4	-1
Van Dorn St at S Pickett St	1	48	15	-1	-6	3	7	1	11	-6	2	-1
Van Dorn St at I-495 Ramps	21	3			-5	2	20		13			
Van Dorn St at Eisenhower Ave	-1	13	5	11	-5	1	4	0	3	-3	1	15
Eisenhower Ave at Metro Rd				1		-3	0	16			-13	-6
Eisenhower Ave at Metro Bus Loop Rd	-1		0	0		0	0	18	-1	-1	-19	0
Eisenhower Ave at Clermont Dr	-10	2	-7	-1	1	-1	0	6	10	0	-8	0
Eisenhower Ave at Cameron Parke Pl				2		-2	-1	3			-5	4
Eisenhower Ave at Bluestone Rd				-1		0	-1	6			-1	7
Eisenhower Ave at Mill Road	-1	-2	1	-3	1	1	5	-1	0	-1	4	-1
Eisenhower Ave at Swamp Fox Road	1		-2	0	0	-3	-3	41			5	-1
Duke St at Reynolds St	-2	0	-3	1	-1	-1	0	0	-2	1	-25	-1
Duke St at Paxton St	-3	0	1	0	0	1	3	-4	0	1	-23	-3
Duke St at S Pickett St	7		11					2	-5	-11	-32	
Duke St at Cameron Stn Blvd/N Pickett St	4	0	3	-1	0	-3	1	14	3	-3	-44	-4
Duke St at Ripley St				-5		-2	1	3			-23	-3
Duke St at Shops @ Fox Chase	-3	0	-1	-1	1	-2	1	6	1	-3	-52	-20
Duke St at Jordan St	1	-4	-1	1	-2	-3	11	1	1	-5	-69	-14
Duke St at Ingram St	1	-5	-5	2	0	-2	1	-5	-2	-2	-36	-8
Duke St at S Gordon St	1	0	1	0	0	0	0	8	-7	1	-30	0
Duke St at Early St	-4	0	-6	-3	0	-6	0	9	1	-1	-22	2
Duke St at Wheeler Ave	-4	0	-4	1	0	0	0	3	-2	-2	-20	0
Duke St at N Quaker Ln				-6		-2	-4	7			-23	-5
Duke St at S Quaker Ln	-3	0	0	0	0	0	0	5	-1	2	-19	
Duke St at Sweeley St	2	0	-1	2	0	-2	-2	12	0	-3	-18	-1
Duke St at Roth St	0	0	-1	7	1	1	-1	13	0	0	-23	0
Duke St at Taylor Run Pkwy				2		-1	0	11			-15	-2
Duke St at Dove St	0	0	0	-1	0	2		-15	12		-9	7
Duke St at Alexandria Commons	-1	0	3	1	0	-1	0	5	-2	0	-14	-2
Edsall Rd at Yoakum Pkwy	-1	2	14	1	1	0	4	131	-2	-1	7	-1
Edsall Rd at Whiting St	0	1	0	5	2	2	3	-6	0	1	4	4
Van Dorn St at Courtney Ave	0	61	1	0	-1	0	0	0	0	0	0	-1
Edsall Rd at Winterview Dr	3	-1	1	-2	1	-3	-2	-15	-2	3	3	0
Eisenhower Ave at Mill Race Ln	0	0	0	0	0	-2	0	41	0	-1	7	-4
Eisenhower Ave at Mill Road	0	5	-12	-1	-1	0	6	30	3	-3	3	0
Eisenhower Ave at Elizabeth Ln	0	0	0	-2	-1	2	-4	21	-1	-1	-1	-3
Duke St at Somerville St			-4			-2		17	0		-51	-5
Van Dorn St at Oakwood Rd	0	9	0	0	8	-1	1	0	2	0	0	2
Eisenhower Ave at Stovall St/Ramp	10	9	35	4	0	-6	-2	-1	1	1	1	1
Eisenhower Ave at John Carlyle St				1		-1	8	11			-3	0
Van Dorn St at N Gordon St				-1		-1	0	4			-25	-5
S Pickett St at Edsall Rd	0	4	-1	2	1	1	-1	15	1	-3	-5	-1
S Pickett St at Home Depot	1		-3					19	-1	-5	-10	
I-495 NB Off-Ramp to Eisenhower Conn				5			-9					

Table 3.8 – VISSIM Calibration: Actual vs. Simulated Existing Throughput Percentage (AM Peak Hour)

Volume (vph)	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Duke St at Witter St	4.5%		0%					-0.6%	-9.2%	1.8%	0.8%	
Van Dorn St at Holmes Run Pkwy	7.0%	-3.0%	0.6%	6.8%	0.2%	-2.5%	-16.0%	10.0%	8.3%	8.6%	-100.0%	-0.5%
Van Dorn St at Duke St WB Ramp	-2.3%	-3.1%			0.5%		0.0%		0.4%	-14.2%	0.0%	-6.5%
Van Dorn St at Duke St EB Ramp	-8.5%	-2.8%	-5.4%	10.0%	1.7%	0.9%	1.0%	5.0%	-1.3%	1.7%	33.3%	4.6%
Van Dorn St at Stevenson Ave	-7.0%	-2.6%	-8.2%	-5.0%	0.5%	-1.6%	-1.8%	-18.5%	-1.9%	-6.8%	-1.1%	-2.1%
Van Dorn St at Van Dorn Plaza	-2.1%	-2.6%			-0.2%	-2.2%	20.0%		-5.9%			
Van Dorn St at Edsall Rd	-1.8%	-3.1%	-2.5%	-0.2%	-1.4%	-1.7%	0.4%	-0.5%	0.8%	1.7%	-1.7%	0.7%
Van Dorn St at S Pickett St	-0.9%	-2.6%	-3.7%	4.0%	0.6%	-5.8%	-17.8%	-1.5%	-10.9%	2.5%	-6.3%	3.8%
Van Dorn St at I-495 Ramps	-3.5%	-0.2%			0.8%	-0.4%	-3.5%		-2.0%			
Van Dorn St at Eisenhower Ave	1.1%	-0.8%	-1.9%	-5.0%	0.6%	-1.9%	-7.1%	0.0%	-5.7%	1.7%	-3.8%	-2.0%
Eisenhower Ave at Metro Rd				-0.5%		2.2%	0.0%	-3.5%			1.5%	21.5%
Eisenhower Ave at Metro Bus Loop Rd	3.1%		-2.0%	5.0%		-2.1%	0.0%	-3.1%	4.0%	30.0%	2.3%	0.0%
Eisenhower Ave at Clermont Dr	2.1%	-12.8%	1.6%	35.0%	-6.4%	40.0%	5.0%	-2.1%	-3.3%	0.2%	2.4%	-7.5%
Eisenhower Ave at Cameron Parke Pl				-6.4%		33.3%	1.6%	-0.4%			1.3%	-6.7%
Eisenhower Ave at Bluestone Rd				2.0%		-0.9%	3.0%	-0.8%			0.2%	-10.3%
Eisenhower Ave at Mill Road	13.3%	25.0%	-4.4%	10.3%	-20.0%	-1.7%	-5.1%	0.1%	2.5%	2.1%	-1.0%	0.7%
Eisenhower Ave at Swamp Fox Road	-1.7%		8.0%	-1.8%	0.0%	16.3%	3.2%	-3.1%			-0.9%	4.4%
Duke St at Reynolds St	1.0%	-20.0%	2.2%	-6.0%	3.8%	2.0%	0.0%	0.0%	2.7%	-2.0%	2.8%	4.5%
Duke St at Paxton St	8.4%	1.7%	-3.5%	-0.5%	2.5%	-0.7%	-3.4%	0.3%	4.3%	-5.0%	2.8%	3.5%
Duke St at S Pickett St	-3.5%		-3.3%					-0.2%	3.1%	4.0%	4.3%	
Duke St at Cameron Stn Blvd/N Pickett St	-2.3%	0.3%	-4.6%	1.3%	0.7%	5.9%	-0.6%	-1.0%	-5.3%	10.3%	5.5%	5.4%
Duke St at Ripley St				8.3%		1.9%	-1.1%	-0.2%			2.2%	9.7%
Duke St at Shops @Fox Chase	6.0%	6.0%	0.9%	0.6%	-6.7%	1.3%	-0.5%	-0.4%	-3.3%	18.0%	6.9%	9.3%
Duke St at Jordan St	-1.9%	4.3%	2.1%	-0.5%	5.3%	2.3%	-3.9%	-0.1%	-1.2%	16.6%	8.7%	7.0%
Duke St at Ingram St	-1.0%	22.5%	10.0%	-4.0%	0.0%	3.0%	-6.7%	0.3%	15.0%	20.0%	3.9%	15.0%
Duke St at S Gordon St	-2.3%	20.0%	-3.3%	0.0%	20.0%	0.0%	40.0%	-0.4%	13.4%	-5.5%	3.3%	-3.3%
Duke St at Early St	7.6%	-6.0%	11.6%	6.8%	-2.0%	12.0%	-4.0%	-0.5%	-9.0%	14.0%	2.7%	-15.0%
Duke St at Wheeler Ave	7.2%	0.0%	2.2%	-7.1%	-20.0%	0.0%	0.0%	-0.2%	6.3%	0.7%	2.5%	5.0%
Duke St at N Quaker Ln				1.0%		1.5%	2.1%	-0.4%			2.5%	0.5%
Duke St at S Quaker Ln	5.5%		1.4%					-0.2%	0.9%	-7.7%	1.0%	
Duke St at Sweeley St	-10.0%	1.3%	8.0%	-8.0%	2.0%	10.0%	3.7%	-0.5%	-0.7%	4.5%	0.9%	2.3%
Duke St at Roth St	-2.0%	10.0%	1.6%	-7.8%	-10.8%	-3.3%	15.6%	-0.6%	0.0%	0.0%	1.2%	-0.3%
Duke St at Taylor Run Pkwy				-0.7%		4.1%	0.0%	-0.5%			0.7%	0.9%
Duke St at Dove St	3.3%	0.0%	1.5%	2.8%	0.0%	-4.7%		0.5%	-25.2%		0.7%	-45.3%
Duke St at Alexandria Commons	5.3%	0.0%	-16.7%	-7.0%	-2.0%	3.5%	-0.2%	-0.2%	3.2%	0.0%	0.7%	4.4%
Edsall Rd at Yoakum Pkwy	6.7%	-12.5%	-23.3%	-1.1%	-3.7%	-0.1%	-2.3%	-21.0%	16.0%	1.8%	-2.3%	1.9%
Edsall Rd at Whiting St	0.0%	-18.0%	1.3%	-4.8%	-34.0%	-3.9%	-4.8%	1.1%	0.0%	-1.6%	-1.1%	-3.7%
Van Dorn St at Courtney Ave	0.0%	-2.6%	-15.7%	-6.7%	0.1%	0.0%	-20.0%	0.0%	0.0%	-10.0%	0.0%	11.4%
Edsall Rd at Winterview Dr	-3.3%	50.0%	-2.9%	7.0%	-12.5%	11.9%	14.4%	2.5%	0.7%	-8.1%	-0.8%	-1.7%
Eisenhower Ave at Mill Race Ln	0.0%	0.0%	10.0%	-4.3%	0.0%	8.0%	-0.2%	-3.1%	-20.0%	90.0%	-1.2%	25.0%
Eisenhower Ave at Mill Road	0.2%	-2.4%	3.1%	3.4%	2.1%	0.0%	-4.2%	-2.7%	-7.6%	6.7%	-0.8%	-1.2%
Eisenhower Ave at Elizabeth Ln	-15.0%	-30.0%	0.0%	20.0%	45.0%	-10.4%	1.2%	-1.9%	1.0%	7.0%	0.2%	13.5%
Duke St at Somerville St			3.1%			26.3%		-1.1%	0.0%		5.7%	17.5%
Van Dorn St at Oakwood Rd	2.5%	-0.4%	-2.5%	-2.0%	-0.7%	3.8%	-0.6%	0.0%	-15.0%	-5.0%	-20.0%	-9.5%
Eisenhower Ave at Stovall St/Ramp	-9.0%	-3.1%	-4.3%	-6.9%	-2.5%	7.6%	1.6%	0.2%	-60.0%	-15.0%	-0.4%	-0.3%
Eisenhower Ave at John Carlyle St				-25.0%		1.7%	-3.3%	-1.3%			0.8%	40.0%
Van Dorn St at N Gordon St				3.5%		2.9%	-1.4%	-0.2%			2.6%	16.1%
S Pickett St at Edsall Rd	-0.1%	-2.8%	1.7%	-0.8%	-0.4%	-2.0%	3.5%	-4.3%	-1.3%	11.3%	3.8%	0.5%
S Pickett St at Home Depot	-3.5%		6.2%					-3.8%	1.4%	7.7%	2.7%	
I-495 NB Off-Ramp to Eisenhower Conn				-2.6%			1.6%					

Note: The large percentage differences shown for some movements in this table are due to the actual volumes being relatively low.

Table 3.9 – VISSIM Calibration: Actual Field-Measured Throughput (PM Peak Hour)

Volume (vph)	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Duke St at Witter St	39		82					2,518	38	55	2,317	
Van Dorn St at Holmes Run Pkwy	9	714	70	381	1,229	7	3	0	12	31	1	270
Van Dorn St at Duke St WB Ramp	91	645			1,272		58		112	49	52	90
Van Dorn St at Duke St EB Ramp	58	1,002	9	34	1,171	101	113	37	294	2	0	14
Van Dorn St at Stevenson Ave	205	949	62	11	1,199	257	101	56	226	33	40	19
Van Dorn St at Van Dorn Plaza	173	1,140			1,379	79	76		124			
Van Dorn St at Edsall Rd	342	988	97	133	1,197	173	128	266	318	163	248	197
Van Dorn St at S Pickett St	92	1,297	386	60	1,585	33	76	57	181	461	70	54
Van Dorn St at I-495 Ramps	420	1,096			1,552	473	387		1,307			
Van Dorn St at Eisenhower Ave	10	1,246	227	272	1,755	20	29	12	48	222	13	540
Eisenhower Ave at Metro Rd				161		227	57	454			548	43
Eisenhower Ave at Metro Bus Loop Rd	29		6	0		4	0	589	26	5	558	0
Eisenhower Ave at Clermont Dr	324	6	369	2	10	2	0	437	158	333	237	4
Eisenhower Ave at Cameron Parke Pl				55		62	4	804			512	31
Eisenhower Ave at Bluestone Rd				44		11	14	845			532	24
Eisenhower Ave at Mill Road	14	10	60	28	5	66	232	618	39	52	476	187
Eisenhower Ave at Swamp Fox Road	34	1	18	27		46	59	950			628	35
Duke St at Reynolds St	133	17	105	10	18	32	41	1,296	176	180	915	23
Duke St at Paxton St	32	5	11	82	8	127	110	1,286	15	36	959	114
Duke St at S Pickett St	279		507					1,001	378	591	830	
Duke St at Cameron Stn Blvd/N Pickett St	68	30	25	111	89	65	100	1,328	80	51	1,288	76
Duke St at Ripley St				82		72	122	1,431			995	85
Duke St at Shops @ Fox Chase	150	50	250	175	50	150	140	921	445	100	1,206	100
Duke St at Jordan St	63	43	40	273	58	308	170	1,115	61	30	1,035	229
Duke St at Ingram St	125	5	75	50	5	125	91	1,247	90	75	1,044	75
Duke St at S Gordon St	68	0	15	7	1	2	2	1,334	23	15	1,156	2
Duke St at Early St	100	10	55	100	10	125	100	1,156	100	78	948	75
Duke St at Wheeler Ave	38	1	129	6	1	2	5	1,267	39	113	1,061	13
Duke St at N Quaker Ln				585		119	173	1,229			1,068	634
Duke St at S Quaker Ln	92		23					1,654	160	21	1,610	
Duke St at Sweeley St	45	20	200	165	20	45	50	1,747	50	125	1,826	250
Duke St at Roth St	3	2	181	303	1	63	38	2,072	2	55	2,135	166
Duke St at Taylor Run Pkwy				469		27	35	2,565			2,345	241
Duke St at Dove St	40	5	18	16	1	17		2,125	45		2,761	34
Duke St at Alexandria Commons	45	20	90	200	20	45	100	1,557	20	125	1,541	250
Edsall Rd at Yoakum Pkwy	9	10	49	82	35	175	160	645	25	65	460	142
Edsall Rd at Whiting St	3	10	20	125	5	89	74	567	4	19	575	129
Van Dorn St at Courtney Ave	0	1,773	0	2	2,225	2	0	0	1	5	0	2
Edsall Rd at Winterview Dr	156	5	27	17	3	11	19	670	124	22	595	27
Eisenhower Ave at Mill Race Ln	0	0	0	5	0	59	39	956	0	6	604	14
Eisenhower Ave at Mill Road	83	41	66	37	176	87	74	670	217	268	454	67
Eisenhower Ave at Elizabeth Ln	61	4	3	26	0	220	51	719	3	6	508	20
Duke St at Somerville St			86			22		1,438	26		1,393	113
Van Dorn St at Oakwood Rd	29	1,734	2	22	2,593	244	102	0	11	5	0	27
Eisenhower Ave at Stovall St/Ramp	74	21	296	114	2	59	109	595	1	3	583	122
Eisenhower Ave at John Carlyle St				4		243	127	621			291	2
Van Dorn St at N Gordon St				22		19	35	1,337			1,175	51
S Pickett St at Edsall Rd	58	90	24	421	59	56	41	347	115	18	471	477
S Pickett St at Home Depot	121		96					690	102	124	845	
I-495 NB Off-Ramp to Eisenhower Conn				242			255					

Table 3.10 – VISSIM Calibration: Simulated Existing Throughput (PM Peak Hour)

Volume (vph)	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Duke St at Witter St	35		80					2,522	36	59	2,337	
Van Dorn St at Holmes Run Pkwy	8	697	69	379	1,235	7	3	0	14	31	0	204
Van Dorn St at Duke St WB Ramp	85	623			1,264		62		111	47	51	84
Van Dorn St at Duke St EB Ramp	56	1,040	10	32	1,190	102	54	0	382	1	1	15
Van Dorn St at Stevenson Ave	197	980	59	12	1,290	275	95	57	218	19	30	39
Van Dorn St at Van Dorn Plaza	182	1,177			1,447	83	69		126			
Van Dorn St at Edsall Rd	362	1,039	108	188	1,234	145	131	265	330	171	243	196
Van Dorn St at S Pickett St	96	1,387	416	61	1,646	32	73	60	180	463	70	55
Van Dorn St at I-495 Ramps	422	1,092			1,572	483	376		1,327			
Van Dorn St at Eisenhower Ave	14	1,410	261	274	1,805	21	12	45	26	221	14	522
Eisenhower Ave at Metro Rd				158		234	67	512			539	46
Eisenhower Ave at Metro Bus Loop Rd	30		7	0		4	0	640	29	6	551	0
Eisenhower Ave at Clermont Dr	334	5	376	3	9	2	0	472	172	316	220	4
Eisenhower Ave at Cameron Parke Pl				55		63	4	849			480	28
Eisenhower Ave at Bluestone Rd				45		11	15	889			497	22
Eisenhower Ave at Mill Road	15	11	62	30	5	67	252	636	44	50	437	174
Eisenhower Ave at Swamp Fox Road	35		26	26	0	48	58	979			616	35
Duke St at Reynolds St	130	19	108	9	19	32	42	1,300	173	183	929	25
Duke St at Paxton St	32	5	11	83	7	125	110	1,293	15	40	980	120
Duke St at S Pickett St	297		528					1,008	378	603	843	
Duke St at Cameron Stn Blvd/N Pickett St	71	29	26	110	89	69	104	1,353	80	51	1,305	81
Duke St at Ripley St				88		76	121	1,428			1,003	88
Duke St at Shops @ Fox Chase	157	54	236	176	51	145	148	935	442	103	1,231	102
Duke St at Jordan St	65	44	42	272	60	312	190	1,119	43	32	1,059	240
Duke St at Ingram St	127	4	78	53	6	125	92	1,247	91	78	1,075	75
Duke St at S Gordon St	67	0	14	6	1	3	2	1,336	26	15	1,194	2
Duke St at Early St	105	10	63	101	11	135	99	1,160	101	79	972	73
Duke St at Wheeler Ave	45	1	135	0	1	2	5	1,281	37	114	1,082	12
Duke St at N Quaker Ln				587		120	179	1,240			1,089	633
Duke St at S Quaker Ln	96		22					1,661	167	21	1,623	0
Duke St at Sweeley St	44	20	201	162	22	46	52	1,757	52	133	1,834	243
Duke St at Roth St	3	2	178	309	1	63	41	2,074	3	56	2,148	167
Duke St at Taylor Run Pkwy				470	232	29	36	2,563	1,288		2,373	239
Duke St at Dove St	45	6	17	19	1	18		2,123	44		2,782	35
Duke St at Alexandria Commons	48	20	91	205	19	47	99	1,566	19	127	1,548	251
Edsall Rd at Yoakum Pkwy	10	10	40	81	34	170	151	550	26	64	453	142
Edsall Rd at Whiting St	3	8	19	123	6	86	74	587	4	32	569	148
Van Dorn St at Courtney Ave	0	1,901	0	2	2,285	0	1	0	0	5	0	2
Edsall Rd at Winterview Dr	151	4	26	19	3	11	20	688	125	22	586	27
Eisenhower Ave at Mill Race Ln	0	0	0	5	0	59	43	987	0	6	591	13
Eisenhower Ave at Mill Road	87	42	67	41	174	90	74	697	222	263	433	67
Eisenhower Ave at Elizabeth Ln	61	5	3	29	0	220	55	747	3	4	482	21
Duke St at Somerville St			86			21		1,443	27		1,413	120
Van Dorn St at Oakwood Rd	30	1,736	1	28	2,633	227	100	0	10	4	0	25
Eisenhower Ave at Stovall St/Ramp	71	20	303	114	2	63	113	614	1	3	579	117
Eisenhower Ave at John Carlyle St				4		218	131	649			289	2
Van Dorn St at N Gordon St				22		19	36	1,342			1,208	57
S Pickett St at Edsall Rd	60	90	24	442	63	59	47	367	125	20	473	481
S Pickett St at Home Depot	123		97					726	110	127	854	
I-495 NB Off-Ramp to Eisenhower Conn				242			277					

Table 3.11 – VISSIM Calibration: Actual vs. Simulated Existing Throughput (PM Peak Hour)

Volume (vph)	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Duke St at Witter St	4		2					-4	2	-4	-20	
Van Dorn St at Holmes Run Pkwy	1	17	1	2	-6	0	0	0	-2	0	1	66
Van Dorn St at Duke St WB Ramp	6	22			8		-4		1	2	1	6
Van Dorn St at Duke St EB Ramp	2	-38	-1	3	-19	-1	60	37	-88	1	-1	-1
Van Dorn St at Stevenson Ave	8	-31	3	-1	-91	-18	6	-1	8	14	10	-20
Van Dorn St at Van Dorn Plaza	-9	-37			-68	-4	7		-2			
Van Dorn St at Edsall Rd	-20	-51	-11	-55	-37	28	-3	1	-12	-8	5	1
Van Dorn St at S Pickett St	-4	-90	-30	-1	-61	1	3	-3	1	-2	0	-1
Van Dorn St at I-495 Ramps	-2	4			-20	-10	11		-20			
Van Dorn St at Eisenhower Ave	-4	-164	-34	-2	-50	-1	17	-33	22	1	-1	18
Eisenhower Ave at Metro Rd				3		-7	-10	-58			9	-3
Eisenhower Ave at Metro Bus Loop Rd	-1		-1	0		0	0	-51	-3	-1	7	0
Eisenhower Ave at Clermont Dr	-10	1	-7	-1	1	0	0	-35	-14	17	17	0
Eisenhower Ave at Cameron Parke Pl				0		-1	1	-45			32	3
Eisenhower Ave at Bluestone Rd				-1		0	-1	-44			36	2
Eisenhower Ave at Mill Road	-1	-1	-2	-2	0	-1	-20	-18	-5	2	39	13
Eisenhower Ave at Swamp Fox Road	-1		-8	1	0	-2	1	-29			12	0
Duke St at Reynolds St	3	-2	-3	1	-1	0	-1	-4	3	-3	-14	-2
Duke St at Paxton St	0	0	0	-1	1	3	0	-7	0	-4	-21	-6
Duke St at S Pickett St	-18		-21					-7	0	-12	-13	
Duke St at Cameron Stn Blvd/N Pickett St	-3	1	-1	1	0	-4	-4	-25	0	0	-17	-5
Duke St at Ripley St				-6		-4	1	3			-8	-3
Duke St at Shops @ Fox Chase	-7	-4	14	-1	-1	6	-8	-14	3	-3	-25	-2
Duke St at Jordan St	-2	-1	-2	1	-2	-4	-20	-4	18	-2	-24	-11
Duke St at Ingram St	-2	1	-3	-3	-1	0	-1	0	-1	-3	-31	1
Duke St at S Gordon St	1	0	1	1	0	-1	0	-2	-3	0	-38	0
Duke St at Early St	-5	0	-8	-1	-1	-10	1	-4	-1	-1	-24	2
Duke St at Wheeler Ave	-7	0	-6	6	0	0	0	-14	2	-1	-21	1
Duke St at N Quaker Ln				-2		-1	-6	-11			-21	1
Duke St at S Quaker Ln	-4		1					-7	-7	0	-13	
Duke St at Sweeley St	1	0	-1	4	-2	-1	-2	-10	-2	-8	-8	7
Duke St at Roth St	0	0	3	-6	0	1	-3	-2	-1	-1	-13	-1
Duke St at Taylor Run Pkwy				-1		-2	-1	2			-28	2
Duke St at Dove St	-5	-1	1	-3	0	-1		2	1		-21	-1
Duke St at Alexandria Commons	-3	0	-1	-5	1	-2	1	-9	1	-2	-7	-1
Edsall Rd at Yoakum Pkwy	-1	0	10	1	2	5	10	95	-1	1	7	0
Edsall Rd at Whiting St	0	2	1	2	-1	4	0	-20	0	-13	6	-19
Van Dorn St at Courtney Ave	0	-128	0	0	-60	2	-1	0	1	0	0	0
Edsall Rd at Winterview Dr	5	1	1	-2	0	0	-1	-18	-1	0	10	0
Eisenhower Ave at Mill Race Ln	0	0	0	0	0	0	-4	-31	0	0	13	1
Eisenhower Ave at Mill Road	-4	-1	-1	-4	2	-3	0	-27	-5	6	21	0
Eisenhower Ave at Elizabeth Ln	0	-1	0	-3	0	1	-4	-28	0	2	27	-1
Duke St at Somerville St			0			1		-5	-1		-20	-7
Van Dorn St at Oakwood Rd	-1	-2	1	-6	-40	17	3	0	1	1	0	2
Eisenhower Ave at Stovall St/Ramp	3	1	-7	0	0	-4	-4	-19	1	0	4	6
Eisenhower Ave at John Carlyle St				0		26	-4	-28			2	0
Van Dorn St at N Gordon St				0		0	-1	-5			-33	-6
S Pickett St at Edsall Rd	-2	0	0	-21	-4	-3	-6	-20	-10	-2	-2	-4
S Pickett St at Home Depot	-2		-1					-36	-8	-3	-9	
I-495 NB Off-Ramp to Eisenhower Conn				1			-22					

Table 3.12 – VISSIM Calibration: Actual vs. Simulated Existing Throughput Percentage (PM Peak Hour)

Volume (vph)	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Duke St at Witter St	-9.7%		-2%					0.1%	-5.5%	6.9%	0.8%	
Van Dorn St at Holmes Run Pkwy	-8.9%	-2.3%	-1.9%	-0.6%	0.5%	5.7%	-13.3%	0.0%	17.5%	1.3%	-60.0%	-24.5%
Van Dorn St at Duke St WB Ramp	-6.6%	-3.5%			-0.6%		6.4%		-1.2%	-4.3%	-1.2%	-6.6%
Van Dorn St at Duke St EB Ramp	-3.8%	3.8%	10.0%	-7.4%	1.6%	0.6%	-52.7%	-100.0%	29.9%	-30.0%	0.0%	9.3%
Van Dorn St at Stevenson Ave	-3.9%	3.3%	-4.4%	10.0%	7.6%	7.0%	-6.1%	2.1%	-3.7%	-41.2%	-24.0%	102.6%
Van Dorn St at Van Dorn Plaza	5.1%	3.2%			4.9%	4.7%	-9.3%		1.5%			
Van Dorn St at Edsall Rd	5.8%	5.2%	10.9%	41.7%	3.1%	-16.2%	2.2%	-0.4%	3.7%	4.8%	-2.0%	-0.5%
Van Dorn St at S Pickett St	4.8%	6.9%	7.7%	1.7%	3.8%	-4.2%	-4.1%	5.3%	-0.4%	0.4%	0.1%	2.0%
Van Dorn St at I-495 Ramps	0.6%	-0.3%			1.3%	2.1%	-2.8%		1.5%			
Van Dorn St at Eisenhower Ave	38.0%	13.2%	14.8%	0.6%	2.8%	5.5%	-59.0%	271.7%	-45.6%	-0.4%	6.9%	-3.3%
Eisenhower Ave at Metro Rd				-2.1%		3.0%	16.7%	12.7%			-1.6%	7.9%
Eisenhower Ave at Metro Bus Loop Rd	4.1%		8.3%	0.0%		-10.0%	0.0%	8.6%	12.7%	18.0%	-1.2%	0.0%
Eisenhower Ave at Clermont Dr	3.1%	-16.7%	2.0%	65.0%	-6.0%	10.0%	0.0%	7.9%	8.7%	-5.1%	-7.3%	0.0%
Eisenhower Ave at Cameron Parke Pl				0.2%		1.6%	-12.5%	5.6%			-6.3%	-11.0%
Eisenhower Ave at Bluestone Rd				2.3%		-3.6%	5.0%	5.2%			-6.7%	-8.3%
Eisenhower Ave at Mill Road	6.4%	8.0%	4.0%	7.9%	4.0%	2.0%	8.4%	3.0%	11.8%	-4.6%	-8.2%	-6.8%
Eisenhower Ave at Swamp Fox Road	1.8%		46.1%	-3.7%	0.0%	4.6%	-2.0%	3.0%			-1.9%	0.0%
Duke St at Reynolds St	-2.2%	11.2%	2.5%	-6.0%	6.7%	-0.3%	2.0%	0.3%	-1.5%	1.7%	1.6%	6.5%
Duke St at Paxton St	0.9%	-2.0%	-0.9%	1.6%	-17.5%	-2.0%	-0.1%	0.5%	2.0%	11.9%	2.2%	5.3%
Duke St at S Pickett St	6.3%		4.1%					0.7%	0.0%	2.0%	1.6%	
Duke St at Cameron Stn Blvd/N Pickett St	4.0%	-2.3%	2.0%	-1.0%	-0.3%	6.0%	3.8%	1.9%	-0.3%	-0.2%	1.3%	6.1%
Duke St at Ripley St				7.3%		5.7%	-0.7%	-0.2%			0.8%	3.4%
Duke St at Shops @Fox Chase	4.8%	7.0%	-5.6%	0.7%	1.4%	-3.7%	5.4%	1.5%	-0.8%	3.3%	2.1%	1.6%
Duke St at Jordan St	3.5%	1.4%	4.0%	-0.3%	4.0%	1.2%	11.5%	0.4%	-30.2%	8.0%	2.3%	4.6%
Duke St at Ingram St	1.4%	-14.0%	4.3%	6.4%	26.0%	-0.1%	1.1%	0.0%	1.4%	3.9%	3.0%	-0.7%
Duke St at S Gordon St	-0.9%	0.0%	-8.0%	-10.0%	0.0%	55.0%	0.0%	0.1%	13.5%	-2.0%	3.3%	-5.0%
Duke St at Early St	4.6%	3.0%	14.7%	1.1%	7.0%	7.7%	-0.8%	0.4%	0.9%	1.5%	2.6%	-2.4%
Duke St at Wheeler Ave	17.6%	20.0%	4.7%	-100.0%	30.0%	5.0%	8.0%	1.1%	-4.4%	0.4%	2.0%	-8.5%
Duke St at N Quaker Ln				0.3%		0.9%	3.5%	0.9%			1.9%	-0.1%
Duke St at S Quaker Ln	4.5%		-4.8%					0.4%	4.3%	1.9%	0.8%	
Duke St at Sweeley St	-1.3%	2.0%	0.6%	-2.1%	7.5%	3.1%	3.4%	0.6%	3.4%	6.6%	0.5%	-2.7%
Duke St at Roth St	10.0%	-5.0%	-1.5%	2.1%	-10.0%	-0.8%	8.2%	0.1%	30.0%	1.5%	0.6%	0.3%
Duke St at Taylor Run Pkwy				0.2%		7.8%	2.0%	-0.1%			1.2%	-0.8%
Duke St at Dove St	11.3%	16.0%	-4.4%	18.1%	-30.0%	4.1%		-0.1%	-2.2%		0.8%	2.1%
Duke St at Alexandria Commons	5.6%	0.0%	1.1%	2.6%	-3.0%	5.3%	-1.2%	0.5%	-3.0%	1.7%	0.4%	0.3%
Edsall Rd at Yoakum Pkwy	15.6%	-1.0%	-19.4%	-1.2%	-4.3%	-2.6%	-5.9%	-14.7%	5.2%	-1.5%	-1.6%	-0.1%
Edsall Rd at Whiting St	10.0%	-19.0%	-3.0%	-1.4%	14.0%	-3.9%	0.0%	3.5%	-5.0%	68.4%	-1.0%	14.3%
Van Dorn St at Courtney Ave	0.0%	7.2%	0.0%	20.0%	2.7%	-100.0%	0.0%	0.0%	-100.0%	8.0%	0.0%	5.0%
Edsall Rd at Winterview Dr	-3.3%	-14.0%	-3.3%	10.0%	3.3%	-0.9%	4.7%	2.6%	0.4%	0.5%	-1.6%	-0.4%
Eisenhower Ave at Mill Race Ln	0.0%	0.0%	0.0%	-6.0%	0.0%	0.3%	10.0%	3.3%	0.0%	3.3%	-2.1%	-9.3%
Eisenhower Ave at Mill Road	4.9%	3.2%	1.2%	10.8%	-0.9%	3.8%	-0.5%	4.0%	2.4%	-2.1%	-4.7%	-0.1%
Eisenhower Ave at Elizabeth Ln	-0.3%	15.0%	6.7%	13.1%	0.0%	-0.2%	8.0%	3.9%	13.3%	-26.7%	-5.2%	5.5%
Duke St at Somerville St			0.3%			-5.9%		0.4%	5.0%		1.4%	6.5%
Van Dorn St at Oakwood Rd	1.7%	0.1%	-50.0%	27.3%	1.5%	-7.0%	-2.5%	0.0%	-8.2%	-12.0%	0.0%	-6.7%
Eisenhower Ave at Stovall St/Ramp	-4.1%	-4.8%	2.2%	0.2%	10.0%	6.9%	4.0%	3.2%	-50.0%	3.3%	-0.7%	-4.5%
Eisenhower Ave at John Carlyle St				10.0%		-10.5%	3.2%	4.5%			-0.7%	0.0%
Van Dorn St at N Gordon St				-0.9%		-1.1%	3.1%	0.4%			2.8%	12.4%
S Pickett St at Edsall Rd	3.8%	0.4%	0.8%	4.9%	6.8%	4.8%	13.9%	5.8%	8.9%	13.3%	0.4%	0.8%
S Pickett St at Home Depot	1.2%		1.5%					5.2%	8.0%	2.5%	1.0%	
I-495 NB Off-Ramp to Eisenhower Conn				-0.2%			8.7%					

Note: The large percentage differences shown for some movements in this table are due to the actual volumes being relatively low.

Table 3.13 – VISSIM Calibration: Field-Measured Queues (AM Peak Hour)

Queues in Feet	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Van Dorn St at Duke St WB Ramp	24	480	0	0	144	0	48	48	96	0	0	48
Van Dorn St at Duke St EB Ramp	24	168	0	24	72	0	120	0	0	0	0	0
Van Dorn St at Edsall Rd	192	432	336	144	360	360	264	264	288	192	168	72
Van Dorn St at S Pickett St	120	384	384	96	312	264	96	72	72	288	144	0
Van Dorn St at I-495 Ramps	528	528			408	408	360		264			
Van Dorn St at Eisenhower Ave	168	1200	24	480	960	24	120	72	24	216		960
Eisenhower Ave at Metro Rd				168		168	72	216			264	24
Eisenhower Ave at Clermont Dr	264	48	312	0	24	0	24	120	120	72	120	24
Duke St at S Pickett St	240		384					480	72	240	408	
Duke St at Cameron Stn Blvd/N Pickett St	240	96	72	168	72	48	72	600	48	48	480	24
Duke St at Jordan St		192	72	312	240	168	960	384	24	48	312	240
Duke St at Wheeler Ave		72	144		48		0	600	24	264		72
Duke St at N Quaker Ln				504		24	384	264			120	0
Duke St at Taylor Run Pkwy				408		96	48	288	480		552	264
Duke St at Dove St		24			72			504	408		240	24
Eisenhower Ave at Mill Road	48	24		72		48	144	288	48	96	120	120
Eisenhower Ave at Stovall St/Ramp	192	192	576	144		96	72	288			192	216

Key: Blue-shading indicates the queue for a combined shared movement. Green-shading indicates the actual queue exceeded the observed length shown.

Table 3.14 – VISSIM Calibration: Simulated Existing Queues (AM Peak Hour)

Queues in Feet	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Van Dorn St at Duke St WB Ramp	202	202	0	0	143	0	37	0	37	71	71	71
Van Dorn St at Duke St EB Ramp	441	441	386	50	77	0	247	247	124	41	41	41
Van Dorn St at Edsall Rd	1048	1048	1048	353	353	353	319	319	258	401	401	329
Van Dorn St at S Pickett St	459	459	376	321	321	232	186	186	71	302	302	196
Van Dorn St at I-495 Ramps	534	579			296	205	708		708			
Van Dorn St at Eisenhower Ave	1352	1352	1352	645	645	645	228	228	149	933	933	933
Eisenhower Ave at Metro Rd				217		217	112	112			288	138
Eisenhower Ave at Clermont Dr	209	209	100	0	0	0	174	174	53	98	98	0
Duke St at S Pickett St	308		308					154	47	206	206	
Duke St at Cameron Stn Blvd/N Pickett St	328	328	328	207	207	209	71	313	313	241	241	241
Duke St at Jordan St	233	233	156	181	181	100	701	701	701	63	258	194
Duke St at Wheeler Ave	266	266	198	46	46	0	10	860	860	227	266	266
Duke St at N Quaker Ln				460		387	484	484			426	314
Duke St at Taylor Run Pkwy				340		280	114	778	778		553	81
Duke St at Dove St	118	118	118	104	104	104		118	477		104	0
Eisenhower Ave at Mill Road	379	379	325	108	108	53	392	392	392	154	154	44
Eisenhower Ave at Stovall St/Ramp	1543	1543	1543	105	105	31	220	220			133	18

Table 3.15 – VISSIM Calibration: Field-Measured vs. Simulated Existing Queues (AM Peak Hour)

Queues in Feet	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Van Dorn St at Duke St WB Ramp	-178	278	0	0	1	0	11	48	59	-71	-71	-23
Van Dorn St at Duke St EB Ramp	-417	-273	-386	-26	-5	0	-127	-247	-124	-41	-41	-41
Van Dorn St at Edsall Rd	-856	-616	-712	-209	7	7	-55	-55	30	-209	-233	-257
Van Dorn St at S Pickett St	-339	-75	8	-225	-9	32	-90	-114	1	-14	-158	-196
Van Dorn St at I-495 Ramps	-6	-51			112	203	-348		-444			
Van Dorn St at Eisenhower Ave	-1184	-152	-1328	-165	315	-621	-108	-156	-125	-717		27
Eisenhower Ave at Metro Rd				-49		-49	-40	104			-24	-114
Eisenhower Ave at Clermont Dr	55	-161	212	0	24	0	-150	-54	67	-26	22	24
Duke St at S Pickett St	240		384					327	25	34	202	
Duke St at Cameron Stn Blvd/N Pickett St	-88	-232	-256	-39	-135	-161	1	287	-265	-193	239	-217
Duke St at Jordan St		-41	-84	131	59	68	259	-317	-677	-15	54	46
Duke St at Wheeler Ave		-194	144		2		-10	-260	-836	37		-194
Duke St at N Quaker Ln				44		-363	-100	-220			-306	-314
Duke St at Taylor Run Pkwy				68		-184	-66	-490	-298		-1	183
Duke St at Dove St		-94			-32			386	-69		136	24
Eisenhower Ave at Mill Road	-331	-355		-36	-5		-248	-104	-344	-58	-34	76
Eisenhower Ave at Stovall St/Ramp	-1351	-1351	-967	39	65		-148	68			59	198

Key: Blue-shading indicates the queue for a combined shared movement. Green-shading indicates the actual queue exceeded the observed length.

Table 3.16 – VISSIM Calibration: Field-Measured Queues (PM Peak Hour)

Queues in Feet	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Van Dorn St at Duke St WB Ramp	48	192	0	0	288	0	96	120	96	48	0	96
Van Dorn St at Duke St EB Ramp	72	144	0	48	192	0	120	24	0	0	0	0
Van Dorn St at Edsall Rd	288	432	384	312	600	480	312	576	480	168	336	216
Van Dorn St at S Pickett St	144	432	432	144	360	360	192	240	168	240		96
Van Dorn St at I-495 Ramps	528	1008			816	72	432		696			
Van Dorn St at Eisenhower Ave	72	600	48	168	960	0	120	96	48	168		960
Eisenhower Ave at Metro Rd				288		216	48	144			360	0
Eisenhower Ave at Clermont Dr	264	48	96	24	48	48	24	288	96	240	144	144
Duke St at S Pickett St	384		336					528	96	312	360	
Duke St at Cameron Stn Blvd/N Pickett St	96	72	48	192	144	96	240	720	0	120	360	48
Duke St at Jordan St		168	24	96	288	240	336	312	48	48	288	336
Duke St at Wheeler Ave		120	96		24		24	240	24	96		96
Duke St at N Quaker Ln				408		48	120	240			312	144
Duke St at Taylor Run Pkwy				48		696	72	192	648		648	192
Duke St at Dove St		120			144			216	168		432	48
Eisenhower Ave at Mill Road	144	96		360	72		96	480	480	264	216	336
Eisenhower Ave at Stovall St/Ramp	168	48	144	48	72		168	336			360	96

Key: Blue-shading indicates the queue for a combined shared movement. Green-shading indicates the actual queue exceeded the observed length shown.

Table 3.17 – VISSIM Calibration: Simulated Existing Queues (PM Peak Hour)

Queues in Feet	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Van Dorn St at Duke St WB Ramp	282	282	0	0	378	0	116	0	116	100	100	100
Van Dorn St at Duke St EB Ramp	335	335	279	220	244	134	138	138	31	32	32	32
Van Dorn St at Edsall Rd	431	431	431	832	832	832	365	365	304	522	522	450
Van Dorn St at S Pickett St	515	515	433	990	990	901	178	178	63	507	507	402
Van Dorn St at I-495 Ramps	308	322			930	946	345		345			
Van Dorn St at Eisenhower Ave	1082	1082	1082	1030	1030	1030	162	162	82	430	430	430
Eisenhower Ave at Metro Rd				210		210	98	98			193	42
Eisenhower Ave at Clermont Dr	149	199	46	0	0	0	183	183	65	142	142	4
Duke St at S Pickett St	450		450					337	230	488	488	
Duke St at Cameron Stn Blvd/N Pickett St	148	148	148	267	267	269	96	340	340	313	313	313
Duke St at Jordan St	180	180	103	213	213	132	326	326	326	47	326	193
Duke St at Wheeler Ave	187	187	118	38	38	0	19	343	343	219	136	136
Duke St at N Quaker Ln				418		345	197	197			351	250
Duke St at Taylor Run Pkwy				564		496	131	791	791		841	100
Duke St at Dove St	122	122	122	101	101	101		122	235		101	291
Eisenhower Ave at Mill Road	157	157	103	306	306	251	281	281	281	202	202	94
Eisenhower Ave at Stovall St/Ramp	112	112	112	134	134	63	199	199			221	111

Table 3.18 – VISSIM Calibration: Field-Measured vs. Simulated Existing Queues (PM Peak Hour)

Queues in Feet	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Van Dorn St at Duke St WB Ramp	-234	-90	0	0	-90	0	-20	120	-20	-52	-100	-4
Van Dorn St at Duke St EB Ramp	-263	-191	-279	-172	-52	-134	-18	-114	-31	-32	-32	-32
Van Dorn St at Edsall Rd	-143	1	-47	-520	-232	-352	-53	211	176	-354	-186	-234
Van Dorn St at S Pickett St	-371	-83	-1	-846	-630	-541	14	62	105	-267	-411	-402
Van Dorn St at I-495 Ramps	220	686			-114	-874	87		351			
Van Dorn St at Eisenhower Ave	-1010	-482	-1034	-862	-70	-1030	-42	-66	-34	-262		530
Eisenhower Ave at Metro Rd				78		6	-50	46			167	-42
Eisenhower Ave at Clermont Dr	115	-151	50	24	48	48	-159	105	31	98	2	140
Duke St at S Pickett St	-66		-114					191	-134	-176	-128	
Duke St at Cameron Stn Blvd/N Pickett St	-52	-76	-100	-75	-123	-173	144	380	-340	-193	47	-265
Duke St at Jordan St		-12	-79	-117	75	108	10	-14	-278	1	-38	143
Duke St at Wheeler Ave		-67	144		-14		5	-103	-319	-123		-40
Duke St at N Quaker Ln				-10		-297	-77	43			-39	-106
Duke St at Taylor Run Pkwy				-516		200	-59	-599	-143		-193	92
Duke St at Dove St		-2			43			94	-67		331	-243
Eisenhower Ave at Mill Road	-13	-61		54		-179	-185	199	199	62	14	242
Eisenhower Ave at Stovall St/Ramp	56	-64	32	-62		9	-31	137			139	-15

Key: Blue-shading indicates the queue for a combined shared movement. Green-shading indicates the actual queue exceeded the observed length.

Note that some of the differences between the field-measured queue lengths and the VISSIM-simulated queue lengths shown in **Table 3.15** and **Table 3.18** seem relatively high. These were typically cases in which the actual back of queue was not entirely visible in the field due to the excessive length of the queue combined with the site conditions such as vertical and horizontal curvature of the roadway or ramp, which led to obstructed sight lines for the queue observer.

Table 3.19 – VISSIM Calibration: I-495 Measured vs. Simulated Existing Speeds (PM Peak Hour)

Road Name	Direction	From	To	INRIX Link Speed (sec)	Modeled Link Speed (sec)	Difference	Percent Difference
I-495	EB	I-395	Van Dorn St	48.2	51.1	-2.9	-6.0
		Van Dorn St	Eisenhower Conn.	55.0	57.8	-2.8	-5.1
		Eisenhower Conn.	Telegraph Rd	60.5	58.0	2.5	4.1
I-495	WB	Telegraph Rd	Eisenhower Conn.	64.9	61.3	3.6	5.5
		Eisenhower Conn.	Van Dorn St	64.3	63.1	1.2	1.9
		Van Dorn St	I-395	62.5	63.0	-0.5	-0.8

Note: In the absence of travel time data along I-495, INRIX speed data was used to compare speed data with the VISSIM model.

Table 3.20 – VISSIM Calibration: I-495 Measured vs. Simulated Existing Speeds (PM Peak Hour)

Road Name	Direction	From	To	INRIX Link Speed (sec)	Modeled Link Speed (sec)	Difference	Percent Difference
I-495	EB	I-395	Van Dorn St	61.4	55.5	5.9	9.6
		Van Dorn St	Eisenhower Conn.	62.7	57.3	5.4	8.6
		Eisenhower Conn.	Telegraph Rd	54.3	57.7	-3.4	-6.2
I-495	WB	Telegraph Rd	Eisenhower Conn.	60.6	58.5	2.1	3.5
		Eisenhower Conn.	Van Dorn St	59.8	57.6	2.2	3.7
		Van Dorn St	I-395	62.2	55.8	6.4	10.3

Note: In the absence of travel time data along I-495, INRIX speed data was used to compare speed data with the VISSIM model.

3.3 Intersection Peak Hour Performance

The existing intersection AM and PM peak hour performance was measured based on the traffic volumes summarized previously using VISSIM. Analyses were performed along the three main corridors within the study area of Van Dorn Street, Eisenhower Avenue and Duke Street as well as signalized intersections along Edsall Road and South Pickett Street. AM and PM peak period traffic operations were analyzed. The analyses included 11 signalized intersections along Van Dorn Street, 11 signalized intersections along Eisenhower Avenue and 20 signalized intersections along Duke Street. There are 5 signalized intersections along Edsall Road and South Pickett Street, and one (1) signalized intersection at the I-495 Outer Loop ramp and the Eisenhower Avenue Connector. Below is a general summary of the operational analyses along the three main corridors. **Tables 3.21 and 3.22** summarize the overall intersection, approach and individual turning movement levels of service (LOS) for the AM and PM peak hours, respectively, along with the maximum queue length simulated on each approach (regardless of movement). **Tables 3.23 and 3.24** summarize the delay per vehicle associated with the levels of service shown in the previous two tables.

AM Peak Hour

Van Dorn Street:

- Intersection analyses along Van Dorn Street revealed traffic operations to be fairly good during the AM peak period. The results show that the majority of the intersections operate at LOS C or

better with the exception at Eisenhower Avenue, which operated at LOS D with overall delay of 52 sec/veh. The northbound and southbound approaches showed LOS C in both directions while the minor street approaches experience LOS E with 73 sec/veh and LOS F with 86 sec/veh of delay in the eastbound and westbound directions, respectively.

Eisenhower Avenue:

- The results for the analyses on Eisenhower Avenue indicated that most intersections operate at a minimum LOS C during the AM peak, with the exception at Stovall Street which operates at LOS E (delay of 79 sec/veh). A review of the data has indicated that the majority of the delay at this intersection occurs on the northbound approach, which operates at LOS F (delay of 160 sec/veh) due to the high traffic volume.

Duke Street:

- The Duke Street analyses indicated that all intersections currently operate at LOS C or better. It should be noted that the signal system operating along Duke Street is traffic responsive. The analysis results are based on one of several possible signal timing plans that can be called as part of this system.

Edsall Road & South Pickett Street:

- All intersections along Edsall Road and South Pickett Street operate at LOS C or better during the AM peak hour.

PM Peak Hour

Van Dorn Street:

- The PM peak analyses along Van Dorn Street indicate that most intersections operate at LOS C or better. There is one intersection at the I-495 ramps which operates at LOS D with 41 sec/veh of delay, due to the high traffic volumes turning to and from I-495.
- The Van Dorn Street/Eisenhower Avenue intersection operates at LOS C (33 sec/veh) while the eastbound and westbound approaches operate at LOS E (65 sec/veh) and LOS D (46 sec/veh), respectively.

Eisenhower Avenue:

- The results for the analyses on Eisenhower Avenue indicate that all intersections operate at LOS C or better.
- The intersection at John Carlyle Street operates at LOS C (20.2 sec/veh) overall; however, the southbound approach operates at LOS F (85 veh/sec).

Duke Street:

- The analyses on Duke Street shows all intersections are operating at LOS C or better overall.
- There are several intersections which operate at LOS B or better overall but have minor street approaches that operate at LOS E or F.

Edsall Road & South Pickett Street:

- All intersections along Edsall Road and South Pickett Street currently operate at LOS B or better overall during the PM Peak.

Table 3.21 – Existing VISSIM Intersection Levels of Service and Max. Queues (LOS) – AM Peak Hour

Int. No.	Intersections	Intersection Overall	Northbound					Southbound					Eastbound					Westbound				
			L	T	R	Approach	Queue	L	T	R	Approach	Queue	L	T	R	Approach	Queue	L	T	R	Approach	Queue
VAN DORN STREET																						
1	N Van Dorn St at Holmes Run Pkwy	B		A	A	<u>A</u>	675	B	A		<u>A</u>	100	D	D	D	<u>D</u>		E		D	<u>D</u>	250
2	N Van Dorn St at Duke St WB Ramps	A	A	A		<u>A</u>	200		A		<u>A</u>	150	E		A	<u>B</u>	25	E	E	B	<u>C</u>	75
3	S Van Dorn St at Duke St EB Ramps/EOS 21 Apts	A		A	A	<u>A</u>	450	C	A		<u>A</u>	75	D	D				D	D	A	<u>B</u>	50
4	S Van Dorn St at Stevenson Ave	B	E	A	A	<u>B</u>	350	E	B	A	<u>B</u>	175	E	E	E	<u>E</u>	250	D	D	A	<u>D</u>	100
5	S Van Dorn St at Van Dorn Plaza	A	A	A		<u>A</u>	600		A	A	<u>A</u>	175	E		E	<u>E</u>	50					
6	S Van Dorn St at Edsall Rd	C	F	B	B	<u>C</u>	1,050	C	C	C	<u>C</u>	350	D	E	A	<u>D</u>	325	D	E	B	<u>D</u>	400
7	S Van Dorn St at New Main St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040				
8	S Van Dorn St at S Pickett St	B	B	A	A	<u>A</u>	450	C	B	B	<u>B</u>	325	E	F	A	<u>D</u>	175	F	E	C	<u>E</u>	300
9	S Van Dorn St at Courtney Ave	A	A	A	A	<u>A</u>	175	B	A	A	<u>A</u>	200	D	A	A	<u>A</u>	0	E	A	F	<u>E</u>	50
10	S Van Dorn St at Eisenhower Ave	D	E	D	C	<u>D</u>	1,350	F	C	B	<u>D</u>	650	F	F	D	<u>E</u>	225	F	F	F	<u>F</u>	925
11	S Van Dorn St at I-495 Ramps	C	E	B		<u>C</u>	575		C	B	<u>C</u>	300	E		C	<u>D</u>	700					
12	S Van Dorn St at Oakwood Rd	B	F	B	A	<u>B</u>	500	F	A	A	<u>A</u>	150	F	A	E	<u>F</u>	200	F	D	F	<u>F</u>	50
EISENHOWER AVENUE																						
13	Eisenhower Ave at Metro Rd	B						C		C	<u>C</u>	225	A	A		<u>A</u>	100		B	A	<u>B</u>	300
14	Eisenhower Ave at Van Dorn St Metro Bus Loop	A	D		C	<u>D</u>	125	C		C	<u>C</u>	100		A	A	<u>A</u>	100	A	A		<u>A</u>	150
15	Eisenhower Ave at Clermont Dr	B	C	E	A	<u>B</u>	200	A	A	A	<u>A</u>	0	B	B	A	<u>A</u>	175	D	A	A	<u>B</u>	100
16	Eisenhower Ave at Cameron Parke Pl	A						B		A	<u>B</u>	50	A	A		<u>A</u>	75		A	A	<u>A</u>	75
17	Eisenhower Ave at Bluestone Rd	A						C		A	<u>B</u>	50	A	A		<u>A</u>	100		A	A	<u>A</u>	75
18	Eisenhower Ave at Mill Rd W	A	E	D	B	<u>C</u>	75	C	C	A	<u>B</u>	75	A	A	A	<u>A</u>	125	A	A	A	<u>A</u>	100
19	Eisenhower Ave at Stovall St	E	F	F	F	<u>F</u>	1,550	D	D	A	<u>C</u>	100	B	B	A	<u>B</u>	225	F	B	A	<u>A</u>	125
20	Eisenhower Ave at Swamp Fox Road	A	D		A	<u>C</u>	75	F		A	<u>E</u>	75	A	A		<u>A</u>	150		A	A	<u>A</u>	100
21	Eisenhower Ave at Mill Race Ln	A	A	A	E	<u>A</u>	25	D	A	D	<u>D</u>	75	A	A	A	<u>A</u>	75	B	A	A	<u>A</u>	75
22	Eisenhower Ave at Mill Rd E	C	D	D	D	<u>D</u>	375	D	D	A	<u>C</u>	100	B	B	B	<u>B</u>	400	D	C	B	<u>C</u>	150
23	Eisenhower Ave at Elizabeth Ln	A	E	C	A	<u>A</u>	25	F	F	A	<u>E</u>	75	A	A	A	<u>A</u>	100	A	A	A	<u>A</u>	75
24	Eisenhower Ave at John Carlyle St	A						D		E	<u>E</u>	75	A	A		<u>A</u>	100		A	A	<u>A</u>	75
DUKE STREET																						
25	Duke St at New East St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040				
26	Duke St at New Landmark St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040				
27	Duke St at N Ripley St	B						E		E	<u>E</u>	275	E	A		<u>A</u>	175		B	A	<u>B</u>	250
28	Duke St at S Reynolds St	A	E	D	A	<u>D</u>	225	D	D	B	<u>C</u>	100	A	A	A	<u>A</u>	150	A	A	A	<u>A</u>	125
29	Duke St at N Paxton St	A	D	D	B	<u>D</u>	100	E	E	B	<u>C</u>	225	A	A	A	<u>A</u>	100	A	A	A	<u>A</u>	100
30	Duke St at S Pickett St	B	D		B	<u>C</u>	300						A	A	A	<u>A</u>	150	B	A		<u>A</u>	200
31	Duke St at Cameron Stn Blvd/N Pickett	B	D	D	D	<u>D</u>	325	F	F	F	<u>F</u>	200	B	A	A	<u>A</u>	325	B	A	A	<u>A</u>	250
32	Duke St at Somerville St	A			A	<u>A</u>	0			A	<u>A</u>	0		A	A	<u>A</u>	0		A	A	<u>A</u>	0
33	Duke St at Shops@Fox Chase	B	E	E	B	<u>D</u>	150	E	D	A	<u>C</u>	250	B	A	A	<u>A</u>	300	B	B	C	<u>B</u>	325
34	Duke St at Jordan St	C	E	D	A	<u>D</u>	225	D	D	A	<u>D</u>	175	E	B	A	<u>C</u>	700	D	C	B	<u>C</u>	250
35	Duke St at Ingram St	A	E	E	C	<u>D</u>	175	E	D	C	<u>D</u>	150	A	A	A	<u>A</u>	250	C	A	A	<u>A</u>	350
36	Duke St at N Gordon St	A						D		B	<u>D</u>	100	A	A		<u>A</u>	325		A	A	<u>A</u>	150
37	Duke St at S Gordon St	A	E	D	E	<u>E</u>	125	E	D	A	<u>D</u>	50	A	A	A	<u>A</u>	125	B	A	A	<u>A</u>	125
38	Duke St at Early St	A	E	E	A	<u>D</u>	100	E	E	C	<u>D</u>	175	A	A	A	<u>A</u>	100	B	A	A	<u>A</u>	225
39	Duke St at Wheeler Ave	B	E	A	A	<u>E</u>	275	A	D	A	<u>B</u>	50	B	A	B	<u>A</u>	850	B	A	A	<u>A</u>	275
40	Duke St at N Quaker Ln	C						E		D	<u>E</u>	450	C	C		<u>C</u>	475		B	A	<u>A</u>	425
41	Duke St at S Quaker Ln	A	D		C	<u>D</u>	150						A	A	A	<u>A</u>	425	C	A		<u>A</u>	350
42	Duke St at Alexandria Commons	A	E	D	C	<u>D</u>	100	E	E	C	<u>D</u>	100	A	A	A	<u>A</u>	325	C	A	A	<u>A</u>	650
43	Duke St at Sweeley St	A	E	D	C	<u>D</u>	100	D	E	B	<u>D</u>	75	B	A	A	<u>A</u>	525	A	A	A	<u>A</u>	700
44	Duke St at Roth St	B	D	D	E	<u>E</u>	125	D	E	B	<u>D</u>	125	E	A	A	<u>A</u>	725	C	B	B	<u>B</u>	675
45	Duke St at Witter St	A	D		B	<u>C</u>	75						A	A	A	<u>A</u>	400	B	A		<u>A</u>	400
46	Duke St at W Taylor Run Pkwy	B						D	D	B	<u>D</u>	350	F	B	B	<u>B</u>	775		B	A	<u>B</u>	550
47	Duke St at Dove St	A	D	A	D	<u>D</u>	125	E	A	D	<u>E</u>	100		A	B	<u>A</u>	475		A	A	<u>A</u>	100

Table 3.22 (continued) – Existing VISSIM Intersection Levels of Service and Max. Queues (LOS) – AM Peak Hour

Int. No.	Intersections	Intersection Overall	Northbound					Southbound					Eastbound					Westbound				
			L	T	R	Approach	Queue	L	T	R	Approach	Queue	L	T	R	Approach	Queue	L	T	R	Approach	Queue
EDSALL ROAD																						
48	Edsall Rd at Winterview Dr	A	A	A	A	<u>A</u>	75	A	A	A	<u>A</u>	50	B	B	B	<u>B</u>	175	B	A	A	<u>A</u>	125
49	Edsall Rd at Farrington Ave Extended	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040				
50	Edsall Rd at Yoakum Pkwy	A	D	D	D	<u>D</u>	125	D	C	A	<u>B</u>	125	A	A	A	<u>A</u>	125	B	A	A	<u>A</u>	100
51	Edsall Rd at S Whiting St	A	D	C	D	<u>D</u>	50	D	C	D	<u>D</u>	125	A	A	A	<u>A</u>	150	A	A	A	<u>A</u>	175
52	Edsall Rd at New Metro St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040				
SOUTH PICKETT STREET																						
53	Farrington Ave Ext W at S Pickett St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040				
54	Farrington Ave Ext at S Pickett St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040				
55	New High St at S Pickett St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040				
56	S Pickett St at Multimodal Bridge	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040				
57	S Pickett St at Edsall Rd	B	B	B	A	<u>B</u>	125	B	B	A	<u>B</u>	175	B	B	A	<u>B</u>	125	B	B	A	<u>A</u>	150
58	S Pickett St at Trade Center Shopping	A	C		A	<u>B</u>	75						A	A	<u>A</u>	150	A	A		<u>A</u>	75	
NEW HIGH STREET (PROPOSED)																						
59	New Landmark St at New High St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040				
60	New High St at Stevenson Ave	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040				
61	New High St at Van Dorn Plaza	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040				
62	New High St at New Main St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040				
MISCELLANEOUS INTERSECTIONS																						
63	New Landmark St at New East St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040				
64	New Metro St at New Main St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040				
65	Farrington Ave at Farrington Ave Extended	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040				
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	A						B			<u>B</u>	125	A			<u>A</u>	125					

Table 3.23 – Existing VISSIM Intersection Levels of Service and Max. Queues (LOS) – PM Peak Hour

Int. No.	Intersections	Intersection Overall	Northbound					Southbound					Eastbound					Westbound					
			L	T	R	Approach	Queue	L	T	R	Approach	Queue	L	T	R	Approach	Queue	L	T	R	Approach	Queue	
VAN DORN STREET																							
1	N Van Dorn St at Holmes Run Pkwy	A		A	A	A	250	A	A		A	175						A	B		100		
2	N Van Dorn St at Duke St WB Ramps	B	D	A		B	275		B		B	375	D			A	C	125	D	D	A	C	100
3	S Van Dorn St at Duke St EB Ramps/EOS 21 Apts	A	E	A	A	A	325	A	A		A	250	D						D		A	A	25
4	S Van Dorn St at Stevenson Ave	C	E	A	A	B	350	E	B	A	B	575	D	E	E	D			C	C	A	C	75
5	S Van Dorn St at Van Dorn Plaza	B	C	A		B	400		A	A	A	175	E			F	E						
6	S Van Dorn St at Edsall Rd	C	F	B	B	C	425	C	D	D	D	825	D	E	B	C			D	E	A	D	525
7	S Van Dorn St at New Main St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					
8	S Van Dorn St at S Pickett St	C	D	B	B	B	525	C	C	C	C	1,000	E	E	B	D			F	D	D	F	500
9	S Van Dorn St at Courtney Ave	A	A	B	A	B	750	B	A	A	A	150	D	A	A	A			F	A	F	F	50
10	S Van Dorn St at Eisenhower Ave	C	F	C	C	C	1,075	F	C	B	C	1,025	F	E	C	E			E	E	D	D	425
11	S Van Dorn St at I-495 Ramps	D	F	B		C	325		D	B	D	950	D		B	C							
12	S Van Dorn St at Oakwood Rd	B	E	B	A	B	300	E	A	A	A	325	E	A	E	E			F	A	E	E	50
EISENHOWER AVENUE																							
13	Eisenhower Ave at Metro Rd	A						C		B	B	200	A	A		A			A	A	A	A	200
14	Eisenhower Ave at Van Dorn St Metro Bus Loop	A	D		D	D	125	A		D	D	50		A	A	A			A	A		A	100
15	Eisenhower Ave at Clermont Dr	B	C	B	A	B	200	A	A	A	A	0	A	B	A	B			C	A	A	B	150
16	Eisenhower Ave at Cameron Parke Pl	A						C		B	B	125	A	A		A				A	A	A	125
17	Eisenhower Ave at Bluestone Rd	A						C		A	C	75	A	A		A				A	A	A	125
18	Eisenhower Ave at Mill Rd W	A	D	D	B	C	125	D	D	A	B	75	A	A	A	A			A	A	A	A	200
19	Eisenhower Ave at Stovall St	B	E	D	A	B	100	D	C	A	D	125	B	B	A	B			F	B	A	B	225
20	Eisenhower Ave at Swamp Fox Road	A	D		A	C	75	F		A	D	75	A	A		A				A	A	A	75
21	Eisenhower Ave at Mill Race Ln	A	A	A	A	A	0	D	A	E	E	100	A	A	A	A			A	A	A	A	75
22	Eisenhower Ave at Mill Rd E	B	D	D	B	C	150	D	D	A	C	300	A	A	A	A			C	B	A	B	200
23	Eisenhower Ave at Elizabeth Ln	A	D	D	C	A	100	D	A	A	B	75	A	A	A	A			A	A	A	A	100
24	Eisenhower Ave at John Carlyle St	C						F		F	F	300	A	A		A				A	A	A	75
DUKE STREET																							
25	Duke St at New East St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					
26	Duke St at New Landmark St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040					
27	Duke St at N Ripley St	B						E		E	E	250	E	A		A				B	B	B	250
28	Duke St at S Reynolds St	A	E	D	A	D	200	D	D	B	C	100	A	A	A	A			B	A	A	A	100
29	Duke St at N Paxton St	A	D	D	A	D	100	E	D	B	D	250	A	A	A	A			A	A	A	A	150
30	Duke St at S Pickett St	C	D		B	C	450								C	C	C			D	A		500
31	Duke St at Cameron Stn Blvd/N Pickett	B	D	D	D	D	150	E	E	E	E	275	C	A	A	A			B	A	A	A	325
32	Duke St at Somerville St	A			A	A	0			A	A	0		A	A	A				A	A	A	0
33	Duke St at Shops@Fox Chase	C	D	D	C	D	300	D	D	A	D	275	C	B	D	C			C	B	B	B	350
34	Duke St at Jordan St	C	E	E	A	D	175	D	D	B	C	225	E	A	A	B			C	C	B	B	325
35	Duke St at Ingram St	B	E	D	D	D	225	D	D	C	C	175	B	A	A	A			A	A	A	A	225
36	Duke St at N Gordon St	A						D		B	D	75	A	A		A				A	A	A	75
37	Duke St at S Gordon St	A	E	A	E	E	125	E	C	A	D	50	A	A	A	A			B	A	A	A	325
38	Duke St at Early St	C	E	E	A	D	150	F	F	E	F	400	B	B	B	B			B	A	A	A	225
39	Duke St at Wheeler Ave	A	E	D	A	B	175	A	D	A	C	50	B	B	B	B			D	A	A	A	225
40	Duke St at N Quaker Ln	B						E		D	D	425	B	A		A				B	A	A	350
41	Duke St at S Quaker Ln	A	E		D	D	175								B	A	B			B	A		325
42	Duke St at Alexandria Commons	B	D	D	C	C	175	E	E	E	E	275	A	A	A	A			B	A	A	A	400
43	Duke St at Sweeley St	B	E	D	D	D	250	D	D	B	D	225	C	A	A	A			A	A	B	A	600
44	Duke St at Roth St	C	D	C	D	D	250	E	C	C	D	425	E	A	A	A			D	C	C	C	750
45	Duke St at Witter St	B	D		C	D	175								A	B	A			C	B		625
46	Duke St at W Taylor Run Pkwy	C						D	D	B	D	575	F	B	C	C				C	B	C	850
47	Duke St at Dove St	A	C	C	C	C	125	D	C	D	D	100		A	A	A				A	A	A	300

Table 3.24 (continued) – Existing VISSIM Intersection Levels of Service and Max. Queues (LOS) – PM Peak Hour

EDSALL ROAD																						
48	Edsall Rd at Winterview Dr	A	A	A	A	<u>A</u>	100	A	A	A	<u>A</u>	25	B	A	B	<u>B</u>	150	B	A	A	<u>A</u>	175
49	Edsall Rd at Farrington Ave Extended	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040									
50	Edsall Rd at Yoakum Pkwy	B	C	D	D	<u>D</u>	100	E	C	A	<u>C</u>	125	D	A	A	<u>B</u>	150	C	B	A	<u>B</u>	225
51	Edsall Rd at S Whiting St	B	C	C	C	<u>C</u>	75	C	C	C	<u>C</u>	150	A	A	A	<u>A</u>	225	A	A	A	<u>A</u>	200
52	Edsall Rd at New Metro St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040									
SOUTH PICKETT STREET																						
53	Farrington Ave Ext W at S Pickett St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040									
54	Farrington Ave Ext at S Pickett St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040									
55	New High St at S Pickett St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040									
56	S Pickett St at Multimodal Bridge	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040									
57	S Pickett St at Edsall Rd	C	C	C	B	<u>C</u>	125	C	B	A	<u>C</u>	400	C	B	A	<u>B</u>	150	C	C	C	<u>C</u>	650
58	S Pickett St at Trade Center Shopping	B	C		A	<u>C</u>	150							B	B	<u>B</u>	250	B	A		<u>A</u>	125
NEW HIGH STREET (PROPOSED)																						
59	New Landmark St at New High St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040									
60	New High St at Stevenson Ave	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040									
61	New High St at Van Dorn Plaza	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040									
62	New High St at New Main St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040									
MISCELLANEOUS INTERSECTIONS																						
63	New Landmark St at New East St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040									
64	New Metro St at New Main St	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040									
65	Farrington Ave at Farrington Ave Extended	Prop.	Proposed for Baseline 2040					Proposed for Baseline 2040					Proposed for Baseline 2040									
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	A						B			<u>B</u>	175	A			<u>A</u>	75					

Table 3.25 – Existing VISSIM Intersection Delay (sec/veh) – AM Peak Hour

Int. No.	Intersections	Intersection Overall	Northbound				Southbound				Eastbound				Westbound			
			L	T	R	Approach	L	T	R	Approach	L	T	R	Approach	L	T	R	Approach
VAN DORN STREET																		
1	N Van Dorn St at Holmes Run Pkwy	14		8	8	8	19	3		5				59		54	54	
2	N Van Dorn St at Duke St WB Ramps	5	4	4		4		3		3	71		3	19	60	60	10	23
3	S Van Dorn St at Duke St EB Ramps/EOS 21 Apts	8		4	4	4	25	4		4				41		9	15	
4	S Van Dorn St at Stevenson Ave	16	73	7	3	11	69	12	1	11	57	57	56	56	49	48	5	37
5	S Van Dorn St at Van Dorn Plaza	9	8	9		9		6	7	6	64		63	63				
6	S Van Dorn St at Edsall Rd	31	98	17	16	26	35	26	27	26	53	59	4	35	52	72	11	53
7	S Van Dorn St at New Main St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
8	S Van Dorn St at S Pickett St	16	13	8	8	8	28	11	11	11	79	130	4	49	84	64	30	78
9	S Van Dorn St at Courtney Ave	3	0	3	2	3	20	2	0	2	46	0	0	0	60	0	81	76
10	S Van Dorn St at Eisenhower Ave	52	71	36	28	36	124	27	14	45	100	108	38	73	82	95	86	86
11	S Van Dorn St at I-495 Ramps	32	64	13		29		26	12	20	66		30	47				
12	S Van Dorn St at Oakwood Rd	14	98	11	8	11	106	4	5	6	80	0	79	80	103	54	90	92
EISENHOWER AVENUE																		
13	Eisenhower Ave at Metro Rd	14					33		21	28	6	5		5		14	1	14
14	Eisenhower Ave at Van Dorn St Metro Bus Loop	4	41		34	40	23		35	33		2	2	2	3	3		3
15	Eisenhower Ave at Clermont Dr	15	26	70	5	17	0	0	4	1	10	11	8	9	51	9	3	15
16	Eisenhower Ave at Cameron Parke Pl	2					18		5	14	2	2		2		2	2	2
17	Eisenhower Ave at Bluestone Rd	2					26		5	16	2	2		2		2	3	2
18	Eisenhower Ave at Mill Rd W	5	62	50	10	32	32	35	6	15	4	4	3	4	3	4	4	4
19	Eisenhower Ave at Stovall St	79	125	130	176	161	52	52	5	25	16	16	4	16	111	12	4	10
20	Eisenhower Ave at Swamp Fox Road	5	55		9	35	156		6	77	5	2		2		4	5	4
21	Eisenhower Ave at Mill Race Ln	4	0	0	74	0	51	0	52	52	4	4	1	4	14	1	1	1
22	Eisenhower Ave at Mill Rd E	25	46	47	44	45	45	37	4	28	13	12	12	12	47	21	16	24
23	Eisenhower Ave at Elizabeth Ln	3	60	27	0	0	125	124	8	62	3	1	1	1	2	3	4	3
24	Eisenhower Ave at John Carlyle St	4					45		76	75	4	1		2		2	5	2
DUKE STREET																		
25	Duke St at New East St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
26	Duke St at New Landmark St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
27	Duke St at N Ripley St	13					56		58	58	61	5		9		12	9	12
28	Duke St at S Reynolds St	8	56	40	8	36	46	43	14	26	7	5	2	5	9	4	3	4
29	Duke St at N Paxton St	5	50	53	13	39	63	56	13	33	6	1	1	1	8	3	3	3
30	Duke St at S Pickett St	10	55		17	30						7	3	7	15	2		5
31	Duke St at Cameron Stn Blvd/N Pickett	18	53	53	49	52	90	132	117	102	13	8	9	8	18	10	10	10
32	Duke St at Somerville St	1			8	8			6	6		1	1	1		0	1	0
33	Duke St at Shops@Fox Chase	14	73	64	11	37	55	53	6	34	11	7	7	7	15	14	22	16
34	Duke St at Jordan St	27	56	54	5	42	54	54	8	39	71	16	9	25	35	24	14	22
35	Duke St at Ingram St	8	55	59	31	46	64	40	27	44	7	3	1	3	21	7	7	7
36	Duke St at N Gordon St	5					53		18	42	8	4		4		4	4	4
37	Duke St at S Gordon St	4	57	45	56	56	55	37	0	54	2	1	0	1	16	4	3	4
38	Duke St at Early St	7	67	56	9	38	68	71	28	49	3	2	3	2	13	7	8	7
39	Duke St at Wheeler Ave	18	61	0	0	61	0	42	9	19	16	0	19	0	16	5	6	7
40	Duke St at N Quaker Ln	25					69		54	66	22	23		23		16	4	10
41	Duke St at S Quaker Ln	7	49		30	44						8	8	8	25	5		5
42	Duke St at Alexandria Commons	6	57	50	23	45	66	61	30	50	1	2	2	2	34	7	7	8
43	Duke St at Sweeley St	7	55	49	22	41	53	57	13	36	18	6	7	7	5	6	6	6
44	Duke St at Roth St	13	53	52	57	57	54	57	18	45	74	7	0	7	27	15	10	15
45	Duke St at Witter St	5	51		18	33						5	5	5	14	4		4
46	Duke St at W Taylor Run Pkwy	17					47	47	11	43	96	11	17	16		15	10	15
47	Duke St at Dove St	8	40	0	38	39	61	0	50	55		9	11	9		2	5	2

Table 3.26 (continued) – Existing VISSIM Intersection Delay (sec/veh) – AM Peak Hour

Int. No.	Intersections	Intersection Overall	Northbound				Southbound				Eastbound				Westbound			
			L	T	R	Approach	L	T	R	Approach	L	T	R	Approach	L	T	R	Approach
EDSALL ROAD																		
48	Edsall Rd at Winterview Dr	10	7	7	8	<u>7</u>	7	6	7	<u>7</u>	12	10	13	<u>11</u>	15	8	7	<u>9</u>
49	Edsall Rd at Farrington Ave Extended	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
50	Edsall Rd at Yoakum Pkwy	9	35	39	39	<u>38</u>	37	34	2	<u>17</u>	8	4	4	<u>5</u>	11	5	1	<u>5</u>
51	Edsall Rd at S Whiting St	9	41	31	38	<u>37</u>	40	30	40	<u>40</u>	6	4	4	<u>4</u>	5	5	6	<u>5</u>
52	Edsall Rd at New Metro St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
SOUTH PICKETT STREET																		
53	Farrington Ave Ext W at S Pickett St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
54	Farrington Ave Ext at S Pickett St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
55	New High St at S Pickett St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
56	S Pickett St at Multimodal Bridge	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
57	S Pickett St at Edsall Rd	11	14	19	9	<u>16</u>	11	10	7	<u>11</u>	15	13	2	<u>11</u>	16	14	3	<u>8</u>
58	S Pickett St at Trade Center Shopping	6	31		6	<u>17</u>					8	9	<u>8</u>	5	2		<u>2</u>	
NEW HIGH STREET (PROPOSED)																		
59	New Landmark St at New High St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
60	New High St at Stevenson Ave	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
61	New High St at Van Dorn Plaza	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
62	New High St at New Main St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
MISCELLANEOUS INTERSECTIONS																		
63	New Landmark St at New East St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
64	New Metro St at New Main St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
65	Farrington Ave at Farrington Ave Extended	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	7					12			<u>12</u>	6			<u>6</u>				

Table 3.27 – Existing VISSIM Intersection Delay (sec/veh) – PM Peak Hour

Int. No.	Intersections	Intersection Overall	Northbound				Southbound				Eastbound				Westbound			
			L	T	R	Approach	L	T	R	Approach	L	T	R	Approach	L	T	R	Approach
VAN DORN STREET																		
1	N Van Dorn St at Holmes Run Pkwy	6		7	6	<u>7</u>	9	3		<u>4</u>					32		10	<u>13</u>
2	N Van Dorn St at Duke St WB Ramps	16	53	7		<u>13</u>		15		<u>15</u>	52		9	<u>24</u>	50	47	5	<u>28</u>
3	S Van Dorn St at Duke St EB Ramps/EOS 21 Apts	6		5	8	<u>8</u>	9	4		<u>4</u>					45		3	<u>7</u>
4	S Van Dorn St at Stevenson Ave	22	62	10	6	<u>18</u>	70	19	10	<u>18</u>	38	57	55	<u>51</u>	34	32	4	<u>20</u>
5	S Van Dorn St at Van Dorn Plaza	14	22	9		<u>11</u>		4	5	<u>4</u>	56		136	<u>108</u>				
6	S Van Dorn St at Edsall Rd	34	81	15	13	<u>31</u>	33	37	39	<u>37</u>	46	56	14	<u>35</u>	43	56	6	<u>36</u>
7	S Van Dorn St at New Main St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
8	S Van Dorn St at S Pickett St	31	45	14	16	<u>16</u>	33	28	26	<u>29</u>	66	76	18	<u>41</u>	94	54	35	<u>84</u>
9	S Van Dorn St at Courtney Ave	6	0	12	0	<u>12</u>	13	1	0	<u>1</u>	50	0	0	<u>0</u>	167	0	377	<u>226</u>
10	S Van Dorn St at Eisenhower Ave	33	94	30	32	<u>30</u>	83	21	12	<u>29</u>	85	78	32	<u>64</u>	61	63	38	<u>46</u>
11	S Van Dorn St at I-495 Ramps	41	87	14		<u>34</u>		51	18	<u>43</u>	44		15	<u>21</u>				
12	S Van Dorn St at Oakwood Rd	12	76	12	3	<u>13</u>	57	7	8	<u>8</u>	68	0	63	<u>68</u>	81	0	76	<u>77</u>
EISENHOWER AVENUE																		
13	Eisenhower Ave at Metro Rd	10					32		11	<u>19</u>	5	5		<u>5</u>		8	1	<u>8</u>
14	Eisenhower Ave at Van Dorn St Metro Bus Loop	4	40		40	<u>40</u>	0		37	<u>37</u>		3	3	<u>3</u>	2	2		<u>2</u>
15	Eisenhower Ave at Clermont Dr	15	23	18	4	<u>13</u>	0	0	4	<u>1</u>	0	18	8	<u>15</u>	25	10	6	<u>19</u>
16	Eisenhower Ave at Cameron Parke Pl	5					28		11	<u>19</u>	4	4		<u>4</u>		3	4	<u>3</u>
17	Eisenhower Ave at Bluestone Rd	4					26		5	<u>22</u>	3	3		<u>3</u>		3	3	<u>3</u>
18	Eisenhower Ave at Mill Rd W	7	46	43	12	<u>22</u>	39	39	5	<u>17</u>	5	5	3	<u>5</u>	5	7	9	<u>7</u>
19	Eisenhower Ave at Stovall St	15	56	43	4	<u>15</u>	51	34	6	<u>35</u>	10	11	4	<u>11</u>	133	11	3	<u>10</u>
20	Eisenhower Ave at Swamp Fox Road	6	53		7	<u>33</u>	113		7	<u>44</u>	7	4		<u>5</u>		2	2	<u>2</u>
21	Eisenhower Ave at Mill Race Ln	5	0	0	0	<u>0</u>	52	0	57	<u>57</u>	6	4	0	<u>4</u>	5	1	2	<u>1</u>
22	Eisenhower Ave at Mill Rd E	16	47	35	14	<u>33</u>	44	46	6	<u>34</u>	8	7	7	<u>7</u>	28	11	9	<u>17</u>
23	Eisenhower Ave at Elizabeth Ln	5	48	48	25	<u>0</u>	50	0	8	<u>13</u>	3	1	1	<u>1</u>	1	2	1	<u>2</u>
24	Eisenhower Ave at John Carlyle St	20					84		85	<u>85</u>	9	7		<u>7</u>		6	7	<u>6</u>
DUKE STREET																		
25	Duke St at New East St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
26	Duke St at New Landmark St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
27	Duke St at N Ripley St	14					58		56	<u>57</u>	60	5		<u>10</u>		13	11	<u>13</u>
28	Duke St at S Reynolds St	8	56	51	8	<u>35</u>	48	48	16	<u>31</u>	8	6	3	<u>5</u>	11	2	2	<u>3</u>
29	Duke St at N Paxton St	6	53	42	10	<u>42</u>	65	50	17	<u>37</u>	7	2	1	<u>2</u>	10	4	3	<u>5</u>
30	Duke St at S Pickett St	24	50		16	<u>28</u>						22	26	<u>23</u>	50	3		<u>22</u>
31	Duke St at Cameron Stn Blvd/N Pickett	16	54	49	51	<u>52</u>	74	72	78	<u>75</u>	25	6	8	<u>8</u>	18	10	6	<u>10</u>
32	Duke St at Somerville St	1			9	<u>9</u>			7	<u>7</u>		1	2	<u>1</u>		1	2	<u>1</u>
33	Duke St at Shops@Fox Chase	23	52	49	24	<u>37</u>	54	52	9	<u>36</u>	22	20	42	<u>26</u>	25	11	14	<u>12</u>
34	Duke St at Jordan St	21	63	62	5	<u>47</u>	51	52	13	<u>32</u>	70	6	9	<u>15</u>	25	20	11	<u>19</u>
35	Duke St at Ingram St	11	57	53	42	<u>51</u>	49	39	24	<u>32</u>	15	8	6	<u>8</u>	9	3	3	<u>4</u>
36	Duke St at N Gordon St	3					54		15	<u>36</u>	10	2		<u>2</u>		2	3	<u>2</u>
37	Duke St at S Gordon St	6	59	0	56	<u>58</u>	63	27	7	<u>43</u>	5	1	1	<u>1</u>	18	9	5	<u>9</u>
38	Duke St at Early St	21	70	62	8	<u>47</u>	105	106	73	<u>87</u>	20	16	16	<u>16</u>	15	6	7	<u>7</u>
39	Duke St at Wheeler Ave	10	62	50	5	<u>19</u>	0	51	5	<u>22</u>	12	10	11	<u>10</u>	54	2	2	<u>7</u>
40	Duke St at N Quaker Ln	15					55		40	<u>52</u>	15	4		<u>6</u>		11	2	<u>8</u>
41	Duke St at S Quaker Ln	10	57		39	<u>54</u>						12	8	<u>12</u>	20	4		<u>4</u>
42	Duke St at Alexandria Commons	13	45	41	26	<u>33</u>	77	73	67	<u>75</u>	5	6	5	<u>6</u>	19	7	8	<u>8</u>
43	Duke St at Sweeley St	11	55	52	36	<u>41</u>	53	53	11	<u>45</u>	33	5	5	<u>5</u>	7	9	10	<u>9</u>
44	Duke St at Roth St	22	43	26	50	<u>49</u>	59	27	31	<u>54</u>	69	7	9	<u>8</u>	41	27	23	<u>27</u>
45	Duke St at Witter St	11	51		34	<u>39</u>						8	10	<u>8</u>	28	13		<u>13</u>
46	Duke St at W Taylor Run Pkwy	25					45	45	12	<u>43</u>	112	16	28	<u>24</u>		23	15	<u>22</u>
47	Duke St at Dove St	8	23	28	27	<u>25</u>	52	22	52	<u>51</u>		5	6	<u>5</u>		8	8	<u>8</u>

Table 3.28 (continued) – Existing VISSIM Intersection Delay (sec/veh) – PM Peak Hour

Int. No.	Intersections	Intersection Overall	Northbound				Southbound				Eastbound				Westbound			
			L	T	R	Approach	L	T	R	Approach	L	T	R	Approach	L	T	R	Approach
EDSALL ROAD																		
48	Edsall Rd at Winterview Dr	10	9	9	8	<u>9</u>	7	6	8	<u>7</u>	12	10	12	<u>10</u>	15	9	8	<u>9</u>
49	Edsall Rd at Farrington Ave Extended	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
50	Edsall Rd at Yoakum Pkwy	17	35	52	47	46	59	33	3	22	53	6	5	16	23	15	3	13
51	Edsall Rd at S Whiting St	10	27	28	30	29	33	32	32	32	8	6	3	6	5	7	8	7
52	Edsall Rd at New Metro St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
SOUTH PICKETT STREET																		
53	Farrington Ave Ext W at S Pickett St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
54	Farrington Ave Ext at S Pickett St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
55	New High St at S Pickett St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
56	S Pickett St at Multimodal Bridge	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
57	S Pickett St at Edsall Rd	23	22	33	15	27	24	12	8	21	24	12	2	11	22	35	28	31
58	S Pickett St at Trade Center Shopping	11	33		7	22						16	18	16	11	4		5
NEW HIGH STREET (PROPOSED)																		
59	New Landmark St at New High St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
60	New High St at Stevenson Ave	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
61	New High St at Van Dorn Plaza	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
62	New High St at New Main St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
MISCELLANEOUS INTERSECTIONS																		
63	New Landmark St at New East St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
64	New Metro St at New Main St	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
65	Farrington Ave at Farrington Ave Extended	Prop.	Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040				Proposed for Baseline 2040			
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	8					11			11	6			6				

Tables 3.29 and 3.30 summarize the VISSIM analysis of the existing traffic operations along I-95/I-495 in the vicinity of the Van Dorn Street and Telegraph Road interchanges during the AM and PM peak hours, respectively. The results of the traffic analyses indicate that the various lane drops, lane additions, merge, diverge and freeway segments along the inner and outer loops of the Capital Beltway in this area all currently operate at LOS D or better. The tables above show the levels of service and densities for each of these segments. Figure 3.3 shows these levels of service and densities where they would occur along I-95/I-495 during the AM and PM peak hours.

Table 3.29 – Existing VISSIM I-95/I-495 Levels of Service (LOS) and Density – AM Peak Hour

Segment	Analysis	Density (veh/mi)	LOS
Upstream of Off-Ramp from OL I-95/495 to Van Dorn Street	Lane Drop	30.0	D
At Van Dorn Street On-Ramp to OL I-95/495	Lane Add	23.8	C
At NB Van Dorn Street On-Ramp to OL I-95/495	Merge	20.3	C
OL I-95/495 Segment East of Van Dorn Street	Freeway	31.5	D
At OL I-95/495 Off-Ramp to Eisenhower Ave Connector	Diverge	25.3	C
At Eisenhower Ave Connector On-Ramp to OL I-95/495	Lane Add	23.9	C
Upstream of Off-Ramp from IL I-495 to Eisenhower Ave Connector	Lane Drop	23.9	C
At Eisenhower Ave Connector On-Ramp to IL I-95/495	Merge	24.3	C
IL I-95/495 Segment West of Eisenhower Ave Connector	Freeway	31.1	D
At IL I-95/495 Off-Ramp to Van Dorn Street	Diverge	31.0	D
At Van Dorn Street On-Ramp to IL I-95/495	Lane Add	24.2	C
IL I-95/495 Segment West of Van Dorn Street	Freeway	20.0	C

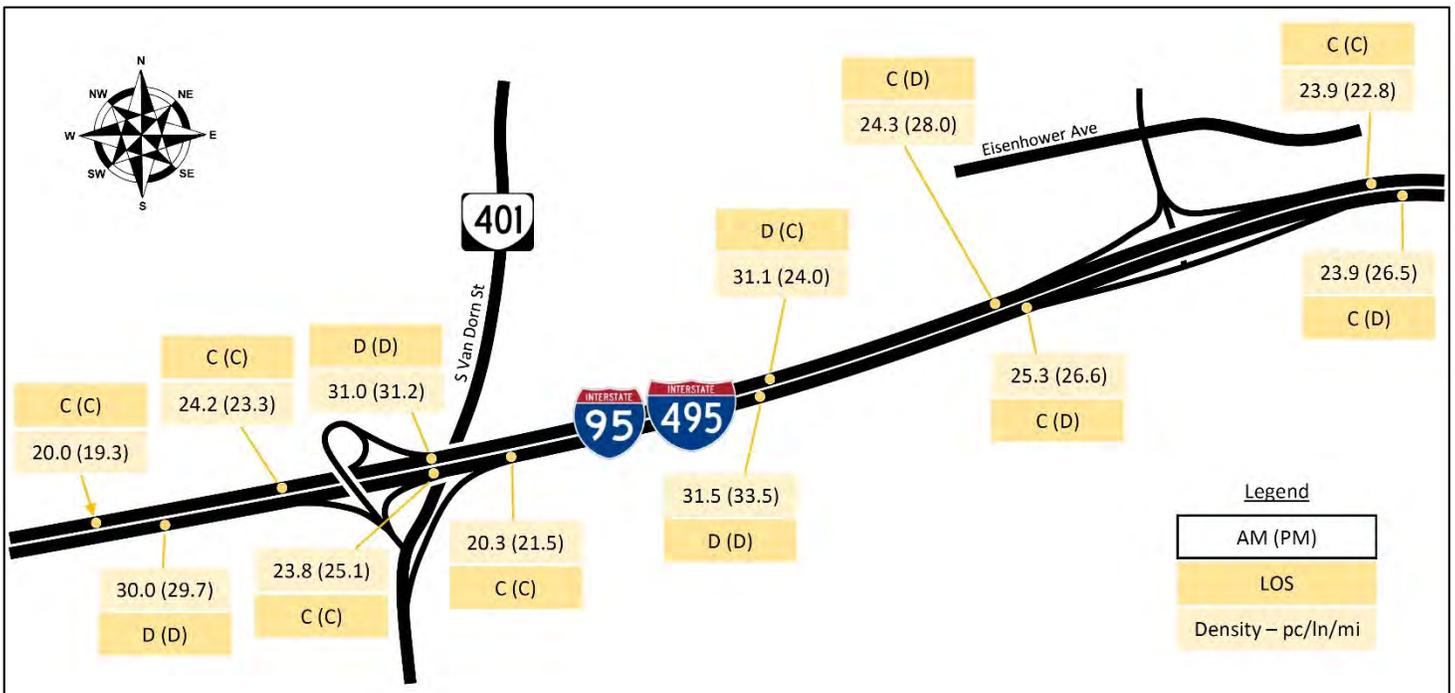
Note: The freeway segment west of Van Dorn St and the segment east of the Eisenhower Avenue Connector each do not reflect the effects of merging and diverging maneuvers at the I-395 interchange and Telegraph Road interchange, respectively.

Table 3.30 – Existing VISSIM I-95/I-495 Levels of Service (LOS) and Density – PM Peak Hour

Segment	Analysis	Density (veh/mi)	LOS
Upstream of Off-Ramp from OL I-95/495 to Van Dorn Street	Lane Drop	29.7	D
At Van Dorn Street On-Ramp to OL I-95/495	Lane Add	25.1	C
At NB Van Dorn Street On-Ramp to OL I-95/495	Merge	21.5	C
OL I-95/495 Segment East of Van Dorn Street	Freeway	33.5	D
At OL I-95/495 Off-Ramp to Eisenhower Ave Connector	Diverge	26.6	D
At Eisenhower Ave Connector On-Ramp to OL I-95/495	Lane Add	26.5	D
Upstream of Off-Ramp from IL I-495 to Eisenhower Ave Connector	Lane Drop	22.8	C
At Eisenhower Ave Connector On-Ramp to IL I-95/495	Merge	28.0	D
IL I-95/495 Segment West of Eisenhower Ave Connector	Freeway	24.0	C
At IL I-95/495 Off-Ramp to Van Dorn Street	Diverge	31.2	D
At Van Dorn Street On-Ramp to IL I-95/495	Lane Add	23.3	C
IL I-95/495 Segment West of Van Dorn Street	Freeway	19.3	C

Note: The freeway segment west of Van Dorn St and the segment east of the Eisenhower Avenue Connector each do not reflect the effects of merging and diverging maneuvers at the I-395 interchange and Telegraph Road interchange, respectively.

Figure 3.3 – Year 2040 Baseline VISSIM I-95/I-495 Levels of Service (LOS) and Density



3.4 Transit Operations

In this section, the existing operations for the major transit services in the study area are discussed, such as WMATA Metrorail, WMATA Metrobus, Alexandria DASH bus, and Fairfax Connector bus. The transit mode share results from the Washington Metropolitan Council of Governments (COG) regional travel demand model for Year 2015 conditions for the study area are also summarized.

Metrorail Operations

According to the May 2014 data provided by WMATA, the daily ridership at the Van Dorn Street Metrorail Station is approximately 3,400 discrete riders, which is equivalent to about 6,800 trips per weekday (i.e., each individual rider enters here once before his/her initial trip, and exits here once after his/her return trip). By comparison, the King Street Metrorail station has approximately 9,300 daily riders, and Eisenhower Avenue Metrorail station has approximately 1,900 daily riders. WMATA conducted a Metrorail Passenger Survey in 2012 to estimate the origin locations of a sample of riders using the Van Dorn Street Metrorail Station. **Figure 3.4** is a map showing the approximate locations of these trip origins, based on trips occurring throughout a single day. The survey results show some expected trends, such as clusters of trip origins in the higher-density residential communities north of the Norfolk Southern railroad tracks (e.g., Cameron Station, Wapleton, Brigadoon, Hillwood, Windsor Arbors, and Watergate at Landmark). However, the results also show a relatively high number of trip origins from south of the Capital Beltway from lower-density neighborhoods along South Van Dorn Street, as far south as the Kingstowne section of Fairfax County.

Table 3.31 summarizes results from the 2012 WMATA Metrorail Passenger Survey that shows the jurisdiction of origin for the daily riders entering the Van Dorn Street station. Based on these results, the

majority of riders entering the Van Dorn Street station come from within the City of Alexandria, followed by Fairfax County. 89% of the riders entering the station come from these two jurisdictions.

Table 3.31 – Jurisdiction of Origin for Daily Riders at Van Dorn Street Station (WMATA, 2012)

Entry Station	Jurisdiction of Residence	Riders, typical weekday, May 2012	Share
Van Dorn Street	City of Alexandria	1,916	53%
Van Dorn Street	Fairfax County	1,303	36%
Van Dorn Street	Prince George's County	102	3%
Van Dorn Street	Elsewhere	82	2%
Van Dorn Street	District of Columbia	77	2%
Van Dorn Street	Montgomery County	70	2%
Van Dorn Street	Other Maryland	28	1%
Van Dorn Street	Arlington County	26	1%
Van Dorn Street	Prince William County	21	1%
Van Dorn Street	Other Virginia	11	0%
All Entries		3,637	100%

Figure 3.5 shows the Peak Hour Mode of Access results from the WMATA 2012 Metrorail Passenger Survey at the Van Dorn Street and Eisenhower Avenue stations, and compares the results for those two stations to the system-wide average percentages. Notable findings from these results include the high percentage of riders who use shuttle services to reach the Van Dorn Street station, and the high percentage of riders who walk to the Eisenhower Avenue station, compared to the system-wide average percentages. During the peak hour, Metrorail riders arriving at the Van Dorn Street station consist of approximately 33% arriving by shuttle, 22% arriving by transit, 18% utilizing park-and-ride, 16% utilizing kiss-and-ride and the remaining 10% arriving by walking or bicycle.

According to WMATA, the Van Dorn Metrorail Station has enough capacity within its existing infrastructure to accommodate more riders through the existing escalators, elevator, fare gates and platform length. Future density in land use surrounding the station would likely be able to be accommodated within the station. However, as of 2014, approximately 70% of daily riders arrive by car (personal, or dropped off), or shuttle. There is little additional room to accommodate more of these types of riders. The existing parking lot at the Van Dorn Station is at capacity. The parking utilization at this station is at 121% (based on counts performed during April and May 2014), implying that there is some turnover during the day as drivers leave a full lot and others fill their spots. There is also limited capacity for additional shuttles. Therefore, the best way to accommodate additional riders to the station would be through conversion of existing vehicular trips to walking, biking and bus. Improving pedestrian and bicycle connectivity from surrounding areas to the station would help to encourage access to the station for these modes. **Figure 3.6** shows the Daily Hour Mode of Access results from the WMATA 2012 Metrorail Passenger Survey at the Van Dorn Street and Eisenhower Avenue stations, and compares the results for those two stations to the system-wide average percentages.

Figure 3.4 – Origin of Riders at Van Dorn Street Station (WMATA, 2012)

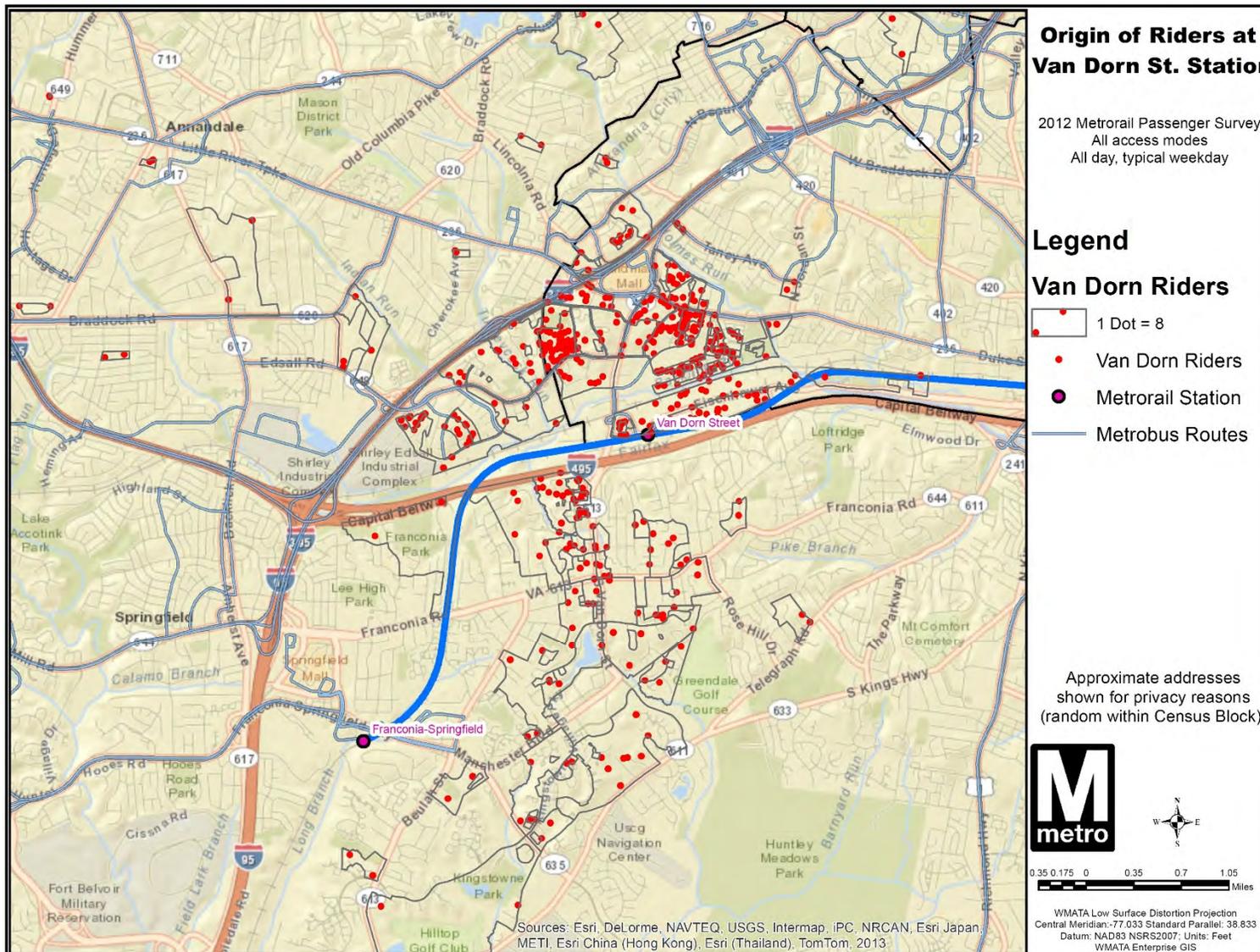


Figure 3.5 – Peak Hour Mode of Access (WMATA, 2012)

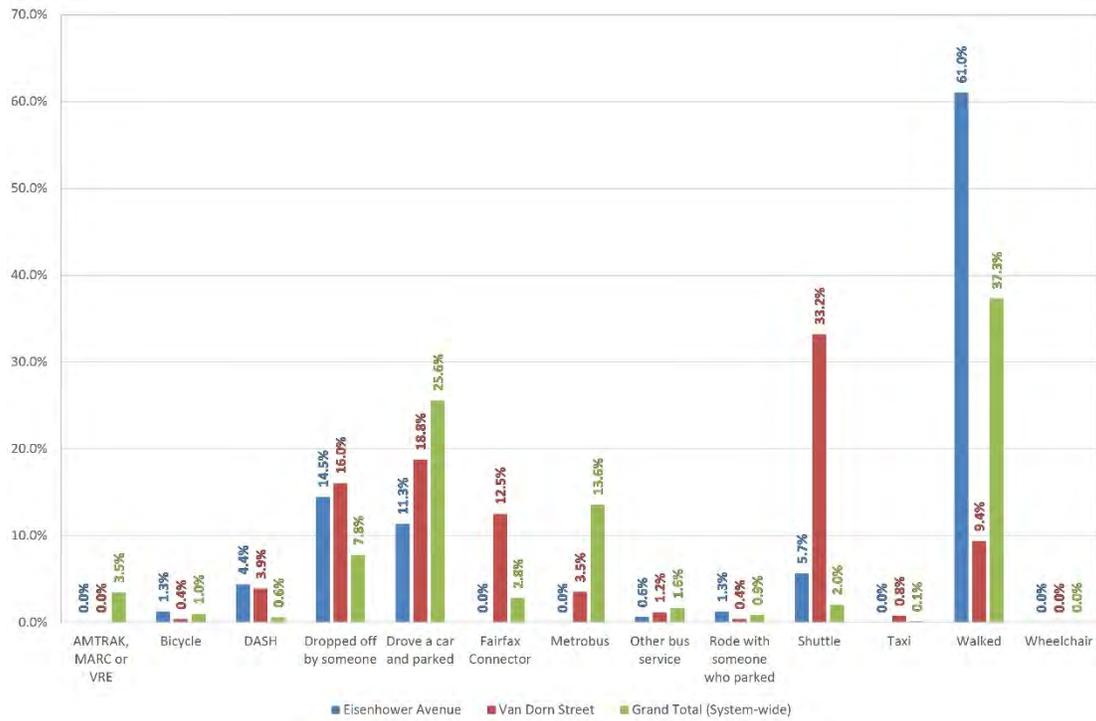
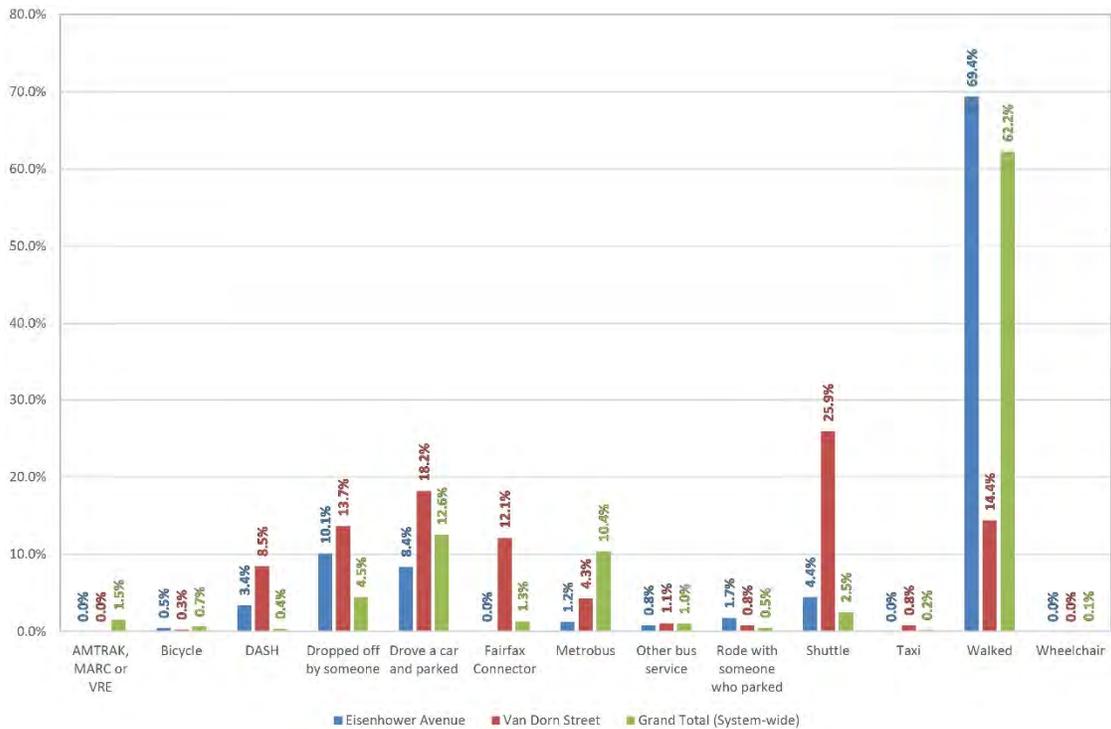


Figure 3.6 – Daily Mode of Access (WMATA, 2012)



Metrobus

There are four (4) Metrobus routes serving the Eisenhower West Transportation Study area: Routes 25B, 29N, 29K, and the REX (Richmond Highway Express). The following is a summary of the current weekday and weekend operations on these bus routes.

Route 25B – Landmark-Ballston Line:

- Serves Van Dorn Metrorail Station within the study area
- On weekdays, buses on this route have 20 to 40 minute headways in both the northbound and southbound directions during the AM peak (approximately 6:00 AM – 9:00 AM) and PM peak (approximately 3:00 PM – 7:30 PM) periods.
- During the weekday off-peak periods (approximately 9:00 AM – 3:00 PM, and from 7:30 PM until the end of the service), buses run on 60 minute headways
- On Saturdays, buses on this route have 60 minute headways during the entire service period from 6:00 AM to 9:00 PM
- There is no Sunday bus service on this route.

Routes 29N & 29K – Alexandria-Fairfax Line:

- These bus routes have limited stops within the EWTS study area, with stops along Duke Street at Alexandria Commons Shopping Center, Jordan Street, Cameron Station Boulevard, and N. Paxton Street.
- These routes each follow the same path (along Duke Street) within the study area and do not diverge into separate routes until reaching Fairfax City.
- During weekdays, buses on each route run on 60 minute headways all day, offset by 30 minutes, such that a 29N or 29K bus arrives at each designated stop along Duke Street every 30 minutes.
- On Saturdays, the 29N bus runs on 60 minute headways all day, while the 29K bus runs on 60 minute headways only from 6:00 AM – 9:00 AM and 4:00 PM – 7:00 PM. During the AM and PM periods when both routes are operating, the buses arrive at the designated stops along Duke Street approximately every 30 minutes.
- On Sundays, the 29N bus runs on 60 minute headways all day. There is no 29K bus service on Sunday.

REX – Richmond Highway Express:

- Serves Eisenhower Metrorail Station within the study area
- The REX bus operates on 12 to 15 minute headways on weekdays from 5:45 AM to 9:30 AM and from 4:30 PM – 7:30 PM. During the midday off-peak period, these buses run on 30 minute headways.
- On Saturdays, the REX bus runs on 30 minute headways all day long.
- On Sundays, the REX bus runs on 60 minute headways all day long.

Alexandria DASH

There are four (4) DASH routes serving the Eisenhower West Transportation Study area: Routes AT1, AT5, AT7, and AT8. The following is a summary of the current weekday and weekend operations on these bus routes.

Route AT1 – Eisenhower Metrorail-Van Dorn Metrorail-Seminary Plaza Line:

- Within the study area, this route travels along Eisenhower Avenue, Van Dorn Street, Edsall Road, and Duke Street.
- This route only serves the Eisenhower Avenue Metrorail Station on weekends; on weekdays, the southern terminus of the route is the Van Dorn Street Metrorail Station.
- On weekdays, buses on this route have 30 minute headways all day in both the northbound and southbound directions.
- On Saturdays and Sundays, this route operates on 60 minute headways all day.

Route AT5 – Van Dorn Metrorail-Landmark-Braddock Road Metrorail Line:

- Buses on this route operate on 30 minute headways on weekdays and Saturdays, all day.
- On Sundays, buses on this route run on 60 minute headways all day.

Route AT7 – Old Town-Van Dorn Metrorail-Landmark Line:

- Buses on this route only operate on weekdays.
- These buses operate on 30 minute headways all day.

Route AT8 – Old Town-Landmark-Van Dorn Metrorail Line:

- Some buses along this route only travel between the King Street Metrorail Station and Landmark. When added to the other buses that travel the full length of the route from Old Town to the Van Dorn Street Metrorail Station, the segment of Duke Street served by all AT8 buses has 10 minute headways on weekdays during the AM and PM peak periods (7:00 AM – 9:30 AM and 4:00 PM to 7:30 PM, respectively).
- On weekdays at the Van Dorn Street Metrorail Station, buses run on 20 minute headways during the AM and PM peak periods. During the midday off-peak periods, these buses run on 30 minute headways. During the evening and late evening, the headways increase to 30 minutes and then 60 minutes.
- On Saturdays and Sundays, AT8 buses run on headways of 20 to 40 minutes along Duke Street. At the Van Dorn Street Metrorail Station, buses run on 60 minute headways.

Fairfax Connector

There are five (5) Fairfax Connector bus routes serving the Eisenhower West Transportation Study area: Routes 109, 231/232 (counterclockwise/clockwise pair), and 321/322 (counterclockwise/clockwise pair). The following is a summary of the current weekday and weekend operations on these bus routes.

Route 109 – Rose Hill Line:

- Serves Van Dorn Metrorail Station and Huntington Metrorail Station
- On weekdays, the buses on this route run on 30 minute headways during the AM and PM peak periods (approximately 6:00 AM – 12:00 PM and 2:00 PM – 8:00 PM). Outside of these times, the headways vary from 40 minutes to one hour.
- On Saturdays, the buses run on 60 minute headways all day.
- There is no Sunday service on this bus route.

Route 231/232 – Kingstowne Line:

- Serves Van Dorn Metrorail Station and Franconia-Springfield Metrorail Station
- On weekdays, buses on this line run on 30 minute headways, except after approximately 8:00 PM, when the remaining buses operate on 60 minute headways until service ends
- There is no Saturday or Sunday service along this bus route.

Route 321/322 – Greater Springfield Circulator:

- Serves Van Dorn Metrorail Station and Franconia-Springfield Metrorail Station
- On weekdays, buses on this route run on 30 minute headways during the AM peak (approximately 4:30 AM – 9:30 AM) and PM peak (approximately 1:30 PM – 7:00 PM) periods.
- Outside of these times on weekdays, the buses run on 60 minute headways.
- On Saturdays and Sundays, the buses on this route operate on 60 minute headways.

Shuttle Vans

As mentioned earlier in this report, a relatively high number of riders entering the Van Dorn Street Metrorail station use shuttle vans to reach the station. The following is a list of the shuttles recently observed serving the Van Dorn Street station, as well as those serving the nearby Eisenhower Avenue and King Street Metrorail stations, along with the times during the day the shuttle services are provided:

Shuttles that serve the Van Dorn Metrorail Station:

- Cameron Station – AM & PM peak
- EOS 21 – AM & PM peak
- Washington Suites – All day
- Landmark Honda – All day
- BMW of Alexandria – All day
- Passport Automotive – All day
- Courtyard/Marriott – All day
- Comfort Inn – All day
- Park Place/Tuscany Apartments – All day
- Sullivan Place Condos/Apartments – All day
- Exchange at Van Dorn Apartments – All day
- Ridgeleigh Community – All day
- Windsor at Arbors Community – All day
- Watergate at Landmark – All day
- Hawthorn Suites – All day
- The Summit Apartments – All day
- Days Inn – All day
- E&M Automotive – All day
- Exxon (S Van Dorn St & Edsall Rd) – All day

Shuttles that serve the King Street Metrorail Station:

- Foxchase Community – AM peak, mid-day, PM peak
- Gaylord National Harbor – All day
- National Harbor General Large – All day
- Alexandria Tech Center – AM & PM peak
- SEC Commuter – AM & PM peak

- Residence Inn/Marriott/Courtyard – All day
- Westin-Carlyle – All day
- Hilton-Mark Center Shuttle – All day
- Holiday Inn-Historic District – All day
- International (not sure where shuttle originates from) – AM & PM peak
- Bishop Ireton – AM & PM peak
- St. Stephens – AM & PM peak
- Lindsay Automotive – AM & PM peak
- ACCESS – AM & PM peak

Shuttle(s) that serve the Eisenhower Avenue Metrorail Station:

- Springhill Suites – All day

A majority of these shuttles originate from locations north of the Norfolk Southern railroad tracks that bisect the study area. This supports the need to increase connectivity for transit vehicles, pedestrians and bicycles between the Van Dorn Street Metrorail Station and the communities in the northern part of the study area.

Mode Share

The Washington Metropolitan Council of Governments (COG) regional travel demand model was used to develop estimated mode share percentages for the Year 2015 scenario for trips produced in and attracted to the various traffic analysis zones (TAZs) that make up the Eisenhower West Transportation Study (EWTS) area. According to the model, 11 percent of the trips produced within the study area and 6 percent of the trips attracted to the study area would be via transit. The U.S. Census American Community Survey (ACS) 2009-2013 5-Year Average Estimates of the percent of workers age 16 or older commuting by public transportation within the EWTS study area was 25 percent. A comparison of the recent ACS transit mode share to the COG model mode share estimates for Year 2015 shows that the COG model significantly underestimates transit mode share in this area. Therefore, the best use of the COG model results is to examine the **percent change** in the modeled transit mode share between Existing Year 2015 conditions, Year 2040 Baseline, and Year 2040 Build scenarios, assuming the existing transit mode share from the ACS data is accurate.

3.5 Railroad Operations

Both the Norfolk Southern and CSX railroad lines also carry intercity railroad passenger rail service operated by AMTRAK and regional commuter rail service operated by Virginia Railway Express (VRE). **Table 3.32** summarizes the current train frequency along the Norfolk Southern tracks for both freight and passenger service. This study focuses primarily on the operations along the Norfolk Southern line, since it is this line which will most likely be crossed by the proposed Multi-modal Bridge connection between Eisenhower Avenue and S. Pickett Street (as mentioned earlier in Section 1).

The trains that most frequently use the Norfolk Southern line are operated by VRE, with 16 trains per day during the weekdays. Only five (5) freight trains use the line each day Monday through Friday, with a maximum of three (3) freight trains on Saturday and Sunday. Three AMTRAK routes use the Norfolk Southern line: The Cardinal, the Northeast Regional, and the Crescent. The highest number of AMTRAK

trains occurs on Wednesday, Friday, and Sunday. Overall, the highest number of trains (freight and passenger combined) occurs on Wednesday and Friday, with a total of 27 trains on each of these two days.

Table 3.32 – Current Frequency of Trains Using the Norfolk Southern Line

LINE	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
AMTRAK							
Cardinal	2	0	0	2	0	2	0
Northeast Regional	2	2	2	2	2	2	2
Crescent	2	2	2	2	2	2	2
Amtrak Total	6	4	4	6	4	6	4
VRE	0	16	16	16	16	16	0
NORFOLK SOUTHERN <i>(Maximum no. of trains)</i>	3	5	5	5	5	5	3
Total All Lines	9	25	25	27	25	27	7

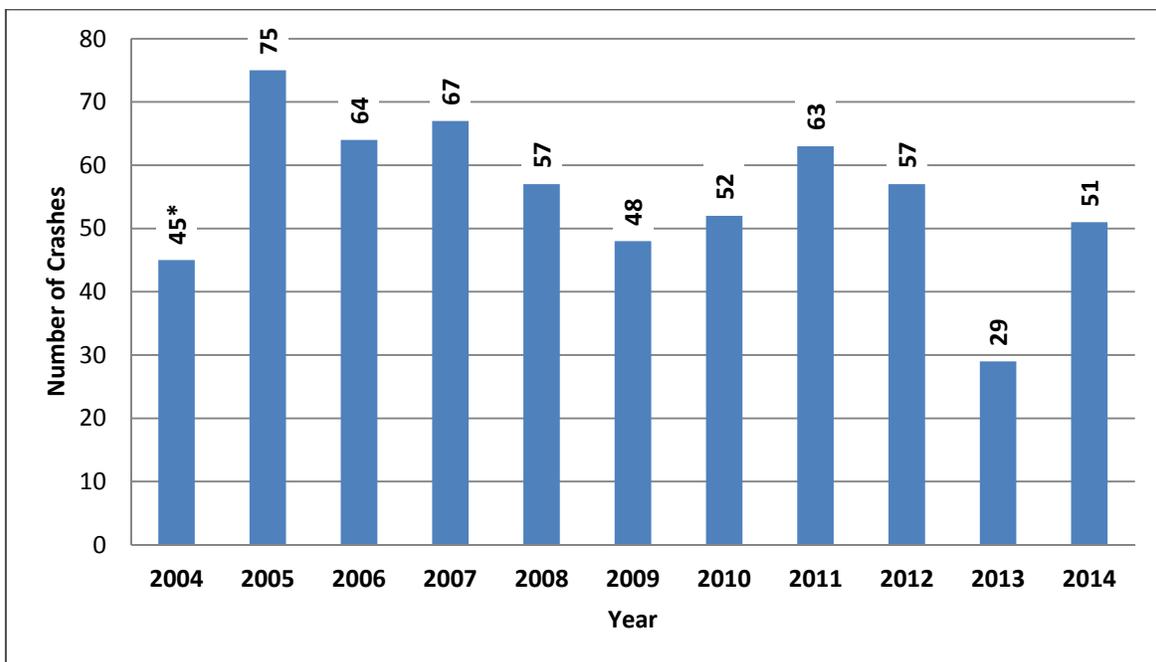
Note: The passenger train totals include both northbound and southbound trains (half are northbound and half are southbound). Norfolk Southern trains are not necessarily bi-directional each day.

4 Recent Crash History

Crash data along Eisenhower Avenue, Duke Street, and Van Dorn Street was provided by the City of Alexandria covering a period from July 2004 through December 2014. The data includes a breakdown of all reported crashes by location, time and date, collision type, crash severity, and environmental conditions such as wet pavement or roadway lighting.

Figures 4.1, 4.2, and 4.3 are charts showing the total number of reported crashes on Eisenhower Avenue, Duke Street, and Van Dorn Street, respectively, within the study area limits. Note that the totals shown for 2004 represent only six (6) months of crash data. To estimate how the 12-month crash total for 2004 would compare to the other years in the charts, it is reasonable to assume the crash total for the entire year would be twice the number of crashes shown for the 6-month period in 2004.

Figure 4.1 – Total Reported Crashes on Eisenhower Avenue, July 2004 – December 2014

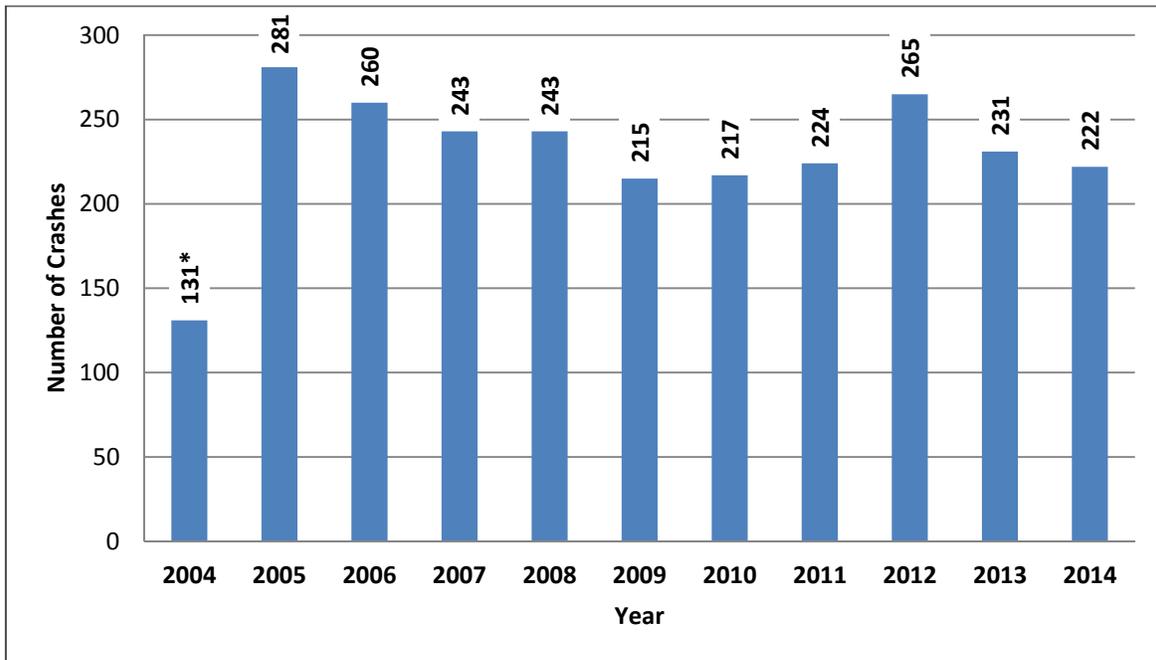


*Totals for 2004 represent only six months of crash data.

According to the data summarized in **Figure 4.1**, the number of crashes reported along Eisenhower Avenue dropped precipitously between 2012 and 2013 (a 49% reduction). However, the total number of crashes reported in 2014 returned to near-2012 levels. Excluding the notable drop in crashes that occurred in 2013, the overall number of crashes reported each year since 2005 has been somewhat steady from year to year.

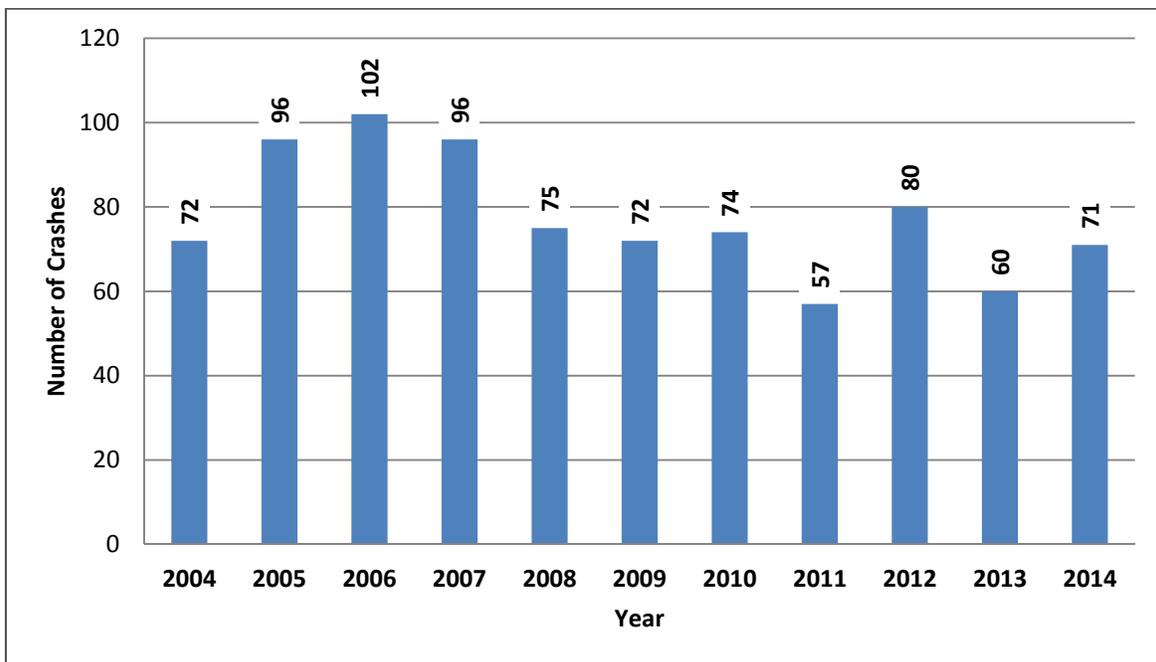
The number of crashes reported along Duke Street from 2004 to 2013, as shown in **Figure 4.2**, appears to have remained somewhat constant from year to year, although 2005 was the year in which the most crashes were reported. Through the end of 2014, a total of 222 crashes were reported along Duke Street. This is about 4 percent lower than the average number of crashes that occurred during the five year period ending in 2014.

Figure 4.2 – Total Reported Crashes on Duke Street, July 2004 – December 2014



*Totals for 2004 represent only six months of crash data.

Figure 4.3 – Total Reported Crashes on Van Dorn Street, July 2004 – December 2014

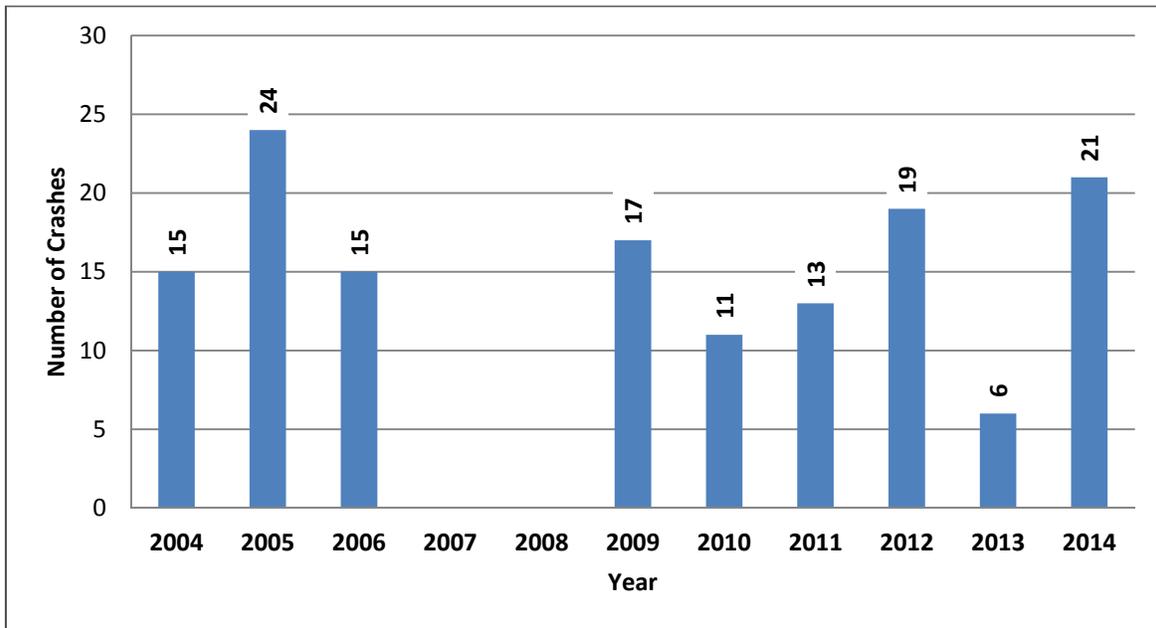


*Totals for 2004 represent only six months of crash data.

Along Van Dorn Street, the trend shown in **Figure 4.3** indicates that reported crashes have gradually decreased since they peaked in 2006. Although the number of reported crashes increased in 2014 compared to the previous year, it remained about 30 percent lower than the peak that occurred in 2006.

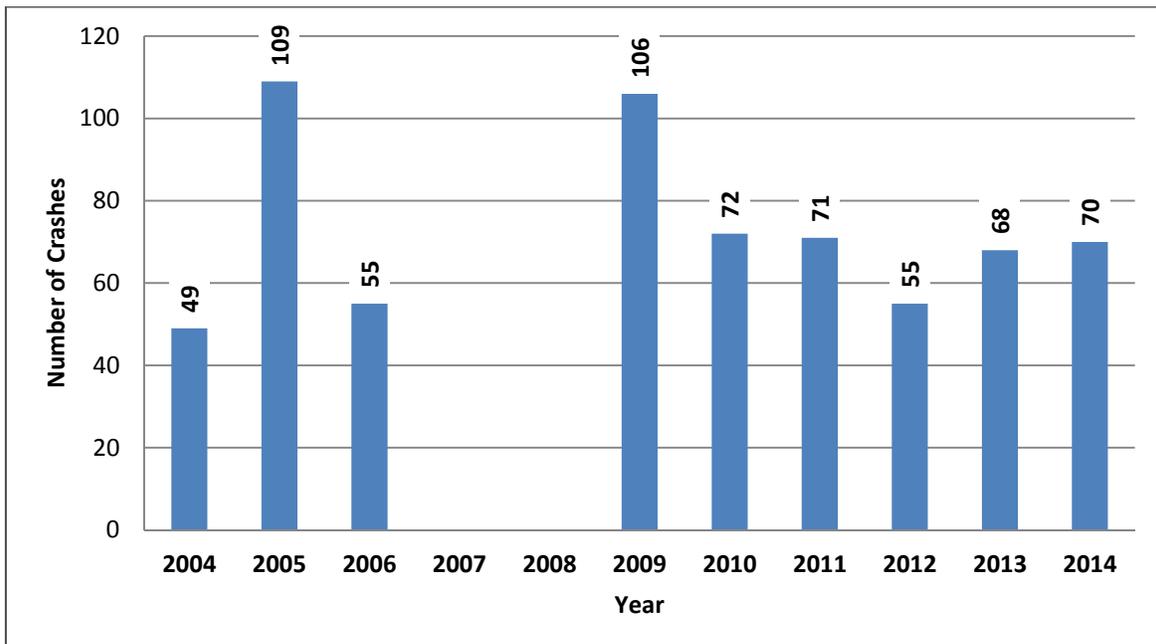
Figures 4.4, 4.5, and 4.6 are charts showing the total number of reported crashes that resulted in injuries to one or more vehicle occupants, pedestrians or bicyclists, for Eisenhower Avenue, Duke Street, and Van Dorn Street, respectively, within the study area limits. Note that the total shown for 2004 represents only six (6) months of crash data. Also, no information on crash severity was available for 2007 and 2008.

Figure 4.4 – Total Reported Injury Crashes on Eisenhower Avenue, July 2004 – December 2014



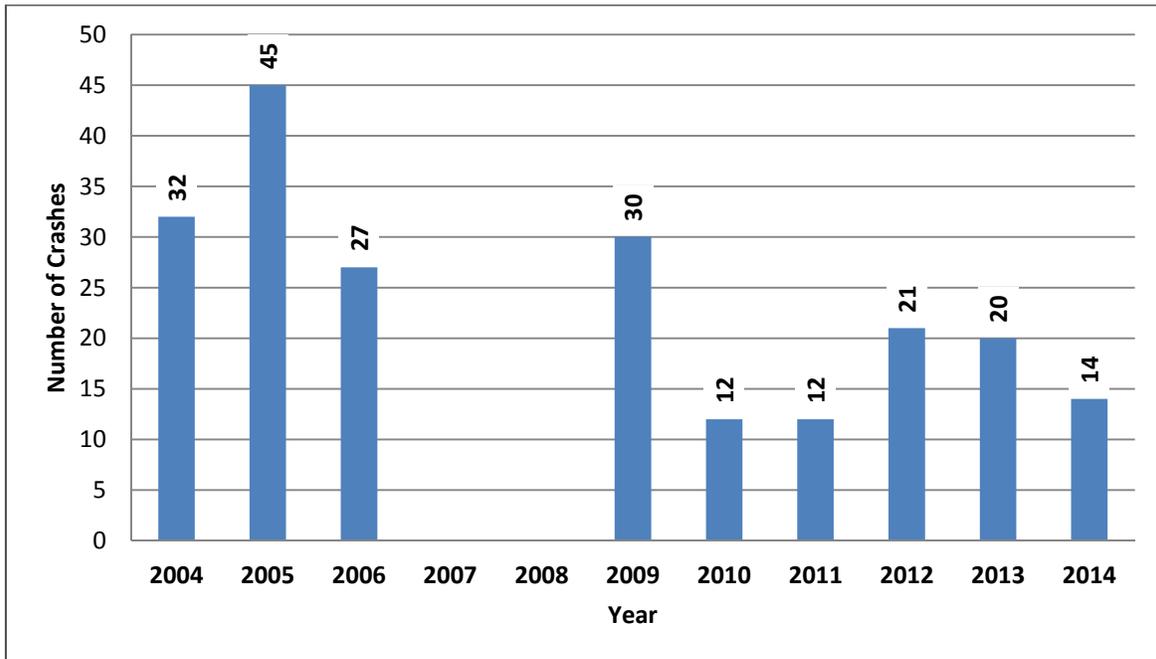
*Totals for 2004 represent only six months of crash data. No data was available for 2007 and 2008.

Figure 4.5 – Total Reported Injury Crashes on Duke Street, July 2004 – December 2014



*Totals for 2004 represent only six months of crash data. No data was available for 2007 and 2008.

Figure 4.6 – Total Reported Injury Crashes on Van Dorn Street, July 2004 – December 2014



*Totals for 2004 represent only six months of crash data. No data was available for 2007 and 2008.

The data summarized in **Figure 4.4** shows that the number of reported crashes on Eisenhower Avenue resulting in injuries has remained relatively steady from year to year, except for a notable spike in 2005 and a significant drop in 2013. However, the total number of injury crashes reported in 2014 nearly returned to the peak level observed in 2005.

Along Duke Street, there has been a somewhat steady decrease in the number of injury crashes reported since 2009 (with the exception being an increase in 2013). **Figure 4.5** shows the total for 2014 was similar to the total reported in 2013.

The number of injury crashes reported along Van Dorn Street dropped significantly from 2009 to 2010, and has remained relatively low ever since (see **Figure 4.6**). The total number of injury crashes reported in 2014 was lower than the total reported in 2013.

Table 4.1 is a summary of the pedestrian and bicycle-related crashes that were reported along Eisenhower Avenue, Duke Street, and Van Dorn Street, from July 2004 through December 2014.

Table 4.1 – Total Reported Pedestrian & Bicycle Crashes (July 2004 – December 2014)

Location	Overall Pedestrian and Bicycle Crashes per Year										
	2004*	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Eisenhower Ave	1	3	1	6	3	2	2	3	5	1	3
Duke St.	2	9	14	7	14	14	7	9	6	12	4
Van Dorn St.	2	4	2	4	2	2	0	3	4	3	2
Total	5	17	14	17	19	19	9	16	16	16	9

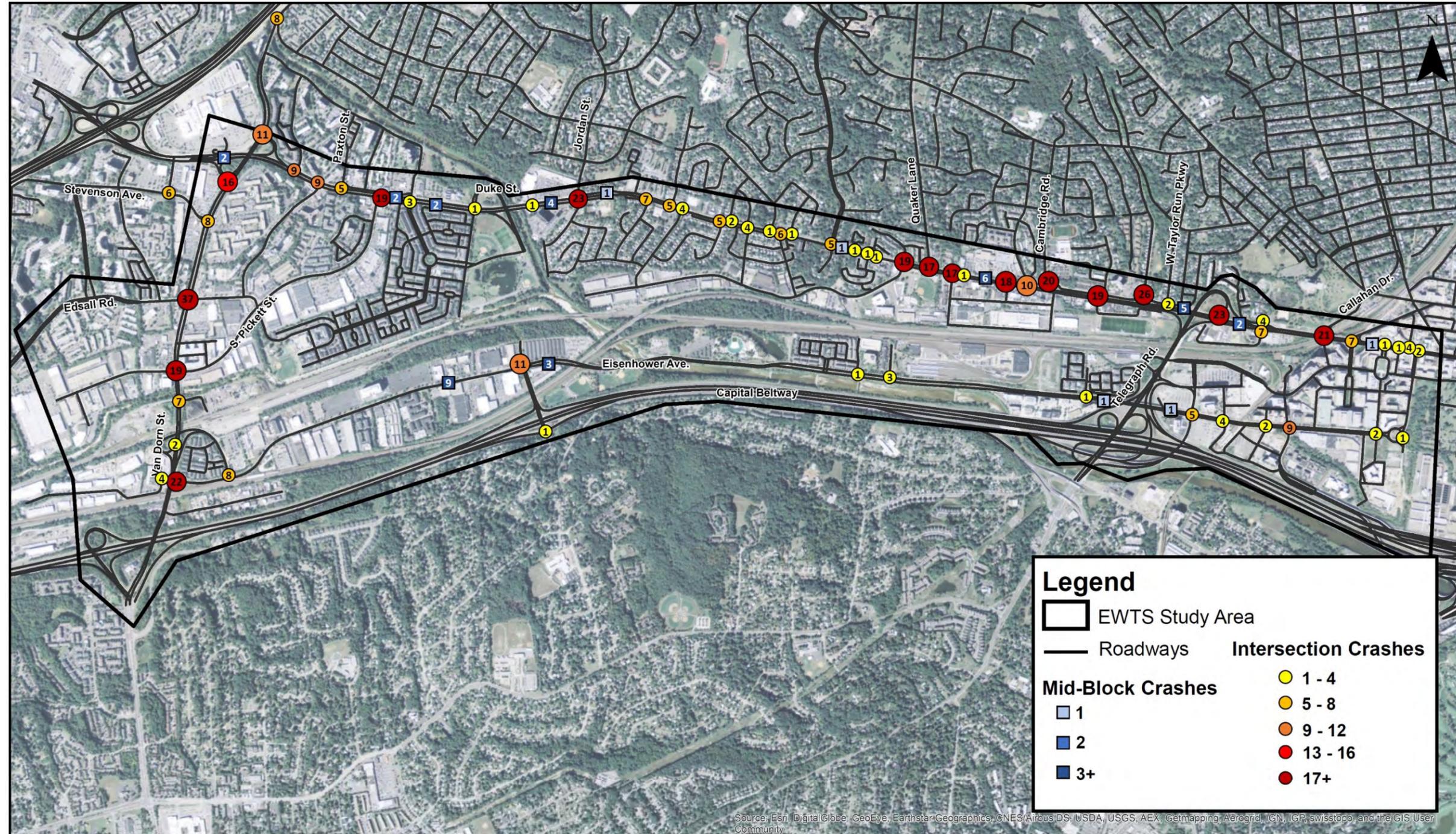
*Totals for 2004 represent only six months of crash data.

This summary indicates that the number of reported pedestrian and bicycle crashes along Eisenhower Avenue has fluctuated from year to year, but overall has remained relatively low, especially when

compared to the yearly totals along Duke Street. The number of reported pedestrian and bicycle related crashes along Duke Street ranges from a low of 7 per year to a peak of 14 per year. There were 12 reported crashes of this type in 2013; however, the total number of pedestrian and bicycle-related crashes on Duke Street in 2014 was substantially lower than the number reported in 2013, with 4 such crashes being reported. Along Van Dorn Street, there have been 2 to 4 pedestrian/bicycle-related crashes per year since 2004, including in 2014, when there were 2 such crashes reported.

Figure 4.7 is a map of the study area showing the locations where crashes of all types occurred on 2014. Most of the reported crashes occurred at intersections. Eleven (11) intersections along Duke Street had more than 15 reported crashes during 2014. The two intersections with the most crashes are Duke Street at W. Taylor Run Parkway and Duke Street at Jordan Street, with 26 and 23 crashes, respectively. Along Van Dorn Street, the three intersections with the highest number of crashes are Edsall Road (37), Eisenhower Avenue (22), and S. Pickett Street (19). Eisenhower Avenue had the fewest number of crashes, with the most crashes occurring at the Van Dorn Street intersection (22) and the Clermont Avenue intersection (11).

Figure 4.7 – Crash Locations (2014)



5 The Year 2040 Baseline Land Use and Transportation Network

The Year 2040 Baseline conditions assume the build-out of all currently approved and unbuilt development within the study area through 2040. According to draft forecasts developed by the City of Alexandria Department of Planning and Zoning, this consists of approximately 5,700 net new residential units, 627,000 square feet of net new retail floor area, 3.7 million square feet of net new office floor area, a loss of 87,000 square feet of industrial floor area, and 299,000 square feet of net new miscellaneous floor area.

The following list of future roadway and intersection improvement projects, including transit projects and pedestrian/bicycle facility projects, has been planned by the City of Alexandria either as a Capital Improvement Project or Long Range Project and are located within the Eisenhower West Transportation Study limits. **Figure 5.1** is a map showing these planned roadway and intersection improvements, along with other planned transportation improvements for bicycle facilities and transit. The number listed next to the project coincides with the numbers displayed on **Figure 5.1**.

1. Eisenhower Avenue Metrorail Station (Transit)
2. Van Dorn Metrorail Station Improvements (Transit)
3. King Street Metrorail Station Improvements (not within study limits)
4. Landmark Transit Station Improvements (Transit)
5. Transitway Corridor B (Transit)
6. West End Transitway Corridor C (Transit)
7. Edsall Road/ S. Pickett Street Improvements (Non-Motorized)
8. Backlick Run Multi-Use Paths (Non-Motorized)
9. Van Dorn / Beauregard Bicycle Facilities (Non-Motorized)
10. Eisenhower Avenue Roadway Improvements (Street)
11. High Street Construction (Street/Transit)
12. Multimodal Bridge (Transit/Non-Motorized)
13. Van Dorn Street Bridge Widening (Pedestrians)
14. Van Dorn Circulator Transit Service (Transit)
15. Eisenhower East Circulator Transit Service (Transit)
16. Construct Elizabeth Lane extension (Street)
17. Edsall Road Connector to Farrington Avenue and South Pickett Street (Street)
18. Van Dorn Street at Edsall Road (Street)
19. Van Dorn Street at S. Pickett Street (Street)
20. DASH Transit Improved frequencies (Transit)
21. Van Dorn Street TSP Improvements (Transit)
22. Landmark / Van Dorn Corridor Plan - Collector Grid Improvements (Street)
23. Clermont Avenue Extension (Street)

Improvements shown in the list above that would affect roadway geometry (such as the number of lanes on a street, a new roadway connection, or a new transit route) were included in the travel demand modeling and traffic volume forecasting process for the Year 2040 Baseline Condition. These improvements, plus intersection lane configuration changes, were also included in the operational analysis of the 2040 Baseline Condition using VISSIM. Other improvements in the list are assumed to be completed but are not the types of improvements that can be incorporated in the transportation model.

5.1 Transit Projects

These are the transit projects planned for the study area:

1. Eisenhower Avenue Metrorail Station

Modify the Eisenhower Metrorail station to accommodate future development. The City will make improvements including renovation of the bus loop, relocation of transit services, design and construction of an attractive pedestrian plaza in front of the station, canopies for rider shelter and real-time bus information displays.

2. Van Dorn Metrorail Station Improvements

The kiss-and-ride area will be redesigned to better accommodate the large number of private shuttle buses serving the station. In addition, the bus loading area will be reconfigured to accommodate the Van Dorn-Beauregard transitway service, as well as the larger shuttles which currently serve the facility from Eisenhower Avenue.

3. King Street Metrorail Station Improvements (not within study limits)

4. Landmark Transit Station Improvements

This project provides funding for initial planning and design for a transit station at the redeveloped Landmark Mall site. Ultimately, this project will construct an intermodal transit station at or near the intersection of Transitway Corridors "B" and "C" in the vicinity of the future High Street at Duke Street (see project #11).

5. Transitway Corridor B

The transit system improvements planned for this area by the City of Alexandria include a transitway corridor along Duke Street. The specific characteristics of this corridor can be found in the Transitway Corridors Feasibility Study completed by the City of Alexandria in 2012. **Figure 5.2** shows the Duke Street transitway corridor (Corridor B). Corridor B follows Duke Street between Landmark Mall on the west and the vicinity of the King Street Metrorail station on the east. Enhanced transit service along Eisenhower Avenue will also be considered.

6. West End Transitway (Corridor C)

The West End Transitway (Corridor C) runs along portions of Walter Reed Drive, Beauregard Street, Sanger Avenue, and Van Dorn Street. **Figure 5.3** shows the current conceptual design for the West End Transitway which will provide a connection between the Van Dorn Metrorail Station, Mark Center Transit Center, Shirlington Transit Center, and the Pentagon Transit Center as well as several neighborhoods along the corridor. Objectives for the transitway include a direct and reliable connection between Pentagon and Van Dorn Street Metrorail stations which will enhance existing transit operations and curtail traffic congestion. As part of this corridor, a combination of dedicated and shared lanes as well as high quality stations will be provided along Van Dorn Street for transit vehicles. Transit vehicles in the corridor will operate with frequent headways, limited stops, improved shelters, and real-time information on transit vehicle locations and arrival times. The City of Alexandria is currently conducting an Alternatives Analysis/Environmental Assessment for the West End Transitway in accordance with the National Environmental Policy Act (NEPA) and is planning to have this facility constructed by 2020.

12. Multimodal Bridge

The planned Multimodal Bridge connecting Eisenhower Avenue and South Pickett Street is intended to replace the Clermont Avenue extension recommended in the VDOT Clermont Avenue Interchange with Interstate 95 Final Environmental Assessment. This project was recommended in the Landmark/Van Dorn Corridor Plan. The purpose is focused on pedestrian, bicycle, and transit access between Cameron Station, the neighborhoods north of the railroad tracks, and the Van Dorn Street Metrorail station. The bridge will also include lanes for general purpose traffic. The planned Multimodal Bridge would not only be a roadway/intersection improvement project, but also a transit system improvement. One of the goals of the bridge is to improve travel times for transit vehicles traveling to and from the Van Dorn Street Metrorail station. The approximate savings in bus travel times will depend on the alignment of the bridge, which is being studied as part of the Eisenhower West Transportation Study. Several different potential alignments for the bridge were evaluated as part of the EWTS, and will continue to be evaluated in the Eisenhower West Implementation Study phase.

14. Van Dorn Circulator Transit Service

Provide Circulator transit service in the Van Dorn area to provide a connection between the Van Dorn Metrorail station and the Landmark Mall. The DASH route AT7 would terminate at the Van Dorn Metrorail station. This improvement was recommended in the DASH Comprehensive Operations Analysis (2014).

15. Eisenhower East Circulator Transit Service

Provide Circulator transit service in the Eisenhower East area to provide a connection between the King Street Metrorail station and the Eisenhower Metrorail station. This improvement was recommended in the DASH Comprehensive Operations Analysis (2014).

20. DASH Transit Improved Frequencies

The DASH Comprehensive Operations Analysis recommended improved transit frequencies as follows: Weekday peak (AT1 - 10 min, AT5 - 10 min, AT7 - 30 min, AT8 - 15 min). Route AT7 is terminated at the Van Dorn Metrorail station and a new Van Dorn Circulator is implemented. These improvements were part of the DASH Comprehensive Operations Analysis.

21. Van Dorn Street/Beauregard Street TSP and Queue Jump Improvements

The City will implement Transit Signal Priority (TSP) and queue jump improvements using a TIGER grant in 2015 at intersections along Van Dorn Street as well as Beauregard Street.

5.2 Roadway and Intersection Projects

These are the roadway and intersection projects planned for the study area:

10. Eisenhower Avenue Roadway Improvements

Construct an additional westbound left turn lane and sidewalk/streetscape improvements from Mill Road to Elizabeth Lane; revise the Mill Road receiving lanes to accept the dual left turns from Eisenhower Avenue; convert the traffic circle at Eisenhower and Holland to a "T" intersection; repave the roadway between Holland Lane and Mill Road.

11. High Street Construction

This project was recommended in the Landmark/Van Dorn Corridor Plan, and provides preliminary design and engineering funding for construction of a new High Street west of and parallel to Van Dorn St. from the Landmark Mall to S. Pickett St., including a Duke Street grade separated crossing.

16. Construct Elizabeth Lane Extension

Extend Elizabeth Lane (to be called Eisenhower Park Drive) from Eisenhower Avenue south and east to Limerick Street.

17. Farrington Avenue Connector to South Pickett Street and Edsall Road

Farrington Avenue currently forms the western leg of the South Van Dorn Street/Eisenhower Avenue intersection located in the southwest portion of the study area. It is a dead-end street that provides access to an assortment of light industrial land uses. The planned Farrington Avenue Connector would be a new north-south roadway link within the Alexandria city limits and a portion of Fairfax County, connecting Farrington Avenue to S. Pickett Street and Edsall Road.

18. S. Van Dorn Street at Edsall Road & 19. S. Van Dorn Street at S. Pickett Street

These two modifications for the intersections of South Van Dorn Street at South Pickett Street, and South Van Dorn Street at Edsall Road, are being constructed to reduce AM and PM peak hour congestion and delay associated with developments. These improvements are based on recommendations from the Cameron Park and Landmark Gateway traffic impact assessments (TIAs) to mitigate the traffic impacts of new automobile trips expected to be generated by these two developments. Westbound Edsall Road will be re-striped to accommodate a shared thru / right and an exclusive right turn lane will be constructed on the Van Dorn Street northbound approach to South Pickett Street.

22. Landmark / Van Dorn Corridor Plan - Collector Grid Improvements

The Landmark Van Dorn Corridor Plan recommended a grid of streets within the Small Area Plan, including collector grids at Pickett Place.

23. Clermont Avenue extension

The Clermont Avenue extension is the recommended project from the Clermont Avenue Interchange with Interstate 95 Final Environmental Assessment completed by VDOT in 1993. As proposed, it would provide a highway connection between Eisenhower Avenue and Duke Street. This project is being re-examined as part of the Environmental Assessment Update under the Eisenhower West Transportation Study because the City's planned Multimodal Bridge project would replace the primary function of the VDOT project, while also providing improved access to the Van Dorn Street Metrorail station with lanes restricted to use only by transit vehicles, as well as lanes for regular vehicles, a protected bicycle facility and sidewalks for pedestrians.

5.3 Pedestrian and Bicycle Projects

The Washington Metropolitan Area Transit Authority (WMATA) has prepared a study evaluating potential bicycle and pedestrian access improvements to the Van Dorn Street Metrorail Station, with particular focus on access to and from Fairfax County south of the station. Work on the WMATA Van Dorn Street

Metro Area Bike and Pedestrian Access Improvements Study began in mid-2014, with a goal to provide a safe, convenient, and functional connections between neighborhoods across I-495 to the south and across S. Van Dorn Street to the southwest in Fairfax County to the Van Dorn Street Metro station. This project boundary encompasses a wide area with pedestrian needs up to one half (1/2) mile from the station boundary as well as bicycle needs up to three (3) miles from the station boundary. These improvements included analysis of existing bicycle and pedestrian conditions, traffic impacts, review prior recommendations for improvement, and develop consolidated and improved short- and long-term alternatives for bicycle and pedestrian access to the Van Dorn Metrorail station. Some of the key recommendations from the WMATA study include:

- Bicycle lanes proposed for both sides of Eisenhower Avenue
- Improved pedestrian crossing measures at the three signalized intersections along Eisenhower Avenue from South Van Dorn Street to the Bus Loop Entrance, and at the Kiss and Ride Lot entrance on Metro Road.
- A continuous sidewalk along the south side of Eisenhower Avenue between South Van Dorn Street and the Bus Loop Entrance
- Dedicated transit lane for the proposed West End Transitway along the north side of Eisenhower Avenue
- A two-stage mid-block crossing with high visibility crosswalks and pedestrian-activated rapid flashing beacon across Eisenhower Avenue near the Van Dorn Street Metrorail station
- Bicycle lanes and improved sidewalks along both sides of South Van Dorn Street north of Eisenhower Avenue
- Build the Multimodal Bridge recommended in the Landmark/Van Dorn Corridor Plan

These are the other pedestrian and bicycle facility improvements planned for the study area:

7. Edsall / S. Pickett Street Improvements

Provides pedestrian connectivity and safety improvements to the intersection of Edsall Road and S. Pickett St., including new crosswalks, median island improvements, potential elimination of right-hand slip lane/turning radius improvements, sidewalk improvements and new curb ramps.

8. Backlick Run Multi-Use Path

The City of Alexandria is planning to construct a new east-west shared use path connection along Backlick Run between the existing path at Cameron Station and the proposed Farrington Avenue roadway extension that will connect to Turkeycock Run Stream Valley Park in Fairfax County to Backlick Run, as indicated in **Figure 5.1**. This project is included in the City's Capital Improvement Program (CIP).

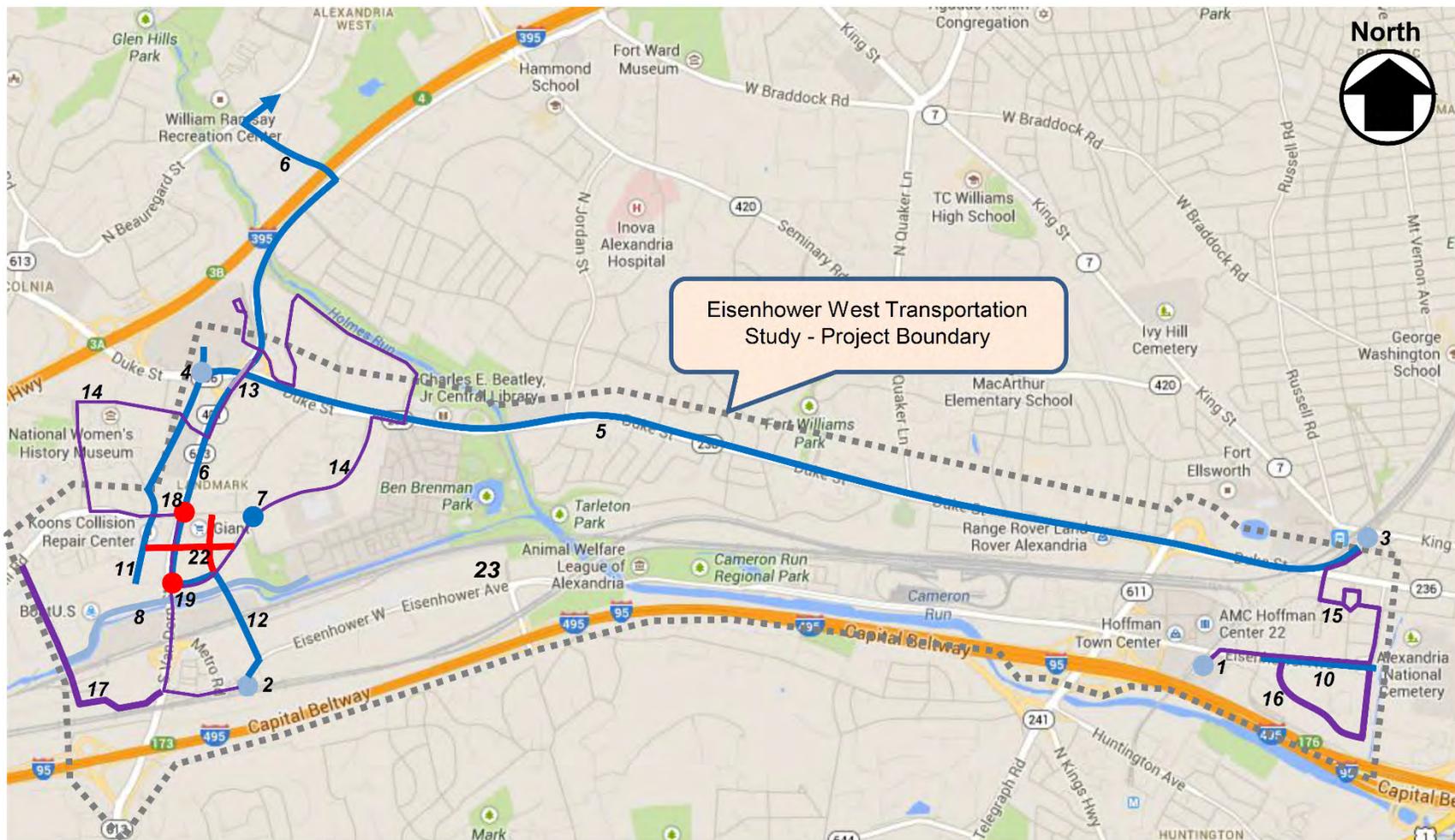
9. Van Dorn / Beauregard Bicycle Facilities

This project will provide a north-south bicycle connection along Van Dorn Street, Sanger Avenue, and Beauregard Street. It will connect bicycle users to Mark Center and the Holmes Run Trail. This project will be coordinated with the implementation of the West End Transitway.

13. Van Dorn Street bridge widening

This project will widen Van Dorn Street over Duke Street to accommodate pedestrians.

Figure 5.1 – City of Alexandria Planned 2040 Baseline Transportation Improvements in the Study Area



- | | | | |
|--|---|--|--|
| | Alexandria CIP Project (Included in model) | | Alexandria CIP Project (Not in model) |
| | Alexandria LRP Project (Included in model) | | Alexandria LRP Project (Not in model) |
| | Developer and other Alexandria projects (Included in model) | | Developer / Other Alexandria projects (Not in model) |

Figure 5.2 – Planned Transitway Corridors

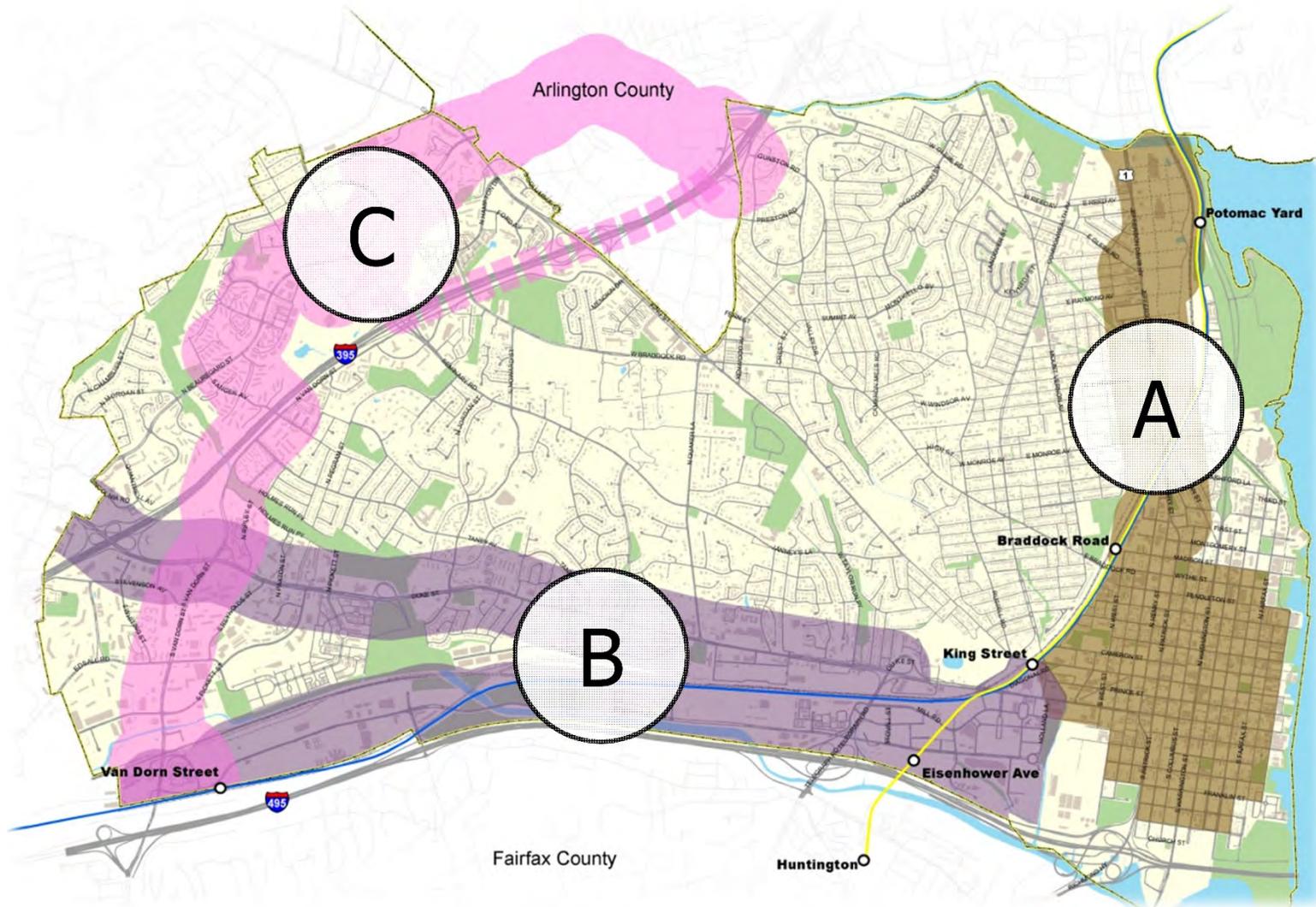
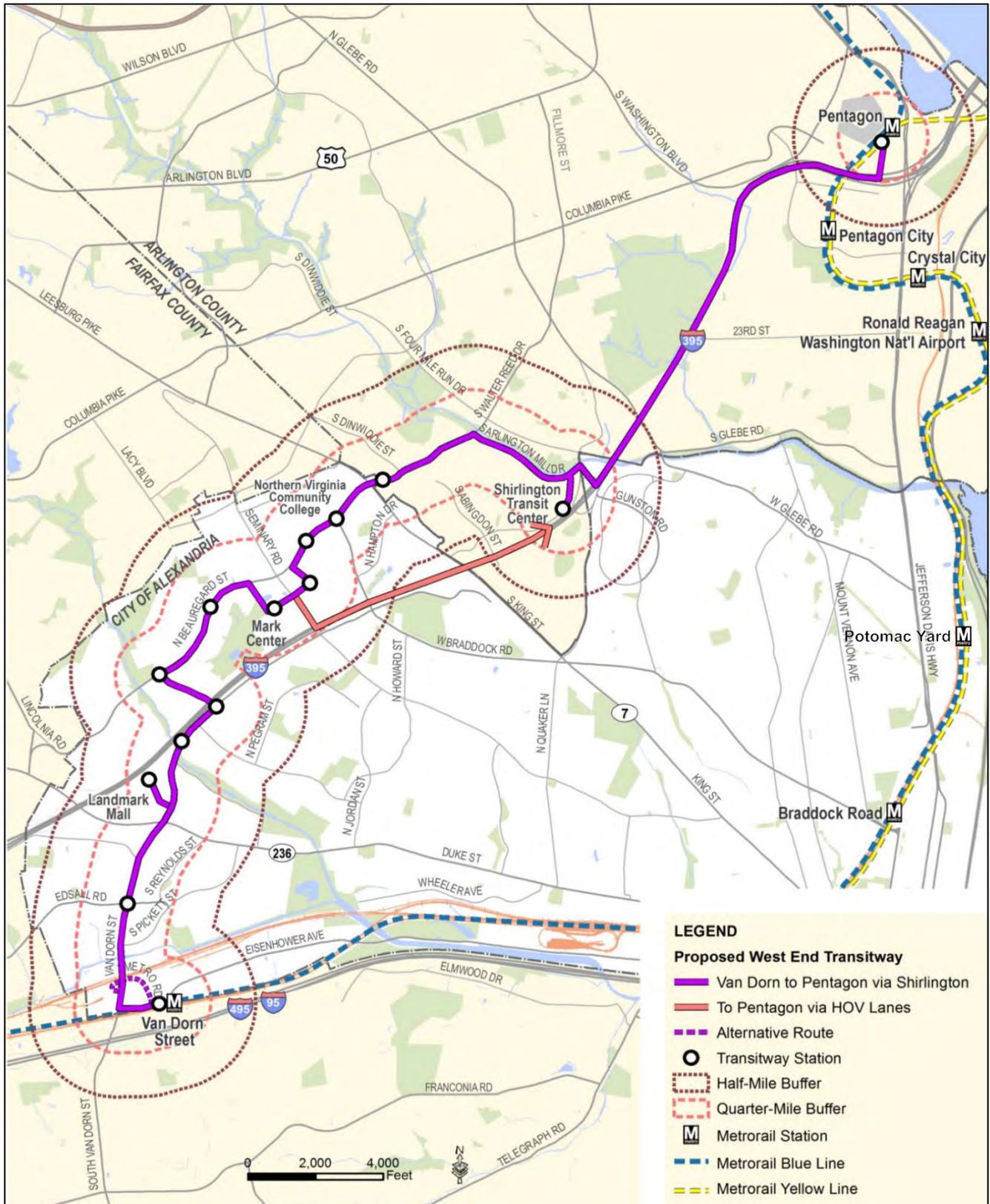


Figure 5.3 – Proposed Build Alternative for the West End Transitway (Corridor C)



6 Year 2040 Baseline Traffic Operations

The Year 2040 Baseline traffic and transit operations were evaluated based on traffic volume projections developed using the current adopted version of the Metropolitan Washington Council of Governments (MWCOG) regional travel demand model (Version 2.3, Build 57), with the latest Cooperative Land Use Forecasts (Round 8.3) at the time the forecasting and analyses were performed in early 2015. The transportation network input files for the model were checked to ensure that all of the planned improvements were included and the proper number of lanes had been assigned to each roadway link within the EWTS study area. The model-projected Year 2040 roadway link volumes were compared to the modeled Year 2015 roadway link volumes to determine growth rates for various parts of the EWTS study area. These growth rates were then applied to the existing AM and PM peak hour intersection turning movement volumes to estimate the Year 2040 Baseline intersection turning movement volumes. Through post-processing of the 2040 model output, AM and PM peak hour turning movement volumes were redistributed to the proposed new streets in the network that are not present under the existing conditions. These Year 2040 intersection volumes were used to perform the analysis of peak hour traffic operations using VISSIM software.

Figures 6.1, 6.2 and 6.3 are maps that show the western and eastern halves of the EWTS area with each of the key intersections highlighted, along with the lane configurations at each intersection. These are the intersections that are included in the capacity and operational analyses that were performed using VISSIM. These figures show the lanes available to general traffic; dedicated transit lanes are not shown.

Figures 6.4, 6.5, and 6.6 are maps showing the projected Year 2040 Baseline intersection turning movement volumes for the AM and PM peak hours at each of the intersections that were evaluated using VISSIM.

Figure 6.1 – Year 2040 Baseline Intersection Lanes (Western Area #1)

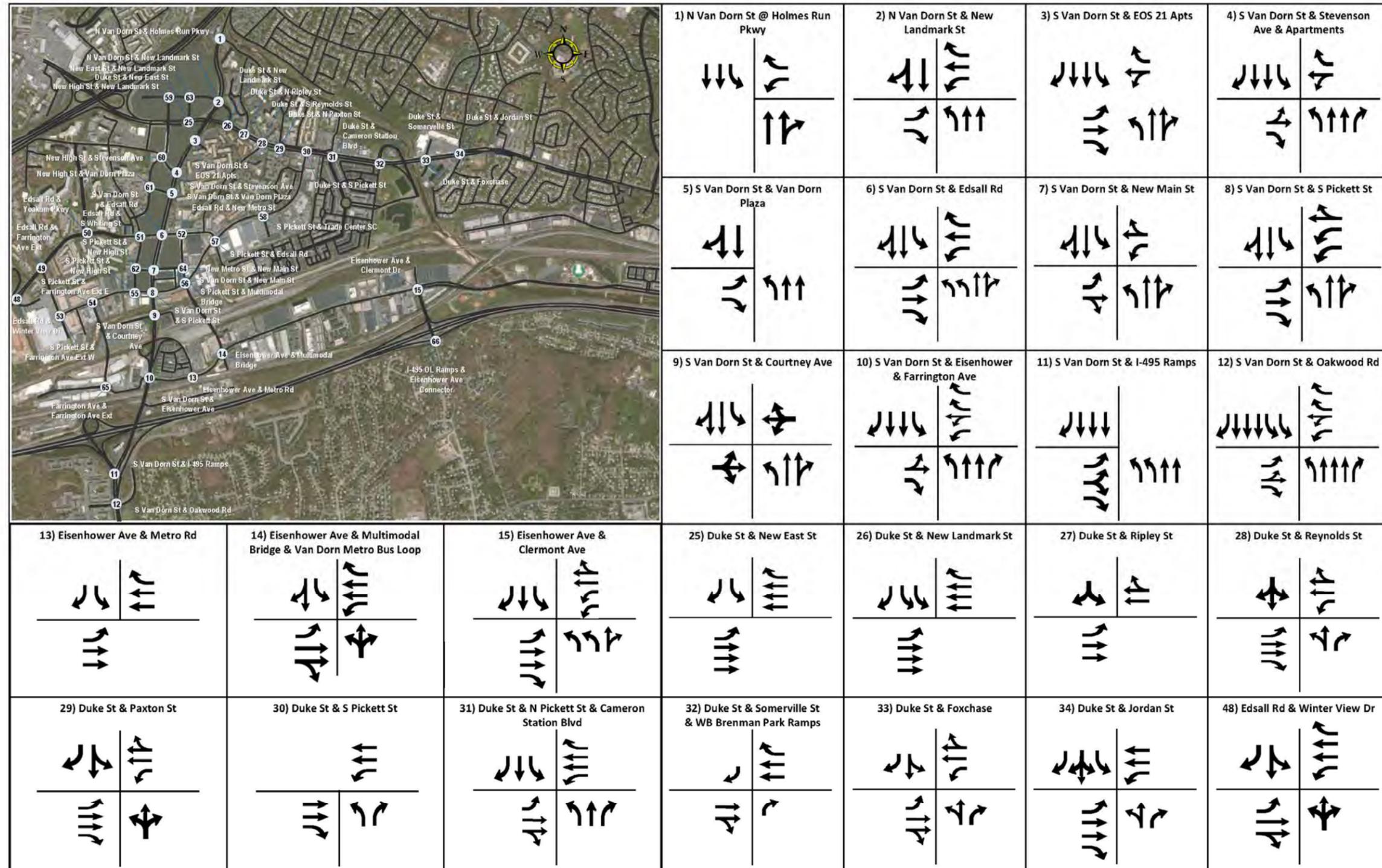


Figure 6.2 – Year 2040 Baseline Intersection Lanes (Western Area #2)

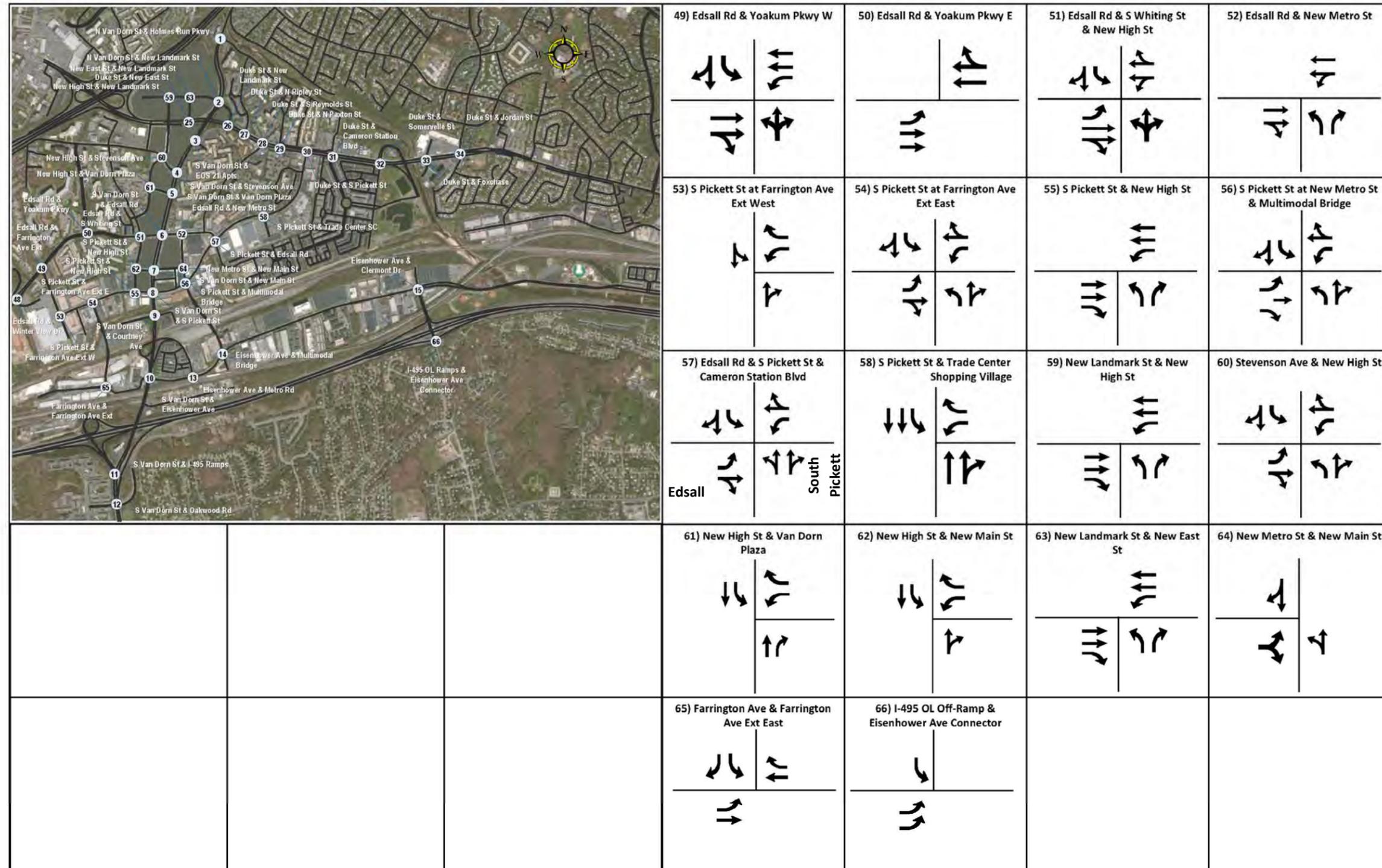


Figure 6.3 – Year 2040 Baseline Intersection Lanes (Eastern Area)



Figure 6.4 – Year 2040 Baseline Intersection and Ramp AM (PM) Peak Hour Volumes (Western Area #1)

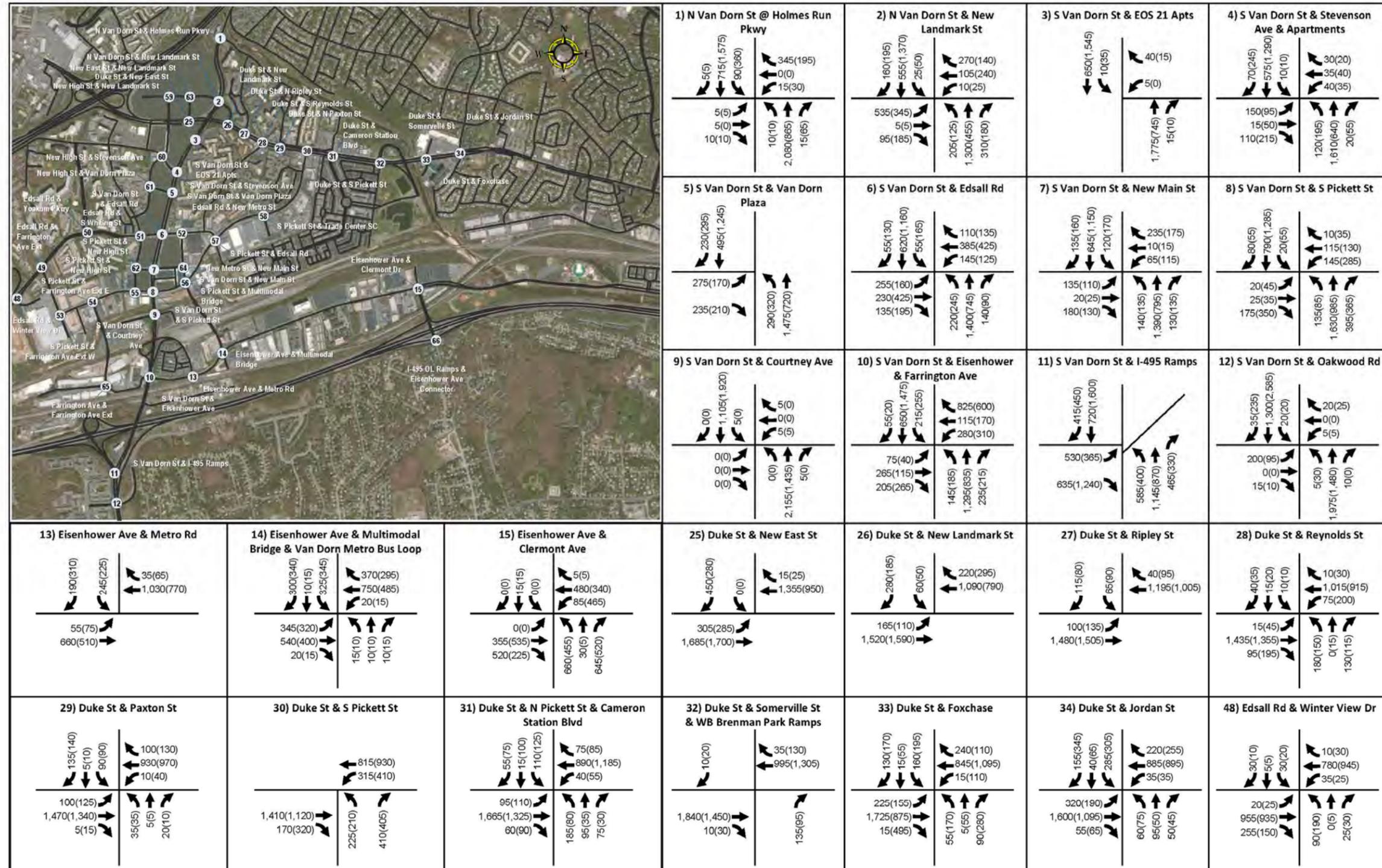


Figure 6.5 – Year 2040 Baseline Intersection and Ramp AM (PM) Peak Hour Volumes (Western Area #2)

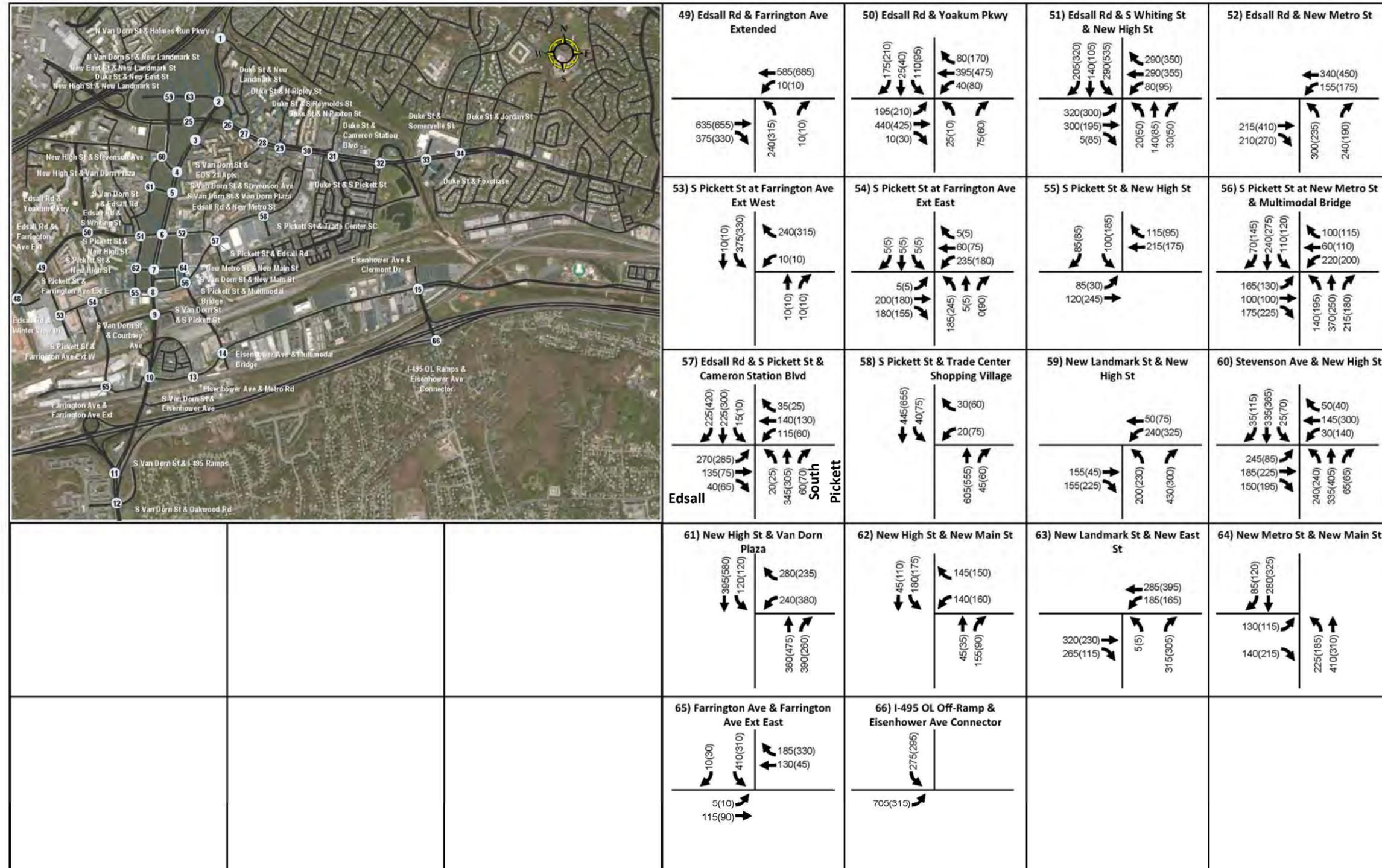
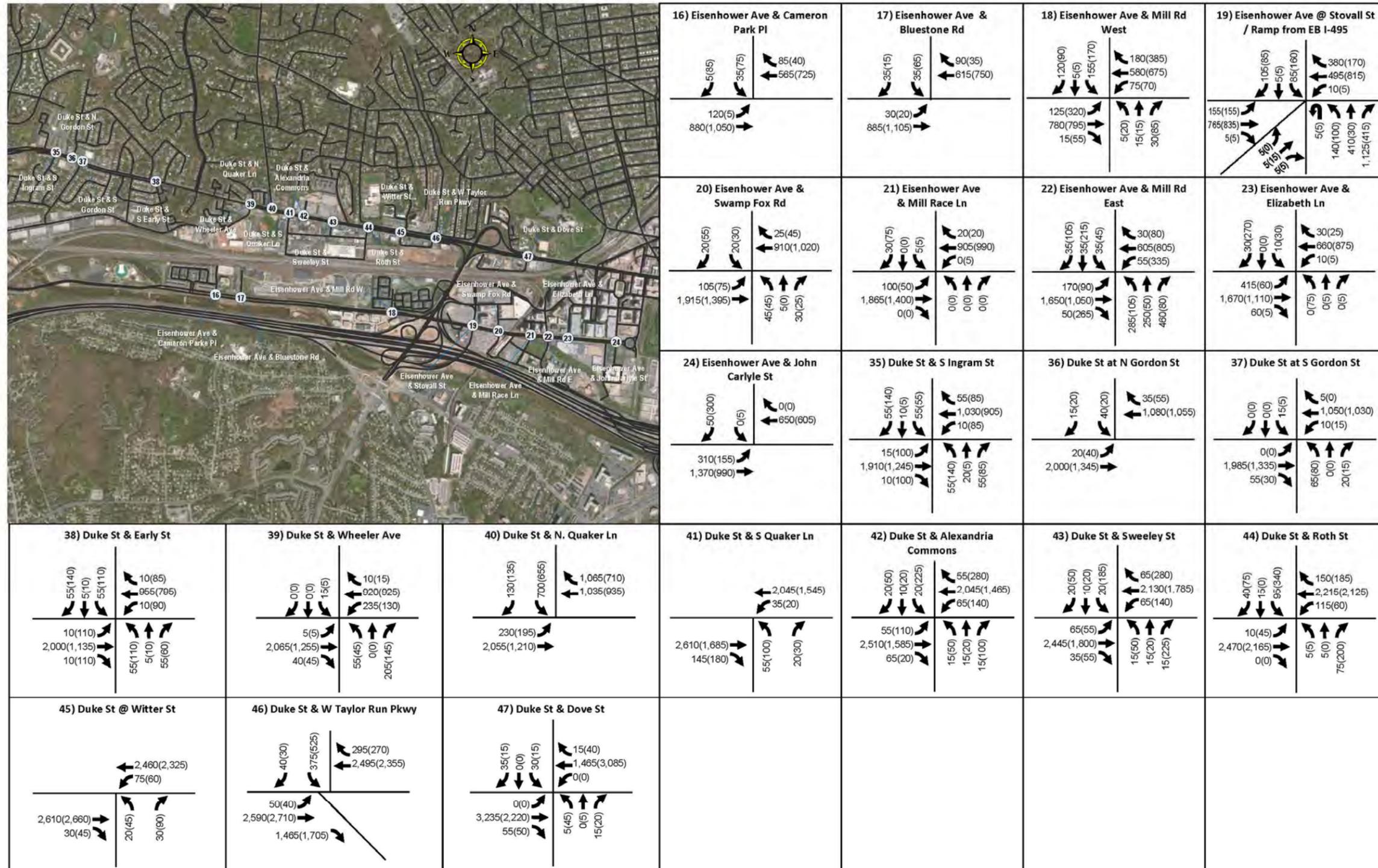


Figure 6.6 – Year 2040 Baseline Intersection and Ramp AM (PM) Peak Hour Volumes (Eastern Area)



6.1 Multimodal Bridge Trip Origins and Destinations

The Eisenhower West Transportation Study (EWTS) assumes a new roadway connection and Multimodal Bridge across the Norfolk Southern railroad tracks, linking Eisenhower Avenue and South Pickett Street east of South Van Dorn Street. This study included travel demand modeling and capacity analysis to determine which travel modes would benefit from this connection, as well as the need for lanes to carry general purpose traffic. Based on this evaluation, this link is currently planned as a four-lane facility with two travel lanes dedicated to use only by transit vehicles and two travel lanes for use by general purpose traffic. A cycle track for bicyclists and sidewalks for pedestrians will also be provided. Although the usage of these facilities for non-motorized travel is not captured by the regional travel demand model, providing these features on the Multimodal Bridge would reduce the walking and cycling distance between the Van Dorn Street Metrorail station and development north of the Norfolk Southern tracks. For the purposes of the transportation analyses, the bridge location was assumed to align with the existing intersection of Eisenhower Avenue at the Bus Loop Entrance for the Van Dorn Street Metrorail station at its southern end, and at a proposed new intersection on South Pickett Street approximately midway between South Van Dorn Street and Edsall Road at its northern end. The specific location of the new bridge within the area defined by South Van Dorn Street to the west and Edsall Road to the east would have no impact on the projected future traffic demand using the bridge or the magnitude of traffic that may divert from South Van Dorn Street to use the bridge.

The following is a summary of the select link analysis that was performed on the proposed multimodal bridge using the COG travel demand model. The select link algorithm developed by COG is intended for use on version 2.3.52 of the model, which is the previous version of the model. The current adopted version is 2.3.57, which is the version that was used to develop the 2040 Baseline volume forecasts being used in the operational analysis and for the Phase 2 High and Low 2040 land use scenarios. The prior version of the model was only used to perform the select link analysis because the files developed by COG for performing this type of analysis are based on the prior model version and not the current version.

The purpose of the select link analysis was to estimate the origins and destinations of the non-transit traffic projected to use the Multimodal Bridge in 2040 under the baseline conditions. Origins and destinations are based on the traffic analysis zones (TAZs) defined in the COG model. As indicated below, the predominant direction of travel on the bridge would be northbound during the AM peak hour and southbound during the PM peak hour. The same TAZs that produce and attract the most trips during the entire day also produce and attract the most trips during the AM and PM peak hours. As might be expected, TAZs with a relatively low number of household and a high number of jobs attract more trips in the morning than they produce in the morning.

Total 2040 Baseline Daily and Peak Hour Traffic Volumes

According to the COG model, approximately 5,800 non-transit vehicles per day would travel northbound across the bridge, and about 7,000 non-transit vehicles per day would travel southbound across the bridge, for a total average daily traffic volume of 12,800 vehicles, plus transit vehicles. The projected AM peak hour volumes on the bridge are 725 vehicles northbound and 635 vehicles southbound. During the PM peak hour, the projected volumes are 625 vehicles northbound and 700 vehicles southbound.

Northbound Traffic Origins

The origins of northbound non-transit traffic on the bridge primarily would be local, consisting mostly of the areas within the Alexandria City limits, south of the Norfolk Southern/CSX/Wmata tracks, between South Van Dorn Street and Carlyle. About 37 percent of the daily northbound traffic on the bridge would originate in the TAZ along Eisenhower Avenue extending from just west of Victory Center to the CSX/Metrorail overpass, excluding the Victory Center itself. The TAZs comprising of the section of Fairfax County within the Richmond Highway corridor, such as Huntington, Groveton, and Hybla Valley, would also contribute significantly to the number of northbound trips crossing the multimodal bridge. Aside from these primary sources of northbound trips, there would be small numbers of trips originating from locations in southeast Washington, DC and southern Maryland, including Congress Heights and Joint Base Anacostia/Bolling (JBAB) in D.C., and Oxon Hill, National Harbor, Suitland, Joint Base Andrews, and Waldorf in Maryland. The origins of vehicles traveling northbound across the multimodal bridge would be concentrated within a relatively small area, which reflects the effect that I-95/I-495 has as an impediment to north-south mobility in the area.

Southbound Traffic Destinations

The destinations of the non-transit vehicles traveling southbound across the multimodal bridge would be mostly the same TAZs as the origins of the northbound bridge traffic described previously. Most southbound traffic would be going to TAZs along the Eisenhower Avenue corridor. A significant number of southbound vehicles would also head to the Richmond Highway corridor in Fairfax County, including Huntington, Groveton and Hybla Valley. However, the travel model indicated that southbound vehicles using the multimodal bridge would have some destinations further south along the Richmond Highway corridor than the extent of the northbound origins. For example, the TAZs that would attract a notable number of the southbound trips include the Belle Haven, Fort Hunt, and Mount Vernon communities, whereas the southernmost trip origin TAZ would only be the Hybla Valley area. There would also be some vehicles traveling southbound across the multimodal bridge that end up in northern and western Charles County, MD, southwestern Prince George's County, MD, and southeast Washington, D.C.

Southbound Traffic Origins

The southbound non-transit traffic on the multimodal bridge would come from a much larger area north of the bridge, compared to the small area south of the bridge that would generate the northbound traffic. Approximately 39 percent of the southbound vehicles would originate from the five TAZs closest to the north end of the bridge, which encompass the entire area of the city west of Holmes Run, south of Interstate 395, and north of the Norfolk Southern railroad tracks, and including the Edlandria and Bren Mar Park neighborhoods in Fairfax County. Outside of this immediate area, a significant number of non-transit trips would originate from the West End city neighborhoods between Interstate 395 and Beauregard Street (including Mark Center), the Seminary Valley neighborhood, the Lincolnia and Lake Barcroft sections of Fairfax County, and Falls Church. A smaller, but still notable, number of southbound non-transit trips on the multimodal bridge (between 10 and 20 daily trips per TAZ) would come from sections of Arlington County, including neighborhoods along Columbia Pike, Crystal City, the Pentagon,

and the Wilson Boulevard corridor (the Rosslyn, Courthouse, Clarendon and Ballston areas). The widespread area of origins for southbound non-transit traffic on the multimodal bridge shows the contrast in levels of connectivity within the areas north of the bridge compared to the lack of connectivity within the areas south of the bridge. It appears to be easier for vehicles to reach the multimodal bridge from more distant origins north of the bridge than from south of the bridge. This also helps explain why the southbound daily traffic volume is projected to be 22 percent higher than the northbound daily traffic volume on the bridge. This implies that some drivers traveling southbound will find some route other than the multimodal bridge to return northbound during the day.

Northbound Traffic Destinations

The destinations of the non-transit vehicles traveling northbound across the multimodal bridge would be mostly the same TAZs as the origins of the southbound bridge traffic described above. Most of the TAZs north of the multimodal bridge would attract the same number of northbound trips that they would produce in the opposite direction. However, several of the larger TAZs would attract significantly fewer northbound trips, compared to the number of southbound trips they would generate. This supports the implication stated previously that some drivers traveling southbound would find some route other than the multimodal bridge to return northbound during the day. Northbound vehicles would also find their way to a larger portion of the Crystal City/Pentagon City area of Arlington County, going to TAZs that would not generate a significant number of daily southbound trips across the multimodal bridge.

6.2 Mode Share

The Washington Metropolitan Council of Governments (COG) regional travel demand model was used to develop estimated mode share percentages for the Year 2040 Baseline scenario for trips produced in and attracted to the various traffic analysis zones (TAZs) that make up the Eisenhower West Transportation Study (EWTS) area. According to the model, 43 percent of the trips produced within the study area and 43 percent of the trips attracted to the study area would be via single occupancy vehicles. The model showed 44 percent of trips produced and 47 percent of trips attracted would be via vehicles with 2 or more occupants (including the driver). This leaves an estimated 13 percent of trips produced and 10 percent of trips attracted as being made via transit. The U.S. Census American Community Survey (ACS) 2009-2013 5-Year Average Estimates of the percent of workers age 16 or older commuting by public transportation within the EWTS study area was 25 percent. This does not signify that the future transit mode share is projected to be lower than existing conditions. A comparison of the ACS transit mode share to the COG model mode share estimates for Year 2015 shows that the COG model significantly underestimates transit mode share in this area. Therefore, the best use of the COG model results is to examine the **percent change** in the modeled transit mode share between Existing Year 2015 conditions, Year 2040 Baseline, and Year 2040 Build scenarios, assuming the existing transit mode share from the ACS data is accurate. Based on this methodology, the transit mode share in the study area is projected to increase by 2 percent for trips produced and by 4 percent for trips attracted, compared to existing Year 2015 conditions.

6.3 Intersection Levels of Service and Queue Lengths

The Year 2040 Baseline intersection AM and PM peak hour performance was measured based on the traffic volumes summarized previously using VISSIM. Analyses were performed along the three main corridors within the study area, including Van Dorn Street, Eisenhower Avenue and Duke Street as well as signalized intersections along Edsall Road and South Pickett Street. AM and PM peak hour traffic operations were analyzed. Below is a general summary of the operational analyses along the three main corridors. **Tables 6.1 and 6.2** summarize the overall intersection, approach and individual turning movement levels of service (LOS) for the AM and PM peak hours, respectively, along with the maximum queue length simulated for each approach (regardless of movement). Levels of service of D or better are usually desirable, as these would indicate that the intersection (or specific approach or turning movement) has available capacity to allow for traffic growth without requiring additional lanes or improvements. **Tables 6.3 and 6.4** summarize the delay per vehicle associated with the levels of service shown in the previous two tables. The following is a summary of the key operational findings along the three major corridors in the study area during the AM and PM peak hours in 2040 under the baseline land use scenario. **Figures 6.7 and 6.8** are charts that show the change in intersection delay for 2040 Baseline conditions vs. Existing 2015 conditions for the AM and PM peak hours, respectively. The darker-shaded bars on these charts indicate delay increases or decreases that result in a change of one or more levels of service.

AM Peak Hour

Van Dorn Street:

- The segment of S. Van Dorn Street between the I-495 ramps in Fairfax County and the Van Dorn Plaza intersection in Alexandria would experience a significant increase in delay, compared to the existing conditions.
 - Each of the intersections along this portion of S. Van Dorn Street would operate at LOS D or worse during the AM peak hour.
 - The intersection at Eisenhower Avenue/Farrington Avenue would operate at level of service (LOS) F overall during the AM peak hour, as would three of the four approaches to this intersection.
 - The worst approach would be eastbound Farrington Avenue, with an average of about 6 minutes of delay per vehicle.
 - Northbound Van Dorn Street would have an average of about 3 minutes of delay per vehicle.
 - Westbound Eisenhower Avenue would have about 2 minutes of delay per vehicle.
 - The southbound approach would operate the best, but would still function near the LOS E/F threshold with 79 seconds of delay per vehicle.
 - The other signalized intersections along this segment of Van Dorn Street would operate at LOS D or better during the AM peak hour, including the proposed new signal at Van Dorn Street and New Main Street, which would be located between South Pickett Street and Edsall Road.
- The remaining intersections along S. Van Dorn Street (north of Edsall Road and south of I-495) would operate at LOS C or better during the AM peak hour.

Eisenhower Avenue:

- The only intersections along Eisenhower Avenue that would operate at LOS F during the AM peak hour are at Stovall Street and at Van Dorn Street (as noted above).
- All other intersections along Eisenhower Avenue would operate at LOS D or better.
- The intersection at the Multimodal Bridge would operate at LOS C.

Duke Street:

- During the AM peak hour, most intersections would operate at LOS C or better.
- The intersection of Duke Street at Wheeler Avenue would operate at LOS F, mainly due to congestion originating at the N. Quaker Lane intersection located immediately downstream and adjacent to this intersection.

Edsall Road & South Pickett Street:

- All intersections along Edsall Road and South Pickett Street would operate at LOS C or better during the AM peak hour, except for Edsall Road at Van Dorn Street, which would operate at LOS D.
- The intersection of South Pickett Street at the Multimodal Bridge would operate at LOS C.

In addition to the three intersections described above as operating at LOS F along the major corridors in the study area, the analysis also showed the new intersection of Farrington Avenue and the proposed Farrington Avenue Connector would operate at LOS F. Since the volumes at this intersection are projected to be relatively low, the poor LOS at this location is the result of downstream congestion extending back into this intersection from the South Van Dorn Street/Eisenhower Avenue/Farrington Avenue intersection, which operates at LOS F.

PM Peak Hour

Van Dorn Street:

- The segment of S. Van Dorn Street between Eisenhower Avenue and Edsall Road would experience a significant increase in delay, compared to the existing conditions.
 - The intersection at Eisenhower Avenue/Farrington Avenue would operate at level of service (LOS) F overall during the PM peak hour, due to excessive northbound delay.
 - Southbound S. Van Dorn Street would operate at LOS E.
 - Westbound Eisenhower Avenue would operate at LOS D.
 - The northbound and southbound approaches would have the worst congestion, with over 3 minutes of delay northbound and 80 seconds of delay eastbound.
 - All other intersections along Van Dorn Street would operate at LOS D or better.

Eisenhower Avenue:

- Only the intersection of Eisenhower Avenue at Van Dorn Street would operate at LOS F during the PM peak hour.
- All other intersections along Eisenhower Avenue would operate at LOS D or better.
- The intersection at the Multimodal Bridge would operate at LOS B.

Duke Street:

- The segment of Duke Street between North Quaker Lane and the Telegraph Road interchange would be very congested, with excessive delays along southbound Quaker Lane and along

eastbound Duke Street. However, most of the intersections on this portion of Duke Street would operate at LOS E, not LOS F.

- The remaining intersections along Duke Street would each operate at LOS D or better.

Edsall Road & South Pickett Street:

- The intersection of Edsall Road at S. Whiting Street would operate at LOS E.
All other intersections along Edsall Road and South Pickett Street would operate at LOS D or better overall during the PM Peak.

Table 6.1 – Year 2040 Baseline VISSIM Intersection Levels of Service and Max. Queues (ft) – AM Peak Hour

Int. No.	Intersections	Intersection Overall	Northbound					Southbound					Eastbound					Westbound					
			L	T	R	Approach	Queue	L	T	R	Approach	Queue	L	T	R	Approach	Queue	L	T	R	Approach	Queue	
VAN DORN STREET																							
1	N Van Dorn St at Holmes Run Pkwy	B		B	A	B	700	C	B		B	200											
2	N Van Dorn St at New Landmark St	C	E	C	C	C	800	E	C	A	C	325	E	A	A	D	425	E	E	B	C		150
3	S Van Dorn St at EOS 21 Apartments	A		A	A	A	375	E	A		A	100						E		A	B		25
4	S Van Dorn St at Stevenson Ave	D	D	A	A	A	350	D	C	A	C	350	E	E	B	D	350	D	E	A	D		100
5	S Van Dorn St at Van Dorn Plaza	C	E	C		D	1,000		B	B	B	300	E		A	D	400						
6	S Van Dorn St at Edsall Rd	D	F	D	D	D	600	F	C	C	D	375	D	D	A	D	350	D		D	D		375
7	S Van Dorn St at New Main St	D	F	D	D	E	775	F	C	C	C	425	E	E	E	E	350	E	F	F	F		375
8	S Van Dorn St at S Pickett St	D	C	D	B	D	525	F	A	A	A	325	F	F	A	C	125	F	F	F	F		425
9	S Van Dorn St at Courtney Ave	D	A	E	E	E	1,400	C	A	A	A	200	A	A	A	A	0	F	A	F	F		75
10	S Van Dorn St at Eisenhower Ave	F	F	F	F	E	1,675	F	E	C	E	875	F	F	F	F	1,600	F	F	F	F		975
11	S Van Dorn St at I-495 Ramps	D	E	C		D	625		D	C	D	425	F		C	E	725						
12	S Van Dorn St at Oakwood Rd	B	F	B	B	B	650	F	A	A	A	150	E	A	F	E	200	F	A	F	F		50
EISENHOWER AVENUE																							
13	Eisenhower Ave at Metro Rd	D						F		F	F	575	A	A		A	125			D	B	D	525
14	Eisenhower Ave at Multimodal Bridge/Bus Loop	C	C	D	B	D	150	C	D	C	C	200	C	B	B	C	250	B	C	C	C		350
15	Eisenhower Ave at Clermont Dr	B	C	D	A	B	250	A	A	A	A	0	B	B	B	B	200	D	A	A	B		125
16	Eisenhower Ave at Cameron Parke Pl	A						B		A	B	50	A	A		A	100			A	A	A	100
17	Eisenhower Ave at Bluestone Rd	A						C		A	B	75	A	A		A	100			A	A	A	100
18	Eisenhower Ave at Mill Rd W	A	C	C	A	B	75	C	C	A	C	175	A	A	A	A	175	A	A	A	A	A	200
19	Eisenhower Ave at Stovall St	F	F	F	F	F	1,675	D	D	A	C	125	C	B	C	C	375	F	B	A	B		175
20	Eisenhower Ave at Swamp Fox Road	A	D		B	D	100	F		A	E	75	A	A		A	325			A	A	A	175
21	Eisenhower Ave at Mill Race Ln	A	A	A	A	A	0	D	A	E	D	125	A	A	A	A	400	A	A	A	A	A	75
22	Eisenhower Ave at Mill Rd E	D	F	F	F	F	375	D	C	A	C	150	B	B	B	B	400	F	C	B	D		225
23	Eisenhower Ave at Elizabeth Ln	A	A	A	A	A	0	F	A	E	D	75	A	A	A	A	125	A	A	A	A	A	75
24	Eisenhower Ave at John Carlyle St	A						A		E	E	100	A	A		A	125			A	A	A	100
DUKE STREET																							
25	Duke St at New East St	C					0	A		A	A	175	E	E		E	625			A	A	A	125
26	Duke St at New Landmark St	C					0	D		F	E	375	E	B		B	525			A	A	A	300
27	Duke St at N Ripley St	B						D		D	D	275	E	A		A	175			B	A	B	325
28	Duke St at S Reynolds St	A	D	A	A	C	250	D	D	B	C	125	B	A	A	A	250	A	A	A	A	A	125
29	Duke St at N Paxton St	A	E	D	A	D	100	E	E	B	D	250	A	A	A	A	175	B	A	A	A	A	150
30	Duke St at S Pickett St	B	D		B	C	275							B	A	B	375	C	A			A	225
31	Duke St at Cameron Stn Blvd/N Pickett	C	D	D	D	D	350	F	F	F	F	200	C	B	A	B	475	C	A	B	B		275
32	Duke St at Somerville St	A			A	A	0			A	A	0		A	A	A	275			A	A	A	0
33	Duke St at Shops@Fox Chase	B	E	E	B	D	150	E	D	A	C	250	B	A	B	B	575	C	B	B	B		400
34	Duke St at Jordan St	C	E	E	A	D	275	D	D	B	D	200	E	B	B	B	475	C	C	B	C		250
35	Duke St at Ingram St	A	D	E	D	E	225	D	D	E	D	150	A	A	A	A	275	B	A	A	A	A	325
36	Duke St at N Gordon St	A						D		B	D	75	A	A		A	100			A	A	A	175
37	Duke St at S Gordon St	A	E	A	E	E	150	E	A	A	E	50	A	A	A	A	75	C	A	A	A	A	325
38	Duke St at Early St	B	E	E	F	F	200	F	F	C	E	200	B	B	B	B	425	B	A	B	A	A	300
39	Duke St at Wheeler Ave	F	E	A	A	C	300	F	A	A	E	50	F	F	F	F	1,400	C	A	A	A	A	375
40	Duke St at N Quaker Ln	D						F		F	F	525	C	C		C	500			B	A	A	425
41	Duke St at S Quaker Ln	A	E	A	E	E	150	A	A	A	A	0	A	B	A	B	450	C	A	A	A	A	325
42	Duke St at Alexandria Commons	B	D	D	B	D	75	E	E	C	D	100	C	A	A	A	350	D	B	B	B		625
43	Duke St at Sweeley St	B	E	D	E	E	100	E	E	B	D	100	D	B	A	B	650	B	B	C	B		800
44	Duke St at Roth St	B	E	E	D	E	150	E	E	B	D	150	A	A	A	A	800	C	B	B	B		625
45	Duke St at Witter St	A	E		C	C	75							A	A	A	475	B	A			A	600
46	Duke St at W Taylor Run Pkwy	C						D	D	B	D	375	F	C	C	C	800			C	B		875
47	Duke St at Dove St	C	D	A	C	C	125	D	A	D	D	100		D	D	D	525			A	A	A	100
EDSALL ROAD																							
48	Edsall Rd at Winterview Dr	A	B	A	A	B	75	B	B	B	B	50	A	A	B	B	400	B	A	A	A	A	125
49	Edsall Rd at Farrington Ave Extended	A	C		B	C	250					0		A	A	A	75	B	B			B	175
50	Edsall Rd at Yoakum Pkwy	A	C	D	C	C	150	D	D	A	B	125	A	A	A	A	100	A	A	A	A	A	100
51	Edsall Rd at S Whiting St	C	C	D	C	D	200	D	C	C	C	700	B	B	B	B	225	B	C	C	C		350
52	Edsall Rd at New Metro St	A	B		A	A	0							A	A	A	75			A	A	A	0
SOUTH PICKETT STREET																							
53	Farrington Ave Ext W at S Pickett St	A		B	B	B	25	B	A		B	175					0	B		A	A	A	100
54	Farrington Ave Ext at S Pickett St	C	B	A	A	B	100	C	B	C	C	25	B	C	D	D	400	D	C	C	D		450
55	New High St at S Pickett St	A						B		A	A	125	A	A		A	100			B	A	B	275
56	S Pickett St at Multimodal Bridge	C	B	B	C	C	225	C	B	B	B	175	C	B	C	C	150	C	C	C	C		200
57	S Pickett St at Edsall Rd	B	B	C	B	B	175	B	B	A	A	150	B	B	A	B	100	B	B	A	B		250
58	S Pickett St at Trade Center Shopping	A	C		A	B	50							A	A	A	125					A	75
NEW HIGH STREET (PROPOSED)																							
59	New Landmark St at New High St	B	C		C	C	350					0		B	A	B	125	B	A			B	125
60	New High St at Stevenson Ave	C	C	B	C	C	375	D	B	B	B	325	C	C	C	C	175	A	B	C	B		125
61	New High St at Van Dorn Plaza	B		B	A	A	225	B	B			300						B		B	B		200
62	New High St at New Main St	B		B	A	A	100	B	B			75						B			A	B	150
MISCELLANEOUS INTERSECTIONS																							
63	New Landmark St at New East St	B	C		C	C	300					0		C	A	B	300	B	A			A	250
64	New Metro St at New Main St	B	B	B			475		B	B	B	175	B		B	B	175						
65	Farrington Ave at Farrington Ave Extended	F					0	F		F	F	1,625	C	E		E	200			D	C	C	250
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	A						B			B	175	A			A	100						

Table 6.2 – Year 2040 Baseline VISSIM Intersection Levels of Service and Max. Queues (ft) – PM Peak Hour

Int. No.	Intersections	Intersection Overall	Northbound					Southbound					Eastbound					Westbound					
			L	T	R	Approach	Queue	L	T	R	Approach	Queue	L	T	R	Approach	Queue	L	T	R	Approach	Queue	
VAN DORN STREET																							
1	N Van Dorn St at Holmes Run Pkwy	B		B	A	B	275	B	A	B	A	225									D	D	225
2	N Van Dorn St at New Landmark St	C	F	B	B	C	225	F	C	B	C	650	D	F	C	D	350	E	E	B	D	450	
3	S Van Dorn St at EOS 21 Apartments	A		A	A	A	100	E	A		A	275						A		E	E	50	
4	S Van Dorn St at Stevenson Ave	C	D	A	A	B	175	E	C	A	B	450	E	E	B	D	300	E	D	A	D	100	
5	S Van Dorn St at Van Dorn Plaza	C	F	A		D	375		A	B	A	400	E		B	D	300						
6	S Van Dorn St at Edsall Rd	D	F	C	C	C	275	F	D	D	D	625	E	E	B	E	425	D	E	E	E	475	
7	S Van Dorn St at New Main St	D	F	A	A	C	175	F	C	C	C	650	E	E	F	E	225	E	E	E	E	375	
8	S Van Dorn St at S Pickett St	D	C	A	A	A	100	F	C	C	C	600	F	F	D	E	275	F	F	E	F	475	
9	S Van Dorn St at Courtney Ave	A	A	A	A	A	50	A	A	A	A	275	A	A	A	A	0	E	A	E	E	25	
10	S Van Dorn St at Eisenhower Ave	F	F	F	F	F	1,675	F	E	D	E	1,275	E	F	C	D	450	E	E	C	D	500	
11	S Van Dorn St at I-495 Ramps	D	E	B		D	375		E	B	D	600	E		D	D	1,250						
12	S Van Dorn St at Oakwood Rd	B	E	A	A	A	250	E	A	B	A	625	E	A	E	E	100	E	A	E	E	50	
EISENHOWER AVENUE																							
13	Eisenhower Ave at Metro Rd	B						C	B	C	C	325	A	A		A	125		B	A	B	225	
14	Eisenhower Ave at Multimodal Bridge/Bus Loop	B	C	D	B	C	175	C	D	D	D	200	B	A	B	B	200	B	B	A	B	225	
15	Eisenhower Ave at Clermont Dr	B	C	E	A	B	150	A	A	A	A	0	A	B	A	B	150	C	A	A	B	175	
16	Eisenhower Ave at Cameron Parke Pl	A						C		B	C	150	A	A		A	150		A	A	A	150	
17	Eisenhower Ave at Bluestone Rd	A						C		A	C	100	A	A		A	175		A	A	A	150	
18	Eisenhower Ave at Mill Rd W	B	C	C	B	B	125	D	D	A	C	175	A	A	A	A	175	A	B	B	B	425	
19	Eisenhower Ave at Stovall St	C	E	E	A	B	200	D	D	A	D	150	C	B	B	B	275	F	C	A	C	325	
20	Eisenhower Ave at Swamp Fox Road	A	E		B	D	100	F		B	B	100	B	A		A	425		A	A	A	100	
21	Eisenhower Ave at Mill Race Ln	A	A	A	A	A	0	D	A	E	E	175	A	A	A	A	250	B	A	A	A	100	
22	Eisenhower Ave at Mill Rd E	D	D	C	B	C	175	D	D	A	C	375	B	A	A	A	350	F	C	C	E	475	
23	Eisenhower Ave at Elizabeth Ln	D	E	D	C	A	100	E	A	F	F	300	B	A	A	A	100	D	E	A	E	400	
24	Eisenhower Ave at John Carlyle St	C						F		F	F	300	B	A		A	225		A	A	A	125	
DUKE STREET																							
25	Duke St at New East St	A						A	B	B	B	150	D	A		B	350		A	A	A	100	
26	Duke St at New Landmark St	B						D		A	B	75	D	A		A	150		B	C	B	325	
27	Duke St at N Ripley St	B						E		E	E	275	E	A		B	225		B	A	B	325	
28	Duke St at S Reynolds St	A	E	E	A	D	225	D	D	B	C	100	B	A	A	A	275	B	A	A	A	100	
29	Duke St at N Paxton St	A	D	D	A	D	100	E	E	C	D	300	B	A	A	A	100	A	A	A	A	175	
30	Duke St at S Pickett St	B	D		C	C	375			B	B	375		B	B	B	375	B	A		A	250	
31	Duke St at Cameron Stn Blvd/N Pickett	B	D	D	D	D	175	E	E	D	E	275	C	A	A	B	400	B	A	A	A	300	
32	Duke St at Somerville St	B			A	A	0			A	A	0		A	C	C	650		A	A	A	25	
33	Duke St at Shops@Fox Chase	C	D	D	C	C	150	D	D	B	D	300	C	C	C	C	850	C	B	B	B	575	
34	Duke St at Jordan St	C	E	E	A	D	200	D	D	B	C	250	E	A	A	B	250	C	C	A	B	425	
35	Duke St at Ingram St	C	F	F	F	F	225	E	E	E	E	175	C	C	C	C	825	B	A	A	A	100	
36	Duke St at N Gordon St	B						D		B	C	75	E	C		C	425		A	A	A	75	
37	Duke St at S Gordon St	B	E	A	D	E	175	D	A	A	D	25	A	A	A	A	75	C	B	A	B	425	
38	Duke St at Early St	C	E	C	D	E	175	F	F	F	F	450	B	B	B	B	500	C	A	B	B	200	
39	Duke St at Wheeler Ave	C	E	A	A	C	250	D	A	A	D	25	D	D	C	D	1,050	D	A	A	A	225	
40	Duke St at N Quaker Ln	E						F		F	E	525	C	D		D	450		B	A	A	250	
41	Duke St at S Quaker Ln	C	E	A	E	E	200	A	A	A	A	0	A	D	C	D	450	C	A	A	A	325	
42	Duke St at Alexandria Commons	D	D	D	A	D	175	A	F	F	F	275	E	C	B	C	325	F	C	D	D	650	
43	Duke St at Sweeley St	E	F	F	F	F	250	E	E	C	E	250	F	E	D	E	675	D	E	F	E	825	
44	Duke St at Roth St	E	E	A	E	E	300	F	A	F	F	175	D	D	A	D	825	E	E	E	E	775	
45	Duke St at Witter St	E	F		F	F	200			E	E	800		E	E	E	800	D	D		D	825	
46	Duke St at W Taylor Run Pkwy	E						D	D	D	D	400	F	D	E	E	800		E	D	E	1,625	
47	Duke St at Dove St	D	C	B	C	C	125	E	A	E	E	100		A	A	A	125		D	D	D	1,275	
EDSALL ROAD																							
48	Edsall Rd at Winterview Dr	A	A	B	A	A	25	A	B	B	A	25	A	A	A	A	125	A	A	A	A	150	
49	Edsall Rd at Farrington Ave Extended	C	A		A	A	200							C	A	C	250	C	C		C	225	
50	Edsall Rd at Yoakum Pkwy	B	D	D	D	D	100	D	C	A	B	125	A	A	A	A	150	C	B	A	B	150	
51	Edsall Rd at S Whiting St	E	D	D	D	D	125	F	F	E	E	1,075	C	C	C	C	175	B	C	E	D	475	
52	Edsall Rd at New Metro St	A	B		A	A	0							A	A	A	75	A	A		A	50	
SOUTH PICKETT STREET																							
53	Farrington Ave Ext W at S Pickett St	A		A	C	B	25	B	B		B	200					0	B		A	A	75	
54	Farrington Ave Ext at S Pickett St	B	A	A	B	A	25	C	B	A	B	25	D	D	D	D	275	C	B	B	C	200	
55	New High St at S Pickett St	D						D		C	D	225	D	E		E	275		A	A	A	175	
56	S Pickett St at Multimodal Bridge	C	B	B	C	C	300	C	C	B	B	200	B	B	C	B	100	C	C	B	C	250	
57	S Pickett St at Edsall Rd	B	B	C	B	B	125	B	A	A	B	200	B	B	A	B	125	B	C	B	B	450	
58	S Pickett St at Trade Center Shopping	A	C		A	B	100							B	B	B	175	A	A		A	100	
NEW HIGH STREET (PROPOSED)																							
59	New Landmark St at New High St	C	D		D	D	600							A	A	A	100	B	A		B	150	
60	New High St at Stevenson Ave	B	C	B	C	C	425	C	B	B	B	350	C	B	C	B	150	A	B	C	B	200	
61	New High St at Van Dorn Plaza	B		B	A	A	375	B	A		B	300						B		A	B	200	
62	New High St at New Main St	B		A	A	A	50	B	C		B	175						B		A	B	100	
MISCELLANEOUS INTERSECTIONS																							
63	New Landmark St at New East St	B	D		D	D	375					0		B	A	B	225	B	B		B	300	
64	New Metro St at New Main St	C	B	B		B	200		C	C	C	325	C		C	C	250						
65	Farrington Ave at Farrington Ave Extended	B						A		A	A	100	C	B		B	100		C	B	B	300	
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	A						B			B	200	A			A	75						

Table 6.3 – Year 2040 Baseline VISSIM Intersection Delay (sec/veh) – AM Peak Hour

Int. No.	Intersections	Intersection Overall	Northbound				Southbound				Eastbound				Westbound			
			L	T	R	Approach	L	T	R	Approach	L	T	R	Approach	L	T	R	Approach
VAN DORN STREET																		
1	N Van Dorn St at Holmes Run Pkwy	14		12	9	12	28	12		14				51			25	27
2	N Van Dorn St at New Landmark St	28	73	21	21	26	73	23	8	22	56	1	3	47	57	64	13	27
3	S Van Dorn St at EOS 21 Apartments	4		4	3	4	66	1		2				58			8	13
4	S Van Dorn St at Stevenson Ave	20	55	7	10	10	47	34	5	31	68	67	18	48	53	58	4	39
5	S Van Dorn St at Van Dorn Plaza	32	77	31		39		12	14	13	67		9	40				
6	S Van Dorn St at Edsall Rd	46	279	36	36	49	166	31	33	41	46	50	3	38	49	57	52	54
7	S Van Dorn St at New Main St	50	111	50	50	56	100	20	20	30	69	64	65	66	73	85	84	81
8	S Van Dorn St at S Pickett St	38	20	49	13	40	98	6	6	8	114	115	5	28	89	85	144	90
9	S Van Dorn St at Courtney Ave	39	0	58	57	58	22	1	0	2	0	0	0	0	98	0	124	113
10	S Van Dorn St at Eisenhower Ave	162	257	185	150	185	158	59	23	79	370	365	322	350	127	153	126	127
11	S Van Dorn St at I-495 Ramps	47	65	34		45		49	21	39	87		33	57				
12	S Van Dorn St at Oakwood Rd	17	92	17	13	17	94	4	5	6	78	0	84	79	83	0	101	98
EISENHOWER AVENUE																		
13	Eisenhower Ave at Metro Rd	46					104		208	147	4	5		5		45	17	44
14	Eisenhower Ave at Multimodal Bridge/Bus Loop	25	33	53	17	37	27	38	30	29	26	17	14	20	16	27	23	27
15	Eisenhower Ave at Clermont Dr	16	29	35	7	18	0	0	0	0	10	14	11	12	54	9	5	16
16	Eisenhower Ave at Cameron Parke Pl	3					19		6	17	2	2		2		2	3	2
17	Eisenhower Ave at Bluestone Rd	3					28		5	16	2	2		2		3	3	3
18	Eisenhower Ave at Mill Rd W	9	28	31	7	17	34	30	6	23	7	6	3	6	5	6	7	6
19	Eisenhower Ave at Stovall St	84	165	172	168	169	55	50	5	27	25	20	23	21	92	13	7	11
20	Eisenhower Ave at Swamp Fox Road	8	54		13	37	149		9	75	7	4		4		9	8	9
21	Eisenhower Ave at Mill Race Ln	8	0	0	0	0	50	0	55	55	7	10	0	10	0	1	2	1
22	Eisenhower Ave at Mill Rd E	38	91	87	86	88	39	33	5	25	14	13	11	13	116	27	19	36
23	Eisenhower Ave at Elizabeth Ln	3	0	0	0	0	112	0	6	45	5	1	1	2	2	3	5	3
24	Eisenhower Ave at John Carlyle St	4					0		70	70	6	1		2		3	0	3
DUKE STREET																		
25	Duke St at New East St	24					0		7	7	70	69		69		5	7	5
26	Duke St at New Landmark St	21					37		86	77	73	11		17		8	7	8
27	Duke St at N Ripley St	14					52		53	53	68	5		8		13	10	13
28	Duke St at S Reynolds St	9	55	0	6	34	44	39	15	27	12	6	3	6	10	4	2	5
29	Duke St at N Paxton St	7	57	55	9	41	66	79	19	40	8	2	1	3	11	3	3	3
30	Duke St at S Pickett St	16	52		16	28						17	6	16	24	3		9
31	Duke St at Cameron Stn Blvd/N Pickett	21	52	50	46	50	84	116	115	97	20	11	6	12	20	10	12	10
32	Duke St at Somerville St	2			6	6			5	5		0	3	3		1	1	1
33	Duke St at Shops@Fox Chase	17	68	75	19	41	56	48	7	35	16	10	10	11	30	16	15	16
34	Duke St at Jordan St	24	62	55	5	45	55	55	12	40	71	11	11	20	32	22	12	21
35	Duke St at Ingram St	8	55	61	54	55	51	53	56	54	7	2	2	2	20	6	6	6
36	Duke St at N Gordon St	3					52		19	44	5	1		1		4	3	4
37	Duke St at S Gordon St	6	62	0	63	62	55	0	0	55	0	1	1	1	21	9	5	9
38	Duke St at Early St	19	64	59	141	99	80	101	31	56	10	17	16	17	16	9	13	9
39	Duke St at Wheeler Ave	92	63	0	9	21	60	0	0	60	141	150	133	149	22	6	6	9
40	Duke St at N Quaker Ln	37					148		132	145	25	29		29		13	4	9
41	Duke St at S Quaker Ln	9	56		59	57						11	8	11	25	5		5
42	Duke St at Alexandria Commons	10	52	49	16	40	63	72	34	54	31	6	2	7	42	12	12	13
43	Duke St at Sweeley St	17	69	44	64	59	68	58	15	42	37	12	10	13	18	20	28	20
44	Duke St at Roth St	13	73	59	55	56	56	64	16	45	10	10	0	10	29	12	13	13
45	Duke St at Witter St	7	56		22	34						10	7	10	18	4		4
46	Duke St at W Taylor Run Pkwy	26					47	46	12	43	98	25	32	30		21	16	20
47	Duke St at Dove St	28	44	0	31	34	48	0	52	50		39	42	39		3	5	3
EDSALL ROAD																		
48	Edsall Rd at Winterview Dr	9	12	0	8	12	10	17	15	13	10	9	15	11	12	4	5	4
49	Edsall Rd at Farrington Ave Extended	9	25		17	24						4	2	2	18	13		14
50	Edsall Rd at Yoakum Pkwy	9	31	39	35	35	39	37	2	16	7	4	3	4	10	4	1	4
51	Edsall Rd at S Whiting St	26	33	42	25	38	37	35	26	33	17	17	11	17	17	24	20	21
52	Edsall Rd at New Metro St	4	11		8	10						3	1	2	4	1		2
SOUTH PICKETT STREET																		
53	Farrington Ave Ext W at S Pickett St	8		10	14	12	10	9		10				13		5	5	
54	Farrington Ave Ext at S Pickett St	35	11	1	0	11	27	12	30	21	20	32	42	36	48	33	20	44
55	New High St at S Pickett St	10					14		4	9	8	8		8		15	4	11
56	S Pickett St at Multimodal Bridge	22	17	15	31	24	22	20	15	19	20	18	31	23	23	23	24	23
57	S Pickett St at Edsall Rd	13	14	22	11	17	10	10	6	10	17	15	2	13	19	19	5	13
58	S Pickett St at Trade Center Shopping	5	34		6	16						6	7	6	4	1		2
NEW HIGH STREET (PROPOSED)																		
59	New Landmark St at New High St	19	26		27	27						17	4	10	15	7		14
60	New High St at Stevenson Ave	21	29	19	29	25	50	16	15	19	21	20	24	21	2	19	22	18
61	New High St at Van Dorn Plaza	11		11	6	8	17	11		13				16		11	14	
62	New High St at New Main St	10		10	8	9	11	11		12				13		9	11	
MISCELLANEOUS INTERSECTIONS																		
63	New Landmark St at New East St	16	26		29	28						25	3	15	10	8		9
64	New Metro St at New Main St	17	17	19		18		15	14	15	18		17	17				
65	Farrington Ave at Farrington Ave Extended	177					317		174	314	35	68		67		37	26	31
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	10					13			13	8			8				

Table 6.4 – Year 2040 Baseline VISSIM Intersection Delay (sec/veh) – PM Peak Hour

Int. No.	Intersections	Intersection Overall	Northbound				Southbound				Eastbound				Westbound			
			L	T	R	Approach	L	T	R	Approach	L	T	R	Approach	L	T	R	Approach
VAN DORN STREET																		
1	N Van Dorn St at Holmes Run Pkwy	13		12	8	12	12	8							31		47	45
2	N Van Dorn St at New Landmark St	34	80	15	17	26	87	28	15	28	52	80	34	46	61	65	19	49
3	S Van Dorn St at EOS 21 Apartments	3		3	1	2	62	2		3							69	69
4	S Van Dorn St at Stevenson Ave	22	52	5	6	15	67	22	6	20	68	61	19	37	58	54	5	45
5	S Van Dorn St at Van Dorn Plaza	22	95	9		35		9	11	10	74		12	39				
6	S Van Dorn St at Edsall Rd	49	81	25	28	35	88	37	38	43	68	74	16	58	50	60	69	60
7	S Van Dorn St at New Main St	39	104	9	10	22	103	22	22	31	77	74	81	79	76	74	77	77
8	S Van Dorn St at S Pickett St	46	22	7	8	8	267	23	25	32	99	127	45	57	121	89	70	107
9	S Van Dorn St at Courtney Ave	7	0	1	0	1	7	8	0	8	0	0	0	0	67	0	75	72
10	S Van Dorn St at Eisenhower Ave	113	253	201	193	207	122	73	43	80	79	82	32	50	70	74	35	54
11	S Van Dorn St at I-495 Ramps	45	78	20		38		56	16	47	55		43	47				
12	S Van Dorn St at Oakwood Rd	11	71	7	0	8	77	9	11	10	68	0	77	68	66	0	75	73
EISENHOWER AVENUE																		
13	Eisenhower Ave at Metro Rd	15					33		13	21	9	8		8		16	1	15
14	Eisenhower Ave at Multimodal Bridge/Bus Loop	17	34	41	17	32	34	36	38	36	13	9	11	11	11	16	9	13
15	Eisenhower Ave at Clermont Dr	15	22	58	4	13	0	0	0	0	0	17	7	15	24	9	4	18
16	Eisenhower Ave at Cameron Parke Pl	6					30		13	22	3	5		5		4	4	4
17	Eisenhower Ave at Bluestone Rd	4					30		5	26	3	3		3		3	4	3
18	Eisenhower Ave at Mill Rd W	13	32	34	11	17	36	36	6	26	7	7	5	7	8	11	19	14
19	Eisenhower Ave at Stovall St	21	55	56	5	17	53	42	3	35	22	18	20	19	184	22	8	20
20	Eisenhower Ave at Swamp Fox Road	8	59		11	40	96		13	15	10	6		7		4	3	4
21	Eisenhower Ave at Mill Race Ln	6	0	0	0	0	52	0	57	57	9	5	0	5	11	2	3	2
22	Eisenhower Ave at Mill Rd E	35	45	29	13	30	46	44	10	34	10	8	9	8	152	34	25	73
23	Eisenhower Ave at Elizabeth Ln	37	68	47	26	0	79	0	87	86	15	2	1	3	38	65	9	62
24	Eisenhower Ave at John Carlyle St	30					120		151	150	11	9		10		8	0	8
DUKE STREET																		
25	Duke St at New East St	9					0		12	12	51	5		12		5	6	5
26	Duke St at New Landmark St	11					38		6	13	51	1		4		18	21	19
27	Duke St at N Ripley St	14					57		56	57	74	5		11		13	8	13
28	Duke St at S Reynolds St	9	57	61	6	36	46	46	18	32	10	7	5	7	12	2	1	4
29	Duke St at N Paxton St	8	51	51	9	43	68	70	23	42	12	2	1	3	9	5	4	5
30	Duke St at S Pickett St	16	51		27	35						16	15	16	18	2		7
31	Duke St at Cameron Stn Blvd/N Pickett	17	53	54	50	53	71	66	42	62	29	9	6	10	19	9	9	9
32	Duke St at Somerville St	12			6	6			5	5		7	23	23		1	3	1
33	Duke St at Shops@Fox Chase	25	48	49	22	33	54	53	11	37	33	24	28	26	25	18	12	18
34	Duke St at Jordan St	23	59	57	6	44	52	53	16	35	67	9	8	17	29	22	8	19
35	Duke St at Ingram St	31	122	131	136	127	79	69	68	71	29	31	23	30	19	2	3	3
36	Duke St at N Gordon St	14					51		12	31	66	22		23		3	1	2
37	Duke St at S Gordon St	11	59	0	54	58	48	0	0	48	0	1	1	1	35	18	0	18
38	Duke St at Early St	33	75	33	45	64	186	191	153	168	15	18	18	18	22	8	14	10
39	Duke St at Wheeler Ave	24	69	0	8	23	54	0	0	54	42	36	30	36	51	4	2	9
40	Duke St at N Quaker Ln	59					275		213	264	21	44		40		12	2	8
41	Duke St at S Quaker Ln	26	58	0	68	61	0	0	0	0	0	44	33	43	24	4	0	5
42	Duke St at Alexandria Commons	44	51	48	0	50	0	197	178	193	80	26	15	29	111	34	38	40
43	Duke St at Sweeley St	69	148	136	149	148	77	70	25	66	104	57	40	58	48	66	97	68
44	Duke St at Roth St	65	60	0	64	64	106	0	134	111	48	49	0	48	62	72	68	71
45	Duke St at Witter St	65	82		85	84						77	66	77	51	54		54
46	Duke St at W Taylor Run Pkwy	63					44	45	43	44	144	50	58	55		78	54	75
47	Duke St at Dove St	36	25	17	24	24	56	0	74	64		7	8	7		54	47	54
EDSALL ROAD																		
48	Edsall Rd at Winterview Dr	5	1	10	10	2	1	15	13	6	7	5	8	6	9	4	3	4
49	Edsall Rd at Farrington Ave Extended	21	10		7	10						26	8	20	29	27		27
50	Edsall Rd at Yoakum Pkwy	12	38	40	37	38	38	35	3	15	9	4	5	5	21	14	2	12
51	Edsall Rd at S Whiting St	57	37	37	39	37	86	80	72	81	28	31	23	28	20	31	61	45
52	Edsall Rd at New Metro St	4	10		7	9						5	1	3	9	2		4
SOUTH PICKETT STREET																		
53	Farrington Ave Ext W at S Pickett St	10		9	22	15	16	14		16					15		5	5
54	Farrington Ave Ext at S Pickett St	20	1	10	14	5	20	18	3	14	45	43	37	40	25	20	11	23
55	New High St at S Pickett St	38					55		27	47	40	69		66		9	4	7
56	S Pickett St at Multimodal Bridge	20	19	18	25	21	22	22	16	19	19	18	23	20	20	23	18	20
57	S Pickett St at Edsall Rd	14	16	22	11	19	12	10	6	11	18	13	2	11	16	23	10	15
58	S Pickett St at Trade Center Shopping	9	32		6	20						12	12	12	6	3		4
NEW HIGH STREET (PROPOSED)																		
59	New Landmark St at New High St	25	41		42	42						0	7	6	12	8		11
60	New High St at Stevenson Ave	19	32	17	32	26	27	15	16	16	20	18	21	20	3	19	21	17
61	New High St at Van Dorn Plaza	11		11	6	10	18	10		11					17		10	14
62	New High St at New Main St	15		9	7	7	17	21		19					19		9	14
MISCELLANEOUS INTERSECTIONS																		
63	New Landmark St at New East St	18	39		38	38						15	7	12	11	10		11
64	New Metro St at New Main St	21	14	15		15		24	22	24	27		26	26				
65	Farrington Ave at Farrington Ave Extended	15					9		3	9	21	15		16		28	18	19
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	8					12			12	6			6				

Figure 6.7 – Change in AM Peak Hour Delay (sec/veh) – 2040 Baseline vs. Existing

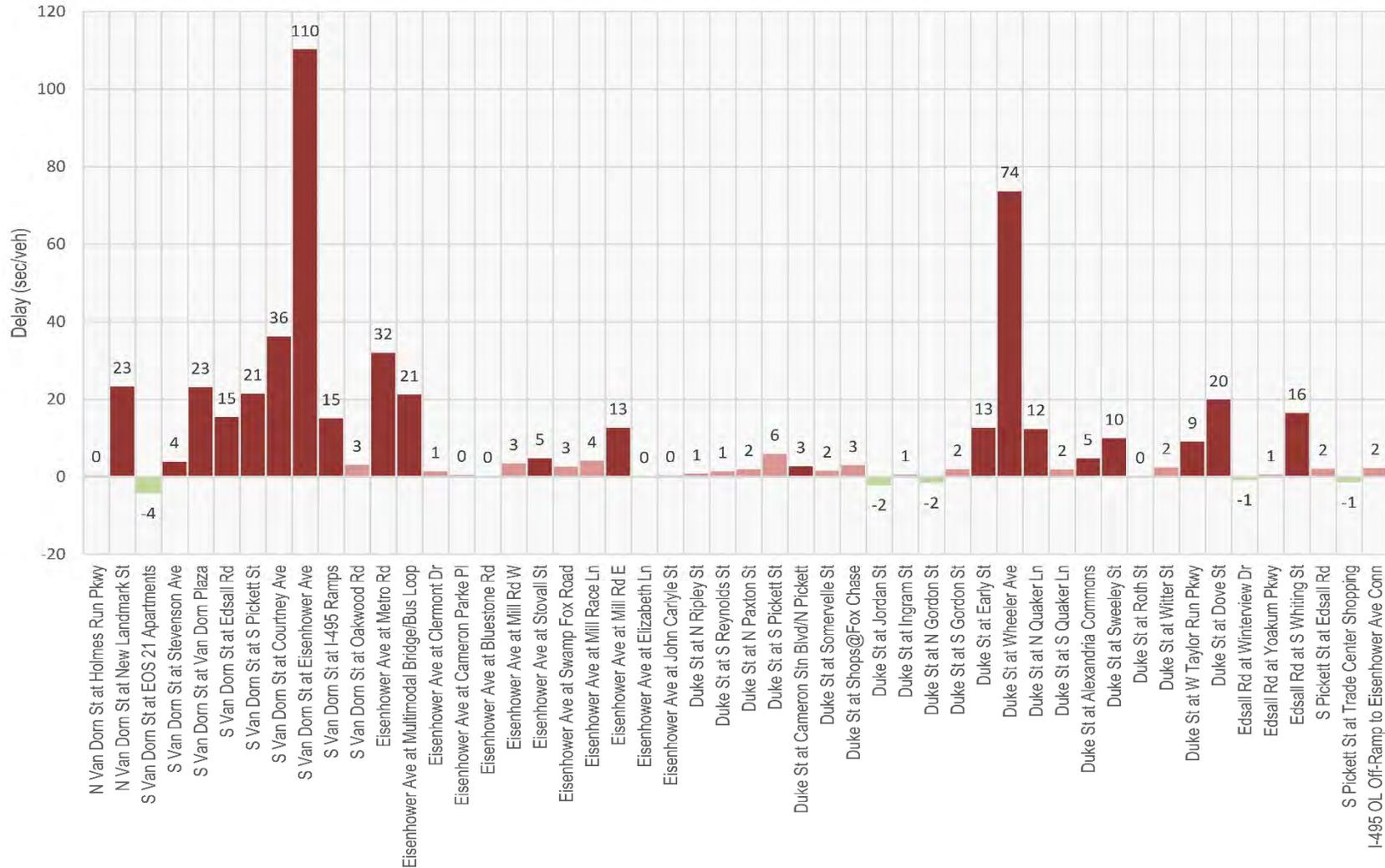
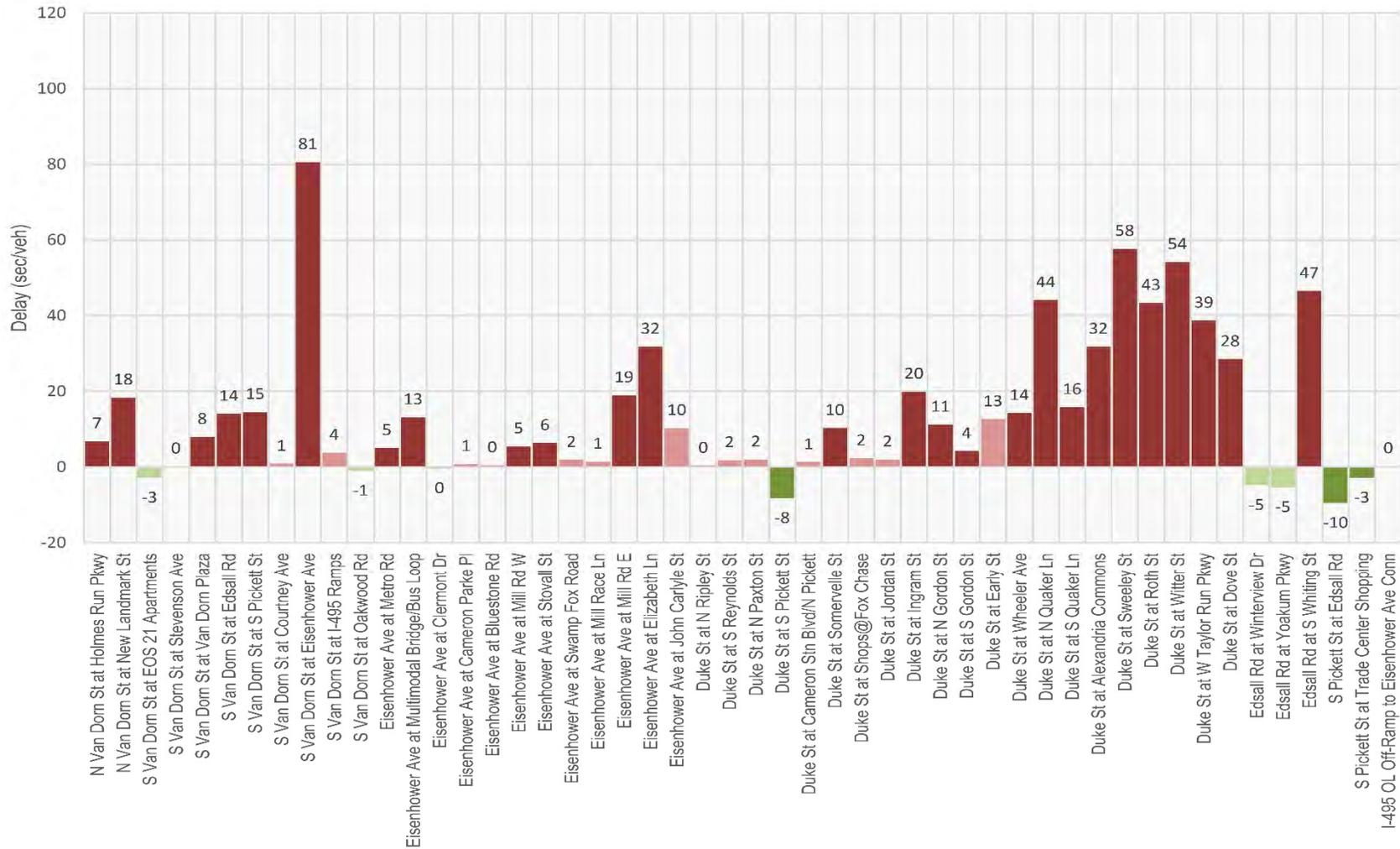


Figure 6.8 – Change in PM Peak Hour Delay (sec/veh) – 2040 Baseline vs. Existing



Tables 6.5 and 6.6 summarize the VISSIM analysis of the 2040 Baseline traffic operations along I-95/I-495 in the vicinity of the Van Dorn Street and Telegraph Road interchanges during the AM and PM peak hours, respectively. The results of the traffic analyses indicate that there would be several lane drops, lane additions, ramp merge areas, ramp diverge areas, and freeway segments along the Inner Loop (IL) and Outer Loop (OL) of the Capital Beltway in this area that would operate at LOS E under the 2040 Baseline Conditions. These areas of congestion would be due to the projected traffic growth on the Beltway. The analysis did not show any queues extending from the local intersections back down ramps onto the interstate. The tables show the levels of service (LOS) and densities (passenger cars per lane per mile) for each of these segments. Figure 6.9 shows these levels of service and densities where they would occur along I-95/I-495 during the AM and PM peak hours.

Table 6.5 – Year 2040 Baseline VISSIM I-95/I-495 Levels of Service (LOS) and Density – AM Peak Hour

Beltway Segment	Analysis	Density (pc/ln/mi)	LOS
Upstream of Off-Ramp from OL I-95/495 to Van Dorn Street	Lane Drop	32.5	D
At Van Dorn Street On-Ramp to OL I-95/495	Lane Add	27.8	D
At NB Van Dorn Street On-Ramp to OL I-95/495	Merge	23.5	C
OL I-95/495 Segment East of Van Dorn Street	Freeway	36.6	E
At OL I-95/495 Off-Ramp to Eisenhower Ave Connector	Diverge	29.7	D
At Eisenhower Ave Connector On-Ramp to OL I-95/495	Lane Add	27.6	D
Upstream of Off-Ramp from IL I-495 to Eisenhower Ave Connector	Lane Drop	33.3	D
At Eisenhower Ave Connector On-Ramp to IL I-95/495	Merge	30.1	D
IL I-95/495 Segment West of Eisenhower Ave Connector	Freeway	37.6	E
At IL I-95/495 Off-Ramp to Van Dorn Street	Diverge	39.5	E
At Van Dorn Street On-Ramp to IL I-95/495	Lane Add	29.1	D
IL I-95/495 Segment West of Van Dorn Street	Freeway	24.0	C

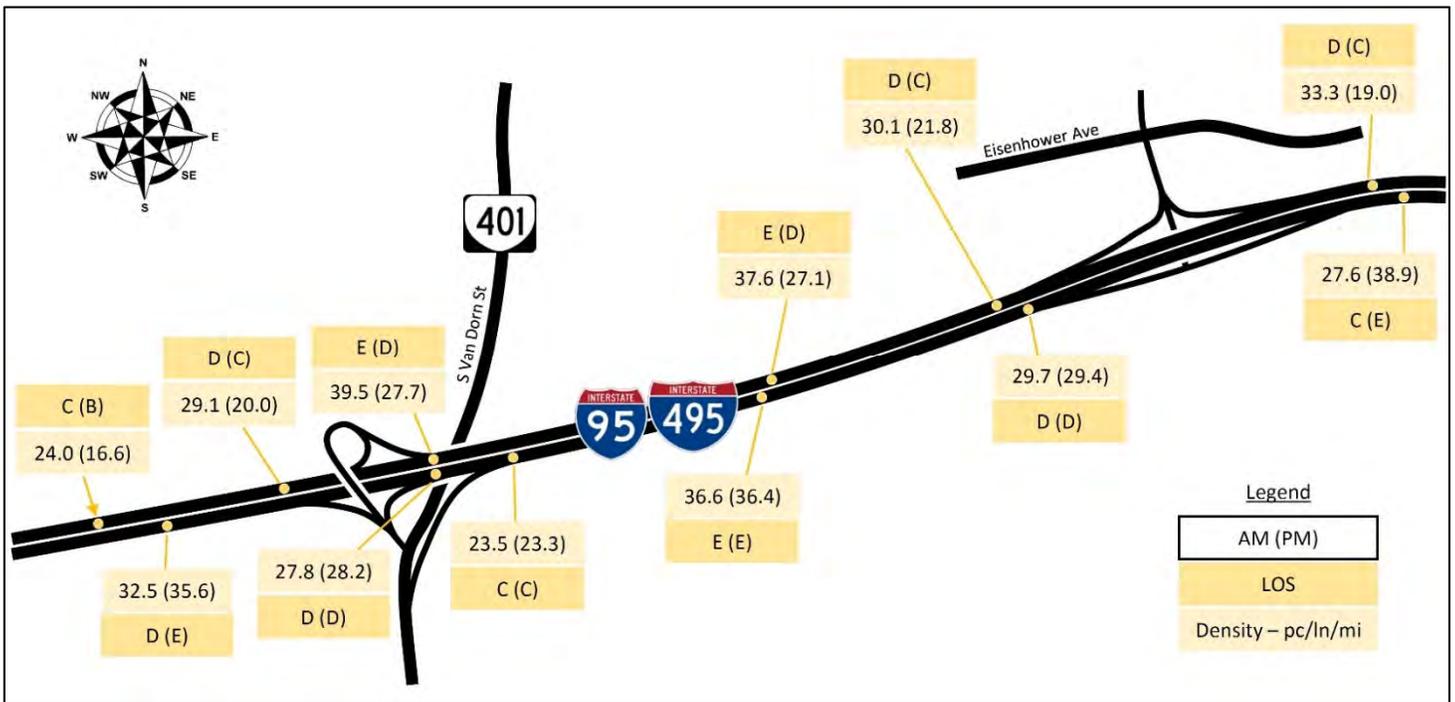
Note: The freeway segment west of Van Dorn St and the segment east of the Eisenhower Avenue Connector each do not reflect the effects of merging and diverging maneuvers at the I-395 interchange and Telegraph Road interchange, respectively.

Table 6.6 – Year 2040 Baseline VISSIM I-95/I-495 Levels of Service (LOS) and Density – PM Peak Hour

Beltway Segment	Analysis	Density (pc/ln/mi)	LOS
Upstream of Off-Ramp from OL I-95/495 to Van Dorn Street	Lane Drop	35.6	E
At Van Dorn Street On-Ramp to OL I-95/495	Lane Add	28.2	D
At NB Van Dorn Street On-Ramp to OL I-95/495	Merge	23.3	C
OL I-95/495 Segment East of Van Dorn Street	Freeway	36.4	E
At OL I-95/495 Off-Ramp to Eisenhower Ave Connector	Diverge	29.4	D
At Eisenhower Ave Connector On-Ramp to OL I-95/495	Lane Add	38.9	E
Upstream of Off-Ramp from IL I-495 to Eisenhower Ave Connector	Lane Drop	19.0	C
At Eisenhower Ave Connector On-Ramp to IL I-95/495	Merge	21.8	C
IL I-95/495 Segment West of Eisenhower Ave Connector	Freeway	27.1	D
At IL I-95/495 Off-Ramp to Van Dorn Street	Diverge	27.7	D
At Van Dorn Street On-Ramp to IL I-95/495	Lane Add	20.0	C
IL I-95/495 Segment West of Van Dorn Street	Freeway	16.6	B

Note: The freeway segment west of Van Dorn St and the segment east of the Eisenhower Avenue Connector each do not reflect the effects of merging and diverging maneuvers at the I-395 interchange and Telegraph Road interchange, respectively.

Figure 6.9 – Year 2040 Baseline VISSIM I-95/I-495 Levels of Service (LOS) and Density



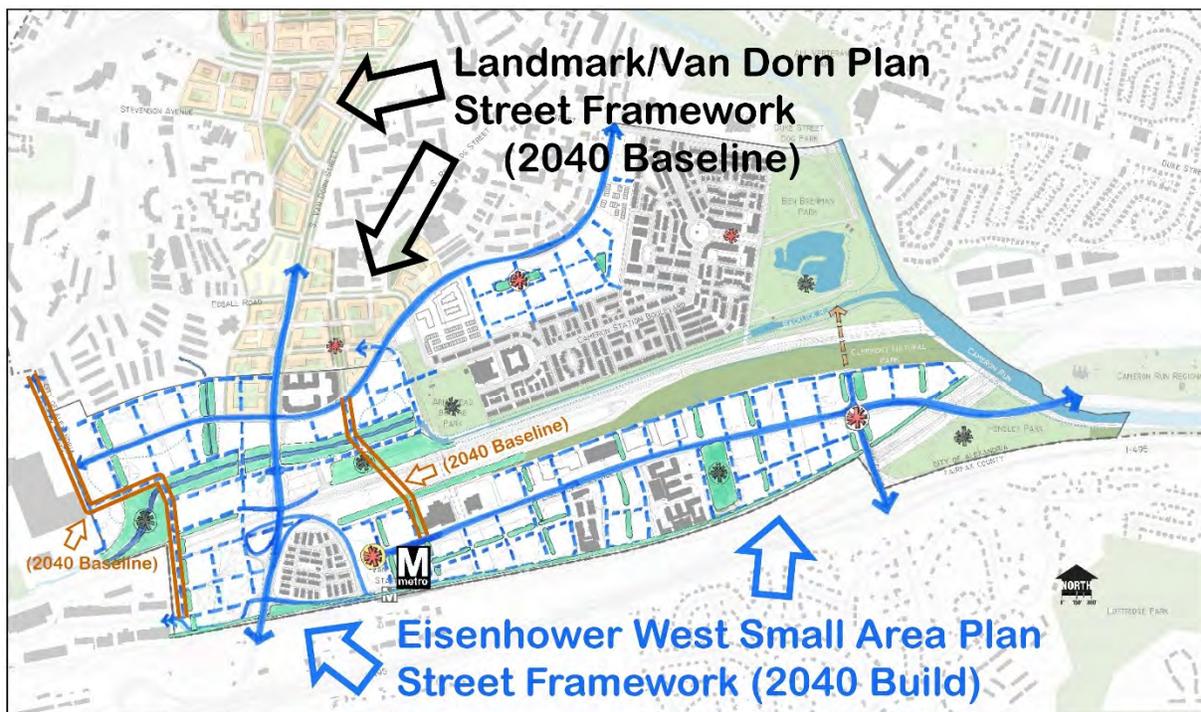
The results of the analysis of projected future traffic operations on the Capital Beltway near the Eisenhower West Transportation Study area indicate the inner loop of the beltway would experience the most congestion (i.e., the poorest LOS) during the AM peak hour, whereas the outer loop would experience the highest levels of congestion during the PM peak hour.

7 The 2040 Build Transportation Network

The City of Alexandria Department of Planning and Zoning, along with their consultant team, has prepared a Small Area Plan for Eisenhower West, which proposes approximately 9.3 million square feet of new residential, retail and office space (i.e., the 2040 Build scenario) which also includes approved but currently unbuilt development that was assumed under the 2040 Baseline scenario. This Small Area Plan also includes a proposed network of new streets to provide additional connectivity for the planned development, supplementing existing roads and other new streets that were proposed under the 2040 Baseline scenario.

Figure 7.1 is a diagram showing the framework of proposed streets for the 2040 Build scenario, along with streets assumed to be in place under 2040 Baseline. Among the key connections assumed under both 2040 Baseline and 2040 Build are the Farrington Avenue Connector and the Multimodal Bridge. As discussed earlier in this report, the Farrington Avenue Connector is planned as a two-lane street connecting existing Farrington Avenue to Edsall Road, near the city's western border with Fairfax County. The Multimodal Bridge is a planned connection across the Norfolk Southern railroad tracks, between South Pickett Street and Eisenhower Avenue, providing near direct access to the Van Dorn Street Metrorail station. This bridge would include dedicated lanes for transit vehicles, lanes for general traffic, and separate facilities for bicycles and pedestrians.

Figure 7.1 – 2040 Build Scenario Street Framework Plan



Sources: City of Alexandria Planning & Zoning
SmithGroupJJR Urban Design

Some of the other key transportation assumptions under the 2040 Build scenario include:

- A new grid of streets within the Small Area Plan to support the proposed land uses
- Removal of the southbound loop ramp from Van Dorn Street to Metro Road (replaced with an urban street grid)
- Realignment of the northbound ramp from Van Dorn Street to Metro Road, to form a signalized “T” intersection at Metro Road
- Realignment of the proposed Van Dorn Circulator to better serve the future development west of Van Dorn Street
- An improved pedestrian and bicycle network to provide better connectivity throughout the plan area and to adjacent neighborhoods, especially improving north-south connectivity across Backlick Run and the Norfolk Southern railroad

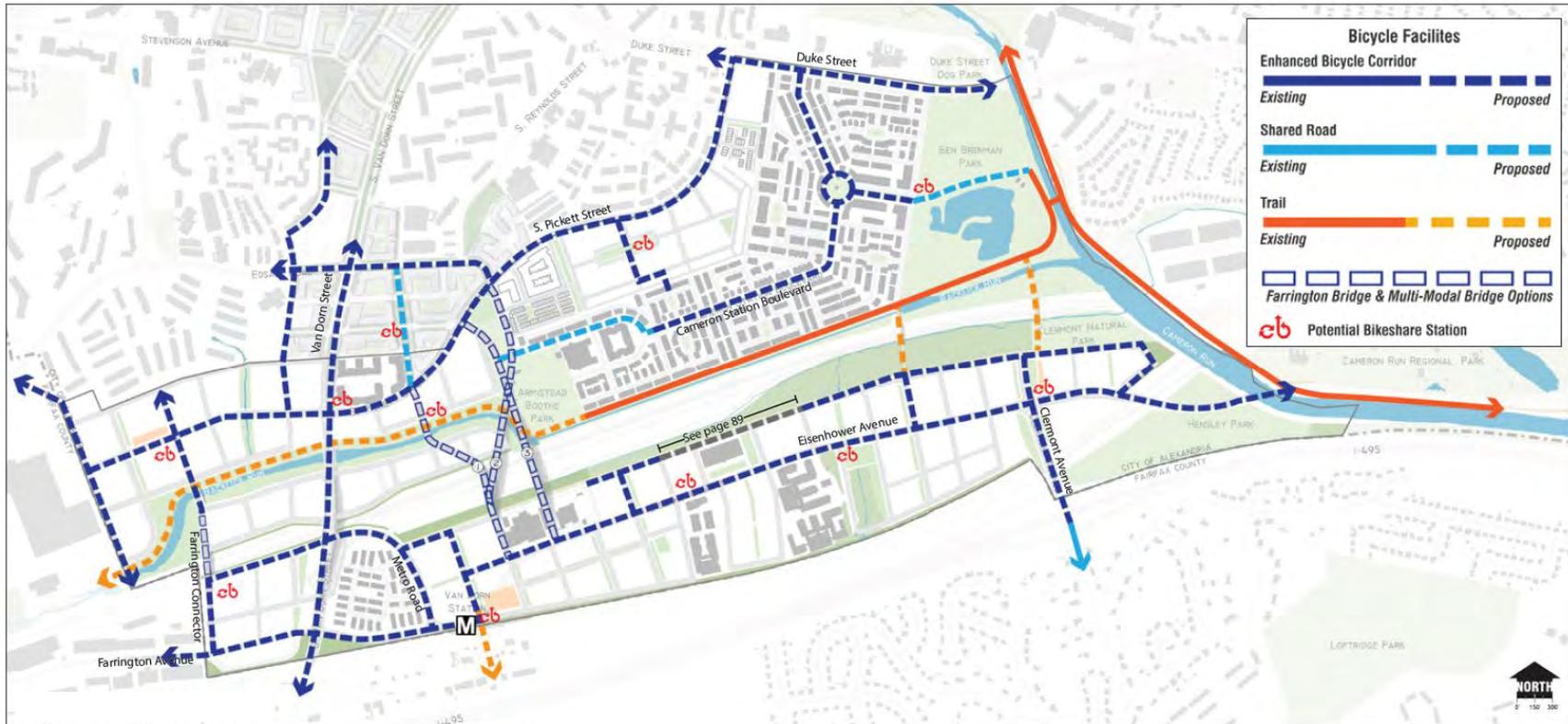
One of the key components of the planned street network under the 2040 Build conditions is the straightening of the alignment and truncation of Eisenhower Ave at a relocated Metro Road near the Van Dorn Street Metrorail Station. This change would create a potential development node at the Metrorail station. To prevent this network modification from adversely affecting traffic flow in the area, the Multimodal Bridge (assumed to be built under 2040 Baseline conditions) and a series of parallel streets west of Van Dorn Street connecting to Metro Road, would provide multiple ways for traffic to access Eisenhower Avenue. By allowing traffic to disperse using a series of alternate routes, the projected additional traffic burden the 2040 Build development would place on the urban, pedestrian-friendly street cross-sections proposed in the Small Area Plan would be reduced.

Bicycle Connectivity

The 2040 Build scenario assumes the recommended bicycle improvements identified in the Small Area Plan, however, these improvements were not necessary for inclusion in the traffic model. The Small Area Plan includes enhanced bicycle corridors, trails, and Capital Bikeshare stations as shown in **Figure 7.2**, and described below:

- Provide enhanced bicycle corridors throughout Eisenhower West, especially on major streets including Eisenhower Avenue, Van Dorn Street and South Pickett Street, the Multimodal Bridge, and Farrington Connector. Enhanced bicycle corridors include a separate on-street facility for bicyclists, which may include a bike lane, separated or buffered bike lane, climbing lane or sidepath.
- Extend the Backlick Run trail west to Fairfax County.
- Provide off street bike trails through parks and green areas. Trails are hard surfaces, and a minimum of 10’ wide, but preferably 12’ wide, and are shared between bicyclists and pedestrians.
- Provide bicycle parking facilities inside garages at all new developments.
- Provide bicycle racks at key locations, particularly at mixed-use nodes.
- Provide BikeShare stations at key destinations around Eisenhower West.
- Provide shared roadways for bicycles and vehicles. Shared roadways will be marked (“sharrows”) and/or signage will be used to designate the road as a shared facility. A shared roadway can be accommodated by a neighborhood bikeway, which uses physical improvements or signage to slow vehicles and give priority to bicyclists.

Figure 7.2 – 2040 Build Scenario Planned Bicycle Connectivity



Pedestrian Connectivity

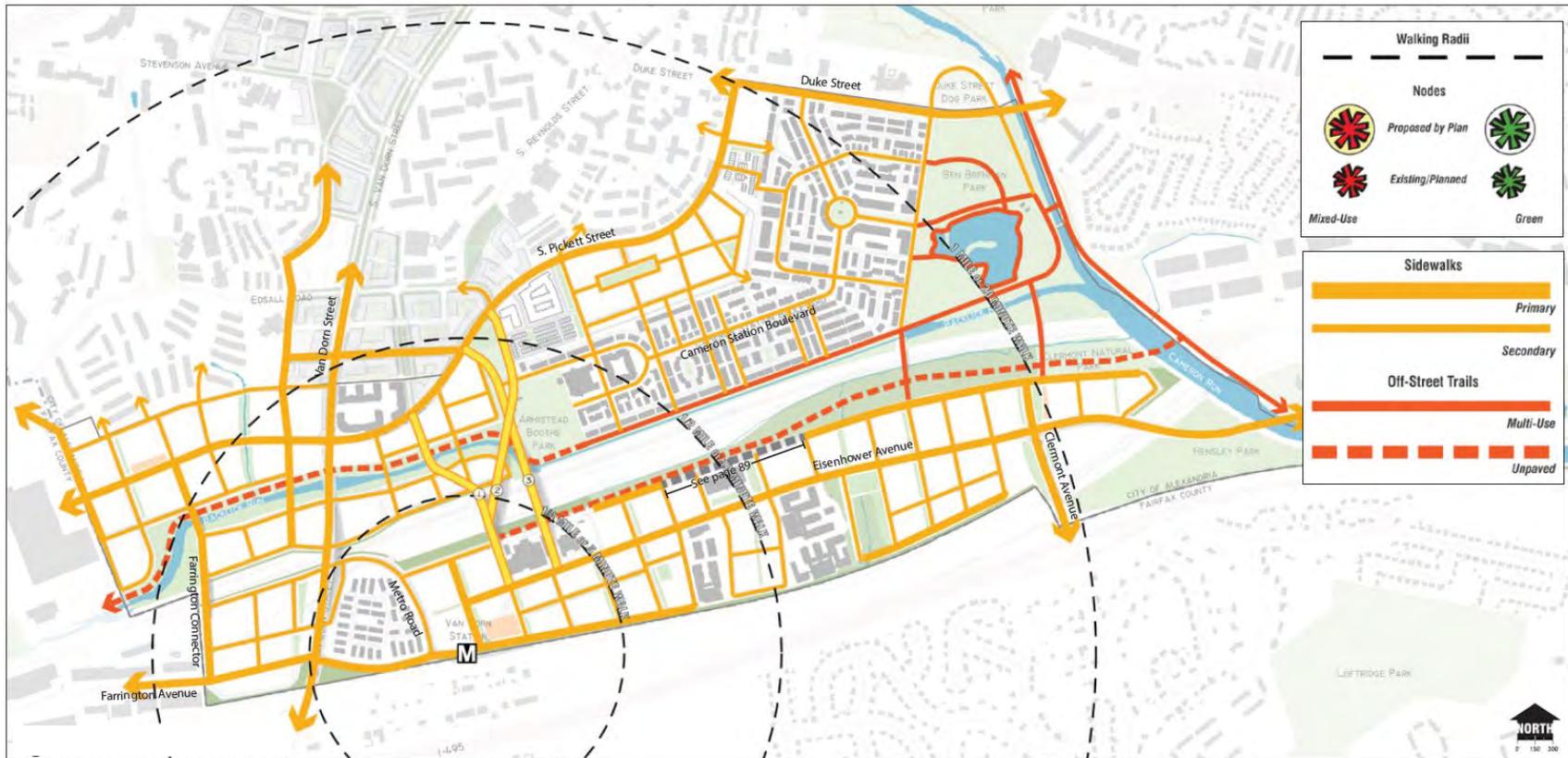
The 2040 Build scenario assumes the recommended pedestrian improvements identified in the Small Area Plan, however, these improvements were not necessary for inclusion in the traffic model. The gradual redevelopment of Eisenhower West will include an enhanced network to encourage pedestrian activity, as shown in **Figure 7.3**, and described below:

- Primary Sidewalks - These sidewalks are located in high-pedestrian activity areas including mixed-use nodes and developments.
- Secondary Sidewalks - These sidewalks are located in low-pedestrian activity areas including residential portions of the Eisenhower West.
- Multi-use Off-Street Trails - Also referred to as shared-use paths, these trails are usually paved and should be a minimum of 10-feet wide. Path widths of 12, 14, and even 16 feet are appropriate in high-use urban situations and areas with a significant mix of pedestrian and bicycle traffic.
- Unpaved Off-street Trails - These paths provide places for walkers, hikers, runners and bicyclists to mix and explore. Sufficient width and surface quality must be maintained on these pathways.

Guidelines for Pedestrian Environment include:

1. Create a network of connected sidewalks, trails and paths for pedestrians.
2. Provide sidewalks separate from bicycle facilities, or separate pedestrians and cyclists.
3. Provide sidewalks along all street frontages except parks where trails are present.
4. Create safe, accessible, and well-marked pedestrian crosswalks at all street intersections.
5. Create a non-motorized trail and bridge connection across the railroad tracks from Clermont Avenue to Ben Brenman Park.
6. Create a non-motorized trail and bridge connection across the railroad tracks from Eisenhower Avenue to Cameron Station.
7. Create a non-motorized trail and bridge connection across the railroad tracks from Eisenhower Avenue to Armistead Boothe Park either as a stand-alone bridge, or as part of the Multimodal Bridge design.
8. Provide seating/places for pedestrians to rest along paths/ sidewalks.
9. Encourage and allow outdoor seating on wide sidewalks.
10. Create a trail and bridge connection to connect neighborhoods

Figure 7.3 – 2040 Build Scenario Planned Pedestrian Connectivity



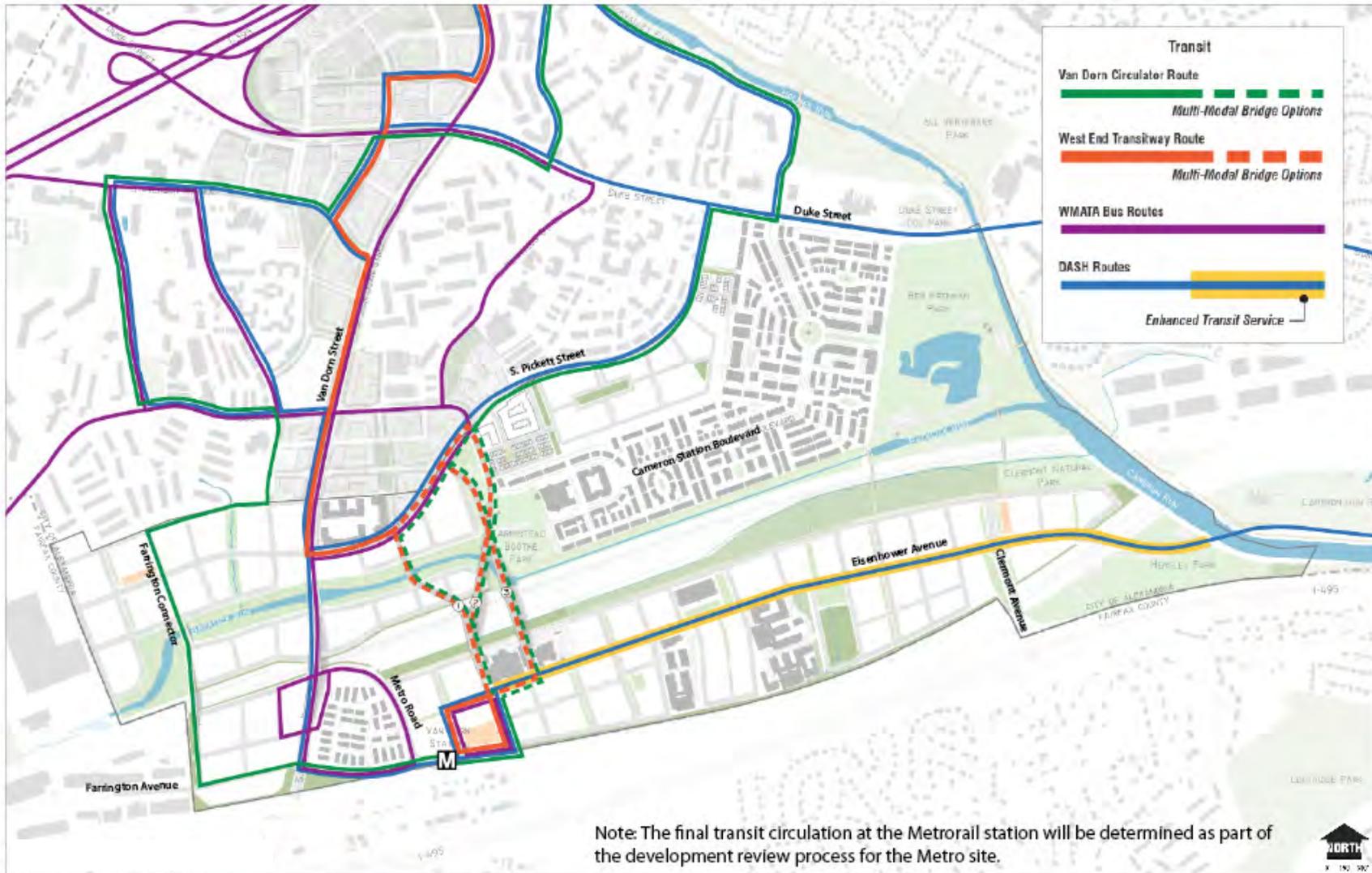
Transit Connectivity

As redevelopment matures, transit will be enhanced throughout the plan area. New transit stops will be provided along all primary streets and at appropriate locations as needed along secondary streets. The transit improvements assumed in the 2040 Baseline scenario would also be assumed in the 2040 Build scenario, as shown in **Figure 7.4**. These include:

- Improved transit headways on most routes throughout the City, as recommended in the DASH Comprehensive Operations Analysis (2014)
- Implementation of the City's planned transitways, including the West End Transitway, and the Duke Street Transitway.
- The West End Transitway is assumed to use the Multimodal Bridge, and S. Pickett Street to connect the Van Dorn Metrorail Station and Van Dorn Street.
- The Van Dorn Circulator (discussed under 2040 Baseline conditions) would be realigned to provide improved service to future development areas west of Van Dorn Street, using the future Farrington Connector.

Enhanced transit service along Eisenhower Avenue between the Van Dorn Metrorail station and Eisenhower Avenue Metrorail station would be implemented. This enhanced service could include improved headways, transit signal priority, improved shelters and greater span of service. It does not assume dedicated transit lanes along Eisenhower Avenue.

Figure 7.4 – 2040 Build Scenario Planned Transit Connectivity



8 2040 Build Traffic Operations

The Year 2040 Build traffic and transit operations were evaluated based on traffic volume projections developed using the current adopted version of the Metropolitan Washington Council of Governments (MWCOG) regional travel demand model (Version 2.3, Build 57), with the latest adopted Cooperative Land Use Forecasts (Round 8.3) at the time the forecasting and analyses were performed in spring/summer 2015, plus additional land use forecasts associated with the proposed 2040 Build development. The AM and PM peak hour intersection turning movement volumes that were used to analyze traffic operations under the 2040 Build scenario were developed using the same methodology used to develop the 2040 Baseline traffic volumes (described previously in Section 6 of this report). Four 2040 Build alternatives were evaluated: With the planned Multimodal Bridge (assumed to be included in the 2040 Baseline condition), without the planned Multimodal Bridge, and each of these two scenarios with traffic impact mitigation options implemented.

8.1 2040 Build with Multimodal Bridge, No Mitigation

This Build scenario assumes the planned Multimodal Bridge would be built, providing transit vehicles, bicycles, pedestrians and general traffic with a direct connection across the Norfolk Southern railroad tracks to the Van Dorn Street Metrorail Station. This bridge was assumed to be completed under the 2040 Baseline conditions.

Figures 8.1, 8.2, 8.3 and 8.4 are maps showing the western and eastern halves of the EWTS study area with each of the key signalized intersections highlighted and numbered on a map, along with the proposed lane configurations at each intersection. These are the intersections that are included in the capacity and operational analyses that were performed using VISSIM. These figures show the lanes available to general traffic; dedicated transit lanes are not shown.

Figures 8.5, 8.6, 8.7 and 8.8 are maps showing the projected Year 2040 Build intersection turning movement volumes for the AM and PM peak hours at each of the intersections that were evaluated using VISSIM.

The Washington Metropolitan Council of Governments (COG) regional travel demand model was used to develop estimated mode share percentages for the Year 2040 Build with Multimodal Bridge scenario for trips produced in and attracted to the various traffic analysis zones (TAZs) that make up the Eisenhower West Transportation Study (EWTS) area. According to the model, 43 percent of the trips produced within the study area and 42 percent of the trips attracted to the study area would be via single occupancy vehicles. The model showed 44 percent of trips produced and 48 percent of trips attracted would be via vehicles with 2 or more occupants (including the driver). This leaves an estimated 13 percent of trips produced and 10 percent of trips attracted as being made via transit. The U.S. Census American Community Survey (ACS) 2009-2013 5-Year Average Estimates of the percent of workers age 16 or older commuting by public transportation within the EWTS study area was 25 percent. This does not signify that the future transit mode share is projected to be lower than existing conditions. A comparison of the ACS transit mode share to the COG model mode share estimates for Year 2015 shows that the COG model significantly underestimates transit mode share in this area. Therefore, the best use of the COG model results is to examine the **percent change** in the modeled transit mode share between Existing Year 2015 conditions, Year 2040 Baseline, and Year 2040 Build scenarios, assuming the existing transit mode share from the ACS data is accurate. Based on this methodology, the transit mode share in the study area for the 2040 Build with Multimodal Bridge scenario is projected to remain the same as the 2040 Baseline scenario, which is 2 to 4 percent higher than the Existing 2015 transit mode share.

Figure 8.1 – Year 2040 Build with Multimodal Bridge, No Mitigation – Intersection Lanes (Western Area #1)

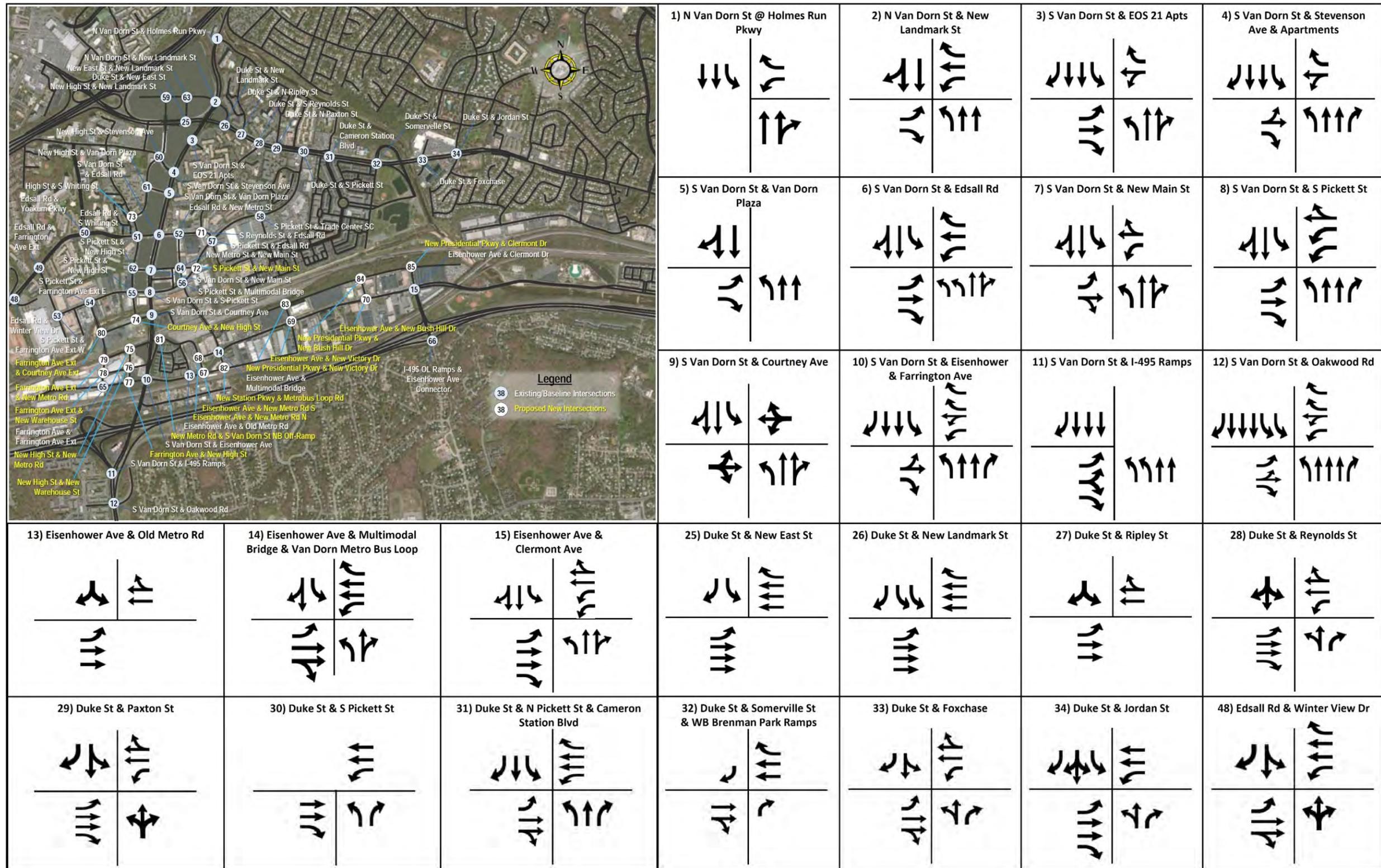


Figure 8.2 – Year 2040 Build with Multimodal Bridge, No Mitigation – Intersection Lanes (Western Area #2)

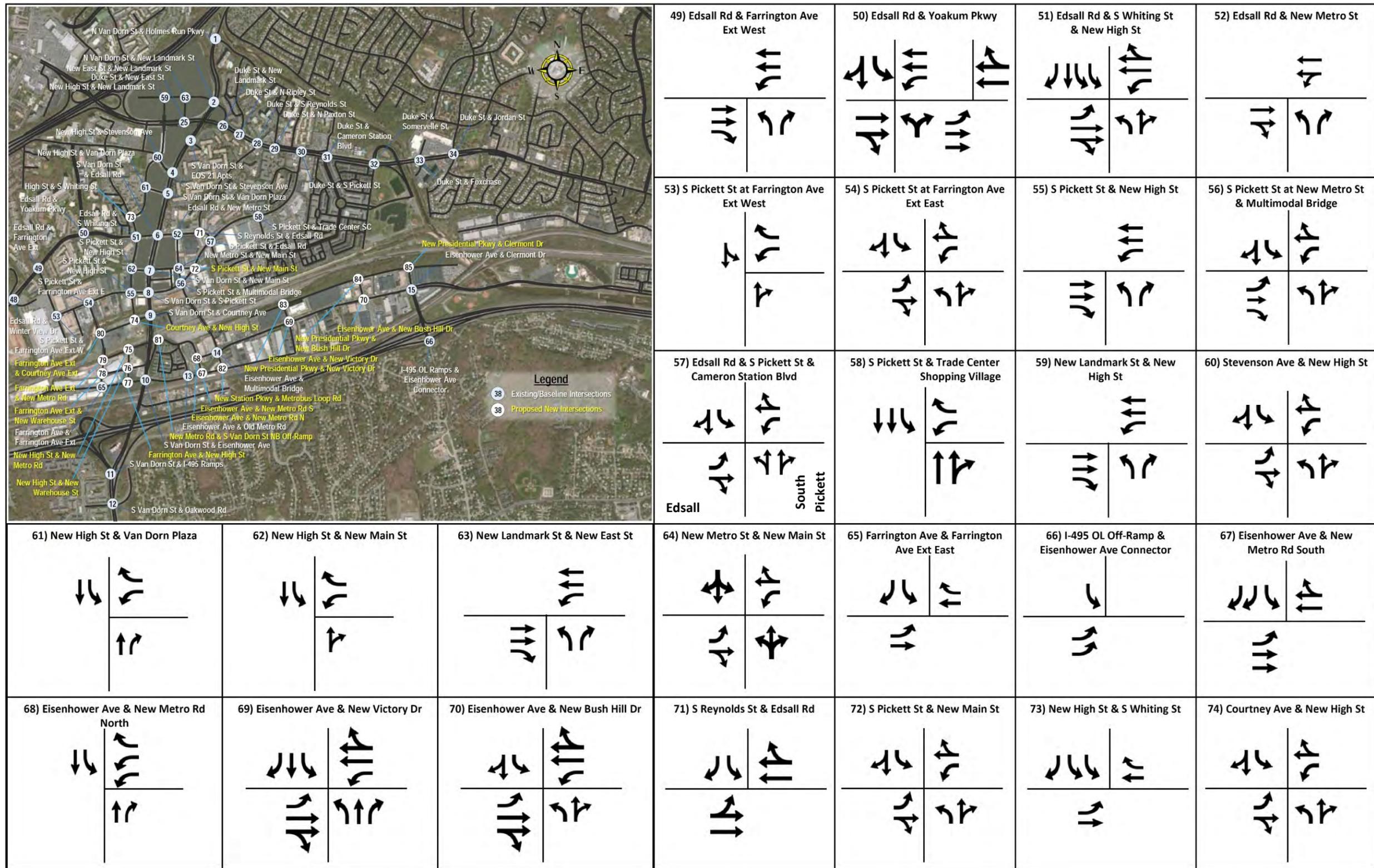


Figure 8.3 – Year 2040 Build with Multimodal Bridge, No Mitigation – Intersection Lanes (Western Area #3)

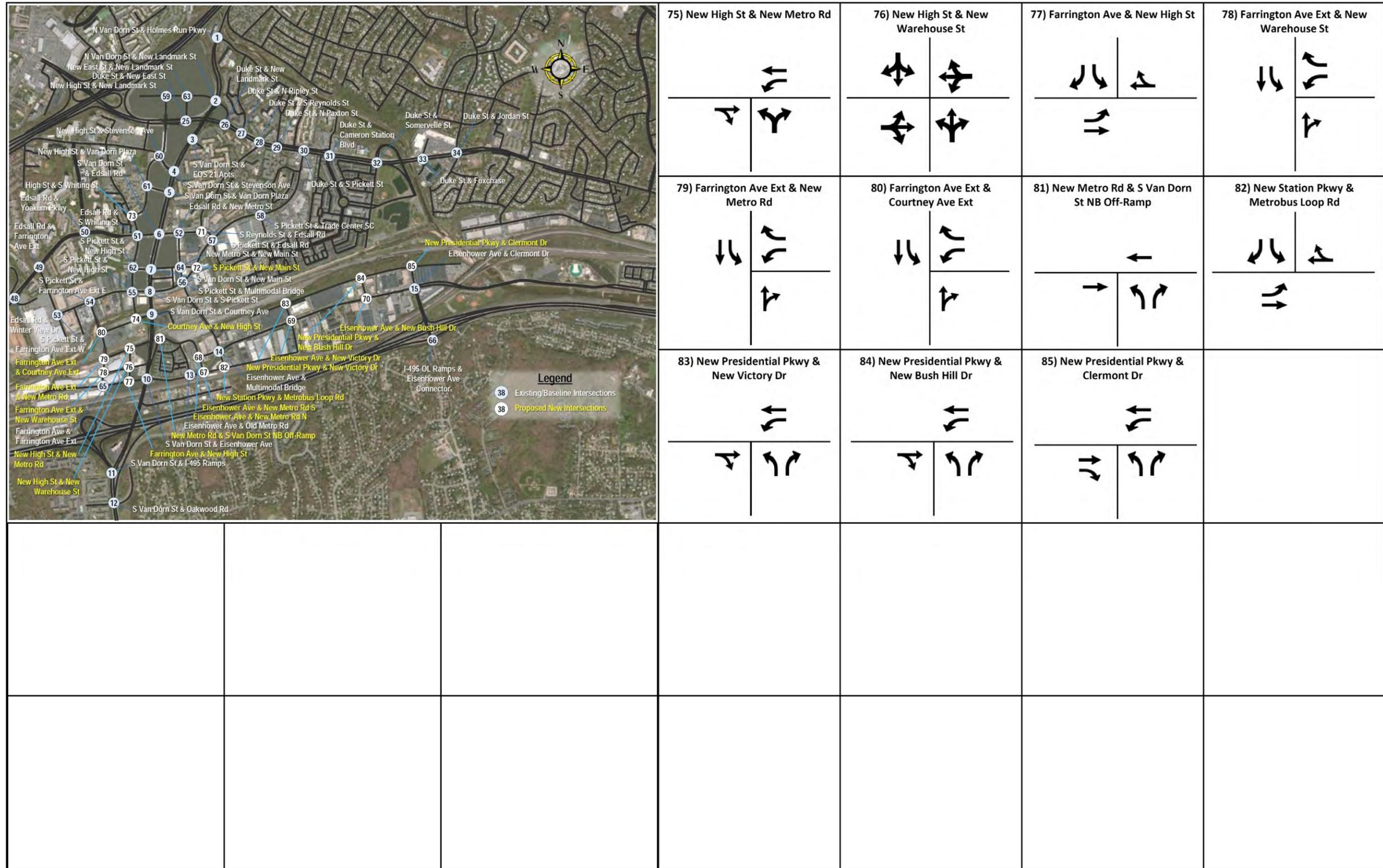


Figure 8.4 – Year 2040 Build with Multimodal Bridge, No Mitigation – Intersection Lanes (Eastern Area)

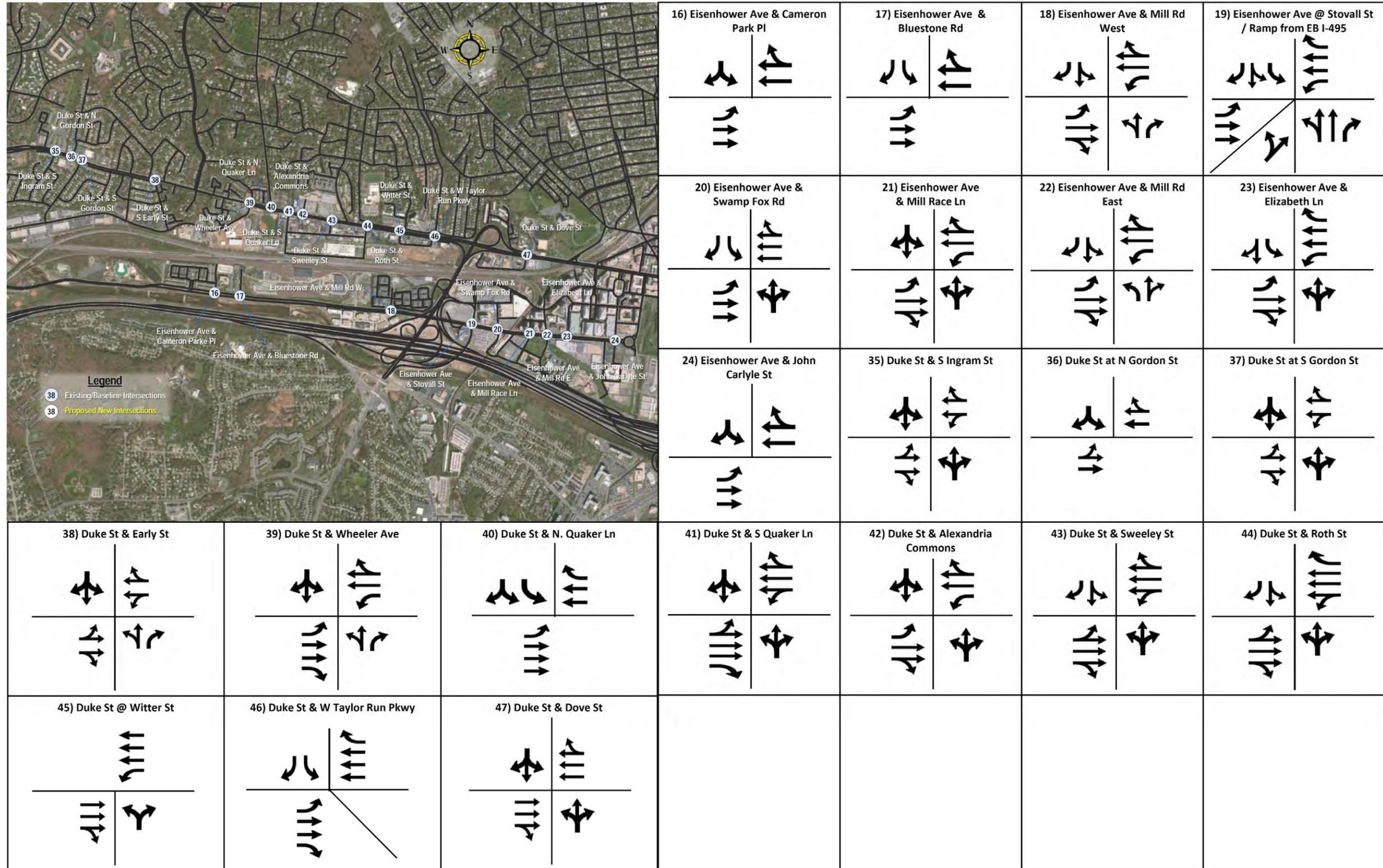


Figure 8.5 – Year 2040 Build with Multimodal Bridge – AM (PM) Peak Hour Volumes (Western Area #1)

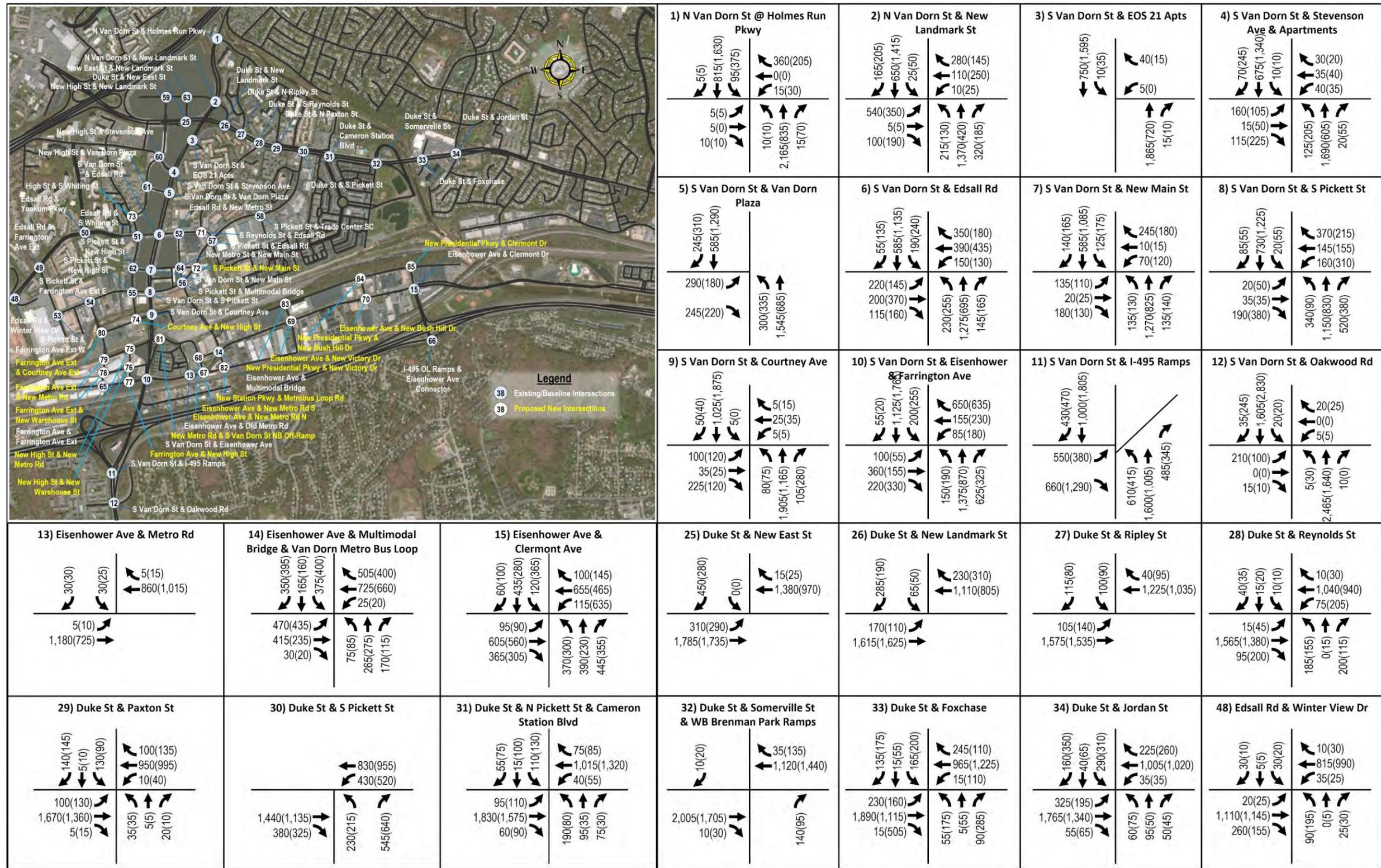


Figure 8.6 – Year 2040 Build with Multimodal Bridge – AM (PM) Peak Hour Volumes (Western Area #2)

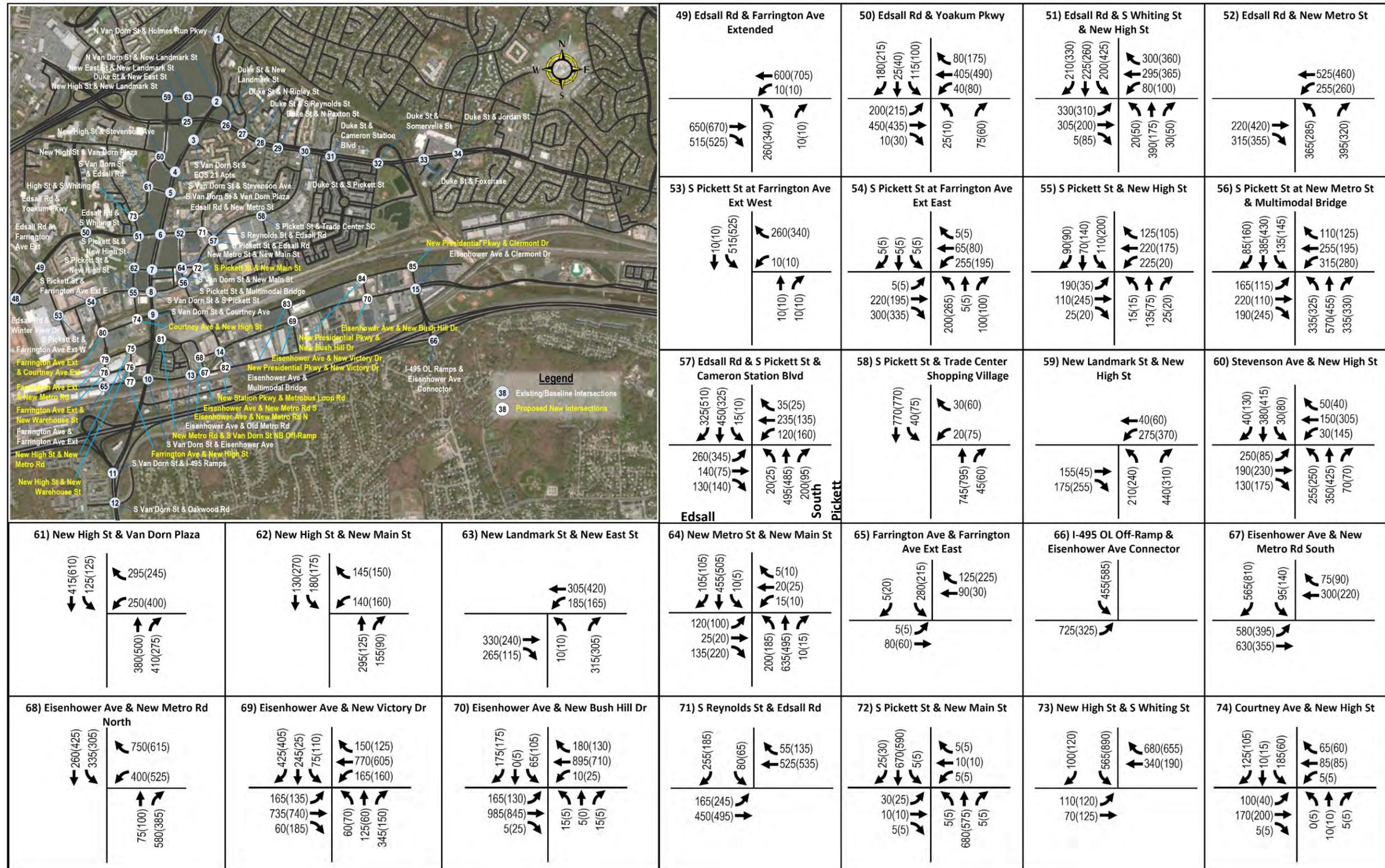


Figure 8.7 – Year 2040 Build with Multimodal Bridge – AM (PM) Peak Hour Volumes (Western Area #3)

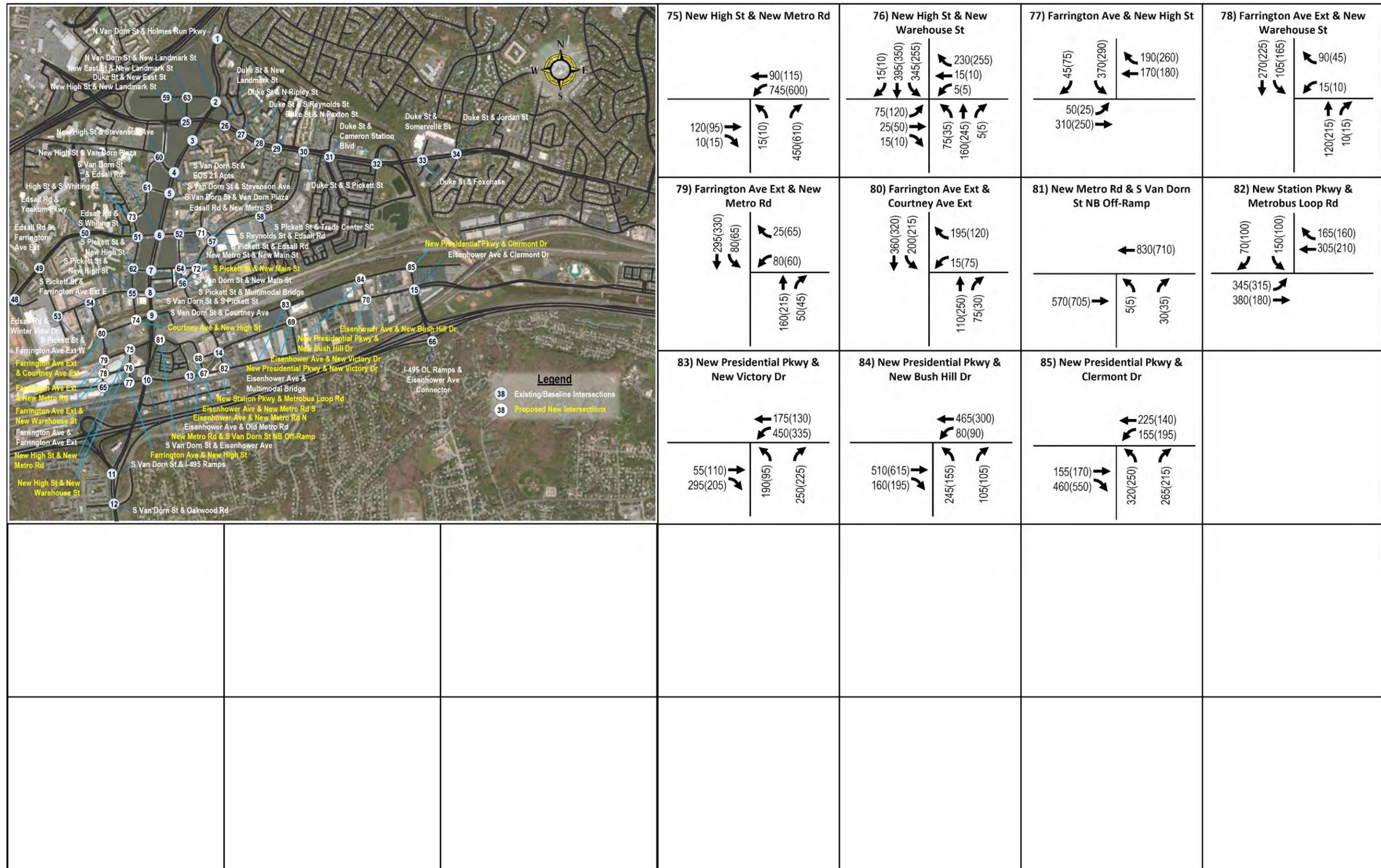
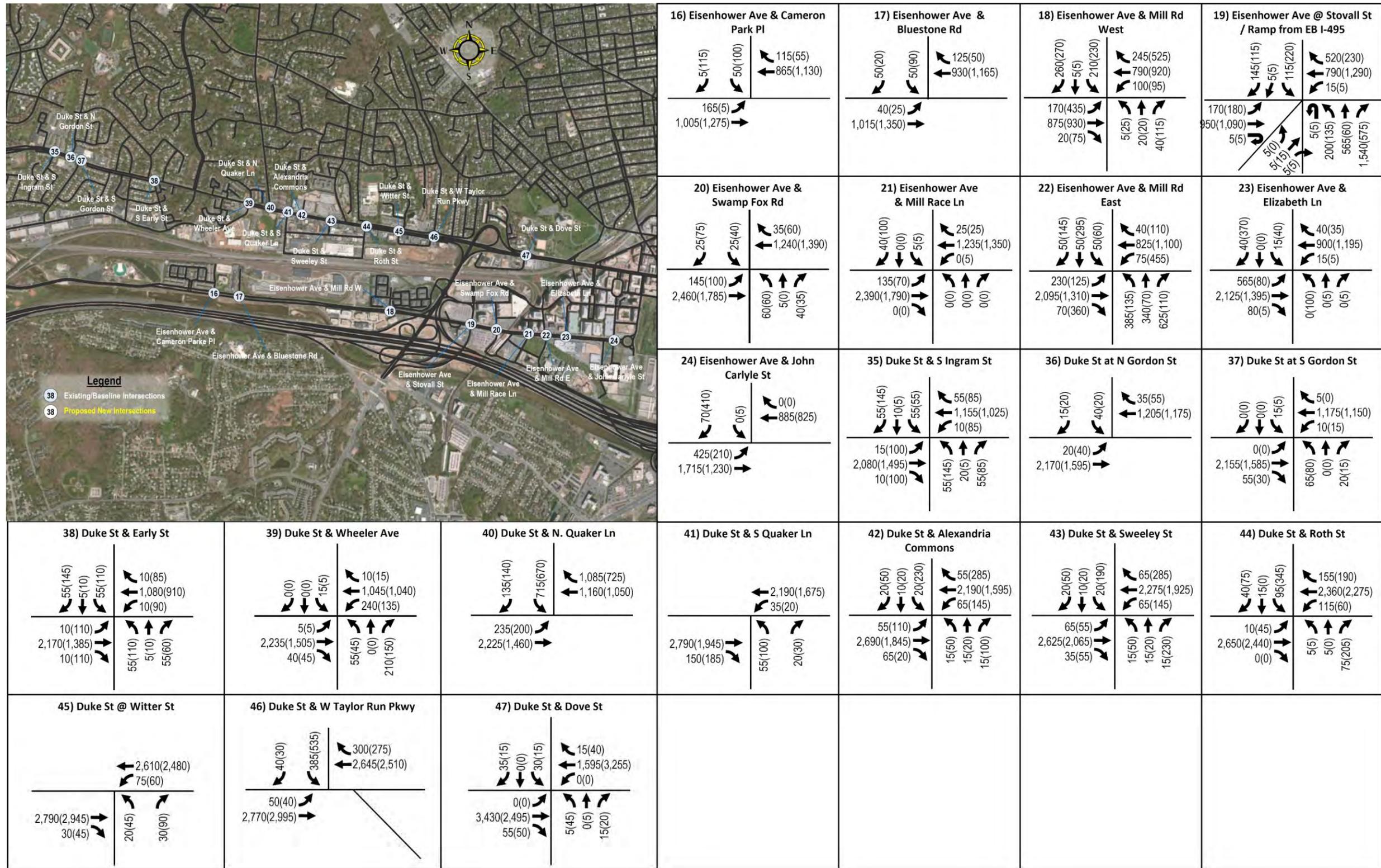


Figure 8.8 – Year 2040 Build with Multimodal Bridge – AM (PM) Peak Hour Volumes (Eastern Area)



The Year 2040 Build intersection AM and PM peak hour performance was measured based on the traffic volumes summarized previously using VISSIM. As with the baseline conditions, analyses were performed along the three main corridors within the study area, including Van Dorn Street, Eisenhower Avenue and Duke Street as well as signalized intersections along Edsall Road and South Pickett Street. Traffic operations at each of the new signalized intersections proposed under the 2040 Build scenario were also evaluated. AM and PM peak hour traffic operations were analyzed. Below is a general summary of the operational analyses along the three main corridors. **Tables 8.1, 8.2, 8.3, and 8.4** summarize the overall intersection, approach and individual turning movement levels of service (LOS) for the AM and PM peak hours, along with the maximum queue length simulated for each approach (regardless of movement). Levels of service of D or better are usually desirable, as these would indicate that the intersection (or specific approach or turning movement) has available capacity to allow for traffic growth without requiring additional lanes or improvements. **Tables 8.5, 8.6, 8.7, and 8.8** summarize the delay per vehicle associated with the levels of service shown in the previous tables. The following is a summary of the key operational findings along the three major corridors in the study area during the AM and PM peak hours in 2040 under the proposed Build land use scenario. **Figures 8.9 and 8.10** are charts that show the change in intersection delay for 2040 Build conditions vs. 2040 Baseline conditions for the AM and PM peak hours, respectively.

AM Peak Hour

Van Dorn Street:

- The segment of S. Van Dorn Street between S. Pickett Street and Edsall Road would experience an increase in delay, compared to the 2040 Baseline conditions.
 - Each of the intersections along this portion of S. Van Dorn Street would operate at LOS E or worse during the AM peak hour.
 - The intersection at Eisenhower Avenue/Farrington Avenue would operate at level of service (LOS) F overall during the AM peak hour, as would the northbound and westbound approaches to this intersection.
 - The worst approach would be northbound S. Van Dorn Street, with an average of about 3 minutes of delay per vehicle.
 - The signalized intersections along Van Dorn Street north of Edsall Road would operate at LOS D or better during the AM peak hour.

Eisenhower Avenue:

- The only intersections along Eisenhower Avenue that would operate at LOS F during the AM peak hour are at the Multimodal Bridge, at Stovall Street and at Van Dorn Street (as noted above).
 - The Multimodal Bridge intersection would experience a significant increase in delay compared to the 2040 Baseline conditions.
- All other intersections along Eisenhower Avenue would operate at LOS D or better.

Duke Street:

- During the AM peak hour, most intersections would operate at LOS C or better.
- The segment of Duke Street between the proposed new streets in the Landmark area and Cameron Station Boulevard would experience more delay compared to the 2040 Baseline conditions.

- The intersection of Duke Street at Wheeler Avenue would operate at LOS F, mainly due to congestion originating at the N. Quaker Lane intersection located immediately downstream and adjacent to this intersection.

Edsall Road & South Pickett Street:

- All intersections along Edsall Road would operate at LOS C or better during the AM peak hour, except at S. Van Dorn Street and at S. Pickett Street, which would each operate at LOS F.
- The intersection of South Pickett Street at the Multimodal Bridge would operate at LOS F, which is notably worse than under the 2040 Baseline conditions.

PM Peak Hour

Van Dorn Street:

- Each intersection north of Eisenhower Ave would experience a significant increase in delay, compared to the 2040 Baseline conditions.
- However, only the intersection of S. Van Dorn Street at Edsall Road would operate at LOS F; the remaining intersections would operate at LOS E or better.

Eisenhower Avenue:

- The intersections from Clermont Drive east to Bluestone Road would operate at LOS F; however, it is apparent there would be excessive queuing along the westbound approach at Clermont Drive, resulting in adverse impacts to the upstream intersections.
- The intersection at the Multimodal Bridge would operate at LOS E, which is notably worse than its operation under 2040 Baseline conditions.

Duke Street:

- The segment of Duke Street between North Quaker Lane and the Telegraph Road interchange would be very congested, with excessive delays along southbound Quaker Lane and along eastbound Duke Street.
- With the exception of S. Pickett Street, each of the intersections along the western half of the Duke Street corridor would each operate at LOS D or better.

Edsall Road & South Pickett Street:

- None of the intersections along Edsall Road or S. Pickett Street would operate at LOS F; however, several key junctions such as S. Pickett Street at Edsall Road and at the Multimodal Bridge would each operate at LOS E.

Table 8.1 – Year 2040 Build with Multimodal Bridge – AM Peak Hour Levels of Service (LOS) and Max. Queues (ft)

Int. No.	Intersections	Intersection Overall	Northbound					Southbound					Eastbound					Westbound				
			L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue
VAN DORN STREET																						
1	N Van Dorn St at Holmes Run Pkwy	B		B	B	B	725	C	B		B	225				D		C	C		250	
2	N Van Dorn St at New Landmark St	C	C	C	C	C	775		C	B	C	400	E	A	A	D		D	E	B	C	225
3	S Van Dorn St at EOS 21 Apartments	A		A	A	A	125	D	A		A	25						A		A	A	125
4	S Van Dorn St at Stevenson Ave	C	E	A	A	B	350	F	B	A	B	300	E	E	C	E			D	A	D	100
5	S Van Dorn St at Van Dorn Plaza	C	B	B		B	725		C	C	C	375	D		E	D						
6	S Van Dorn St at Edsall Rd	E	F	C	D	E	600	F	D	D	E	475	F	E	A	E		D	E	C	D	475
7	S Van Dorn St at New Main St	E	F	E	D	E	775	F	C	C	C	425	F	E	E	E		E	F	F	F	550
8	S Van Dorn St at S Pickett St	E	D	E	C	E	525	C	D	D	D	575	C	D	A	B		F	F	F	F	950
9	S Van Dorn St at Courtney Ave	D	E	E	D	E	1,225	B	A	A	A	300	F	F	F	F		D	E	E	E	100
10	S Van Dorn St at Eisenhower Ave	F	F	F	F	F	1,675	F	D	D	E	700	E	E	A	D		F	F	E	F	525
11	S Van Dorn St at I-495 Ramps	E	E	E		E	750		D	C	D	550	F		D	E						
12	S Van Dorn St at Oakwood Rd	F	F	F	F	F	1,675	F	A	A	B	550	F	A	A	F		F	A	F	F	50
EISENHOWER AVENUE																						
13	Eisenhower Ave at Old Metro Rd	D						C		C	C	100	D	D		D			C	B	C	350
67	Eisenhower Ave at New Metro Rd South	C						E		C	C	200	C	B		B			C	E	D	225
68	Eisenhower Ave at New Metro Rd North	C		B	B	B	350	B	A		B	275						D		D	D	500
14	Eisenhower Ave at Multimodal Bridge/Bus Loop	F	F	F	F	F	475	F	F	E	F	1,400	E	B	B	D		F	F	F	F	1,600
69	Eisenhower Ave at New Victory Dr	D	F	E	C	D	325	C	F	F	F	475	D	B	C	C		E	D	D	D	925
70	Eisenhower Ave at New Bush Hill Dr	B	D	D	A	C	50	C	A	A	B	75	B	A	A	A		A	A	B	B	350
15	Eisenhower Ave at Clermont Dr	D	F	E	C	E	625	E	D	D	D	400	E	C	C	C		E	C	C	D	300
16	Eisenhower Ave at Cameron Parke Pl	A						C		A	C	75	A	A		A			A	A	A	175
17	Eisenhower Ave at Bluestone Rd	A						D		A	C	100	A	A		A			A	A	A	225
18	Eisenhower Ave at Mill Rd W	B	D	D	B	C	125	D	D	B	C	250	A	A	A	A		B	B	C	B	350
19	Eisenhower Ave at Stovall St	F	F	F	F	F	1,675	E	E	A	D	125	C	C	C	C		F	B	B	B	275
20	Eisenhower Ave at Swamp Fox Road	A	E		B	D	100	E		A	C	75	A	A		A			A	A	A	175
21	Eisenhower Ave at Mill Race Ln	A	A	A	A	A	0	D	A	D	D	125	A	B	A	B		A	A	A	A	100
22	Eisenhower Ave at Mill Rd E	D	F	F	F	F	400	C	C	A	C	175	C	B	B	B		E	C	B	C	300
23	Eisenhower Ave at Elizabeth Ln	A	A	A	A	A	0	E	A	A	C	50	A	A	A	A		A	A	A	A	75
24	Eisenhower Ave at John Carlyle St	A						A		A	A	50	A	A		A			A	A	A	125
DUKE STREET																						
25	Duke St at New East St	B						A		C	C	325	E	B		C			B	A	B	275
26	Duke St at New Landmark St	C						C		D	D	275	F	C		C			D	B	D	475
27	Duke St at N Ripley St	C						F		F	F	400	E	B		C			C	B	C	400
28	Duke St at S Reynolds St	A	D	A	A	C	250	D	D	C	C	100	A	A	A	A		B	A	A	A	150
29	Duke St at N Paxton St	B	D	D	B	D	100	E	F	C	D	325	B	A	A	A		B	A	A	A	125
30	Duke St at S Pickett St	C	E		C	D	575									C	C	C	E	A		500
31	Duke St at Cameron Stn Blvd/N Pickett	C	E	E	E	E	400	F	F	F	F	325	C	C	B	C		D	C	B	C	475
32	Duke St at Somerville St	C			C	C	350			A	A	0			C	D	D		A	A	A	0
33	Duke St at Shops@Fox Chase	D	E	E	D	D	150	E	E	A	D	250	D	E	D	E		C	C	C	C	525
34	Duke St at Jordan St	D	E	D	D	D	225	F	E	B	E	225	F	E	E	E		D	C	B	C	275
35	Duke St at Ingram St	E	F	F	F	F	250	E	D	C	D	175	F	F	F	F		C	A	A	A	200
36	Duke St at N Gordon St	C						F		B	E	100	E	E		E			A	A	A	75
37	Duke St at S Gordon St	C	E	A	F	E	175	E	A	A	E	50	A	C	A	C		C	A	A	A	275
38	Duke St at Early St	F	F	F	F	F	375	F	F	D	F	225	F	F	F	F		B	A	A	A	275
39	Duke St at Wheeler Ave	F	E	A	C	C	350	F	A	A	F	50	F	F	F	F		F	A	A	C	475

= New intersections for 2040 Build scenario

Table 8.2 – Year 2040 Build with Multimodal Bridge – AM Peak Hour Levels of Service (LOS) and Max. Queues (ft) - continued

DUKE STREET (Continued)																						
40	Duke St at N Quaker Ln	E								F	F	F	525	D	E		E	500	C	A	B	450
41	Duke St at S Quaker Ln	B	E	A	E	E	150	A	A	A	A	0	A	C	C	C		450	C	A	A	275
42	Duke St at Alexandria Commons	C	E	E	E	E	125	E	D	D	E	100	C	B	A	B		350	E	C	B	675
43	Duke St at Sweeley St	D	E	D	E	E	100	E	E	C	D	75	F	D	C	D		675	C	D	D	825
44	Duke St at Roth St	D	E	D	D	D	150	E	D	D	D	150	A	B	A	B		575	D	E	D	775
45	Duke St at Witter St	C	E		B	C	75							A	A	A		325	B	D		750
46	Duke St at W Taylor Run Pkwy	D						F	F	F	F	400	F	B	B	B		500		D	C	1,325
47	Duke St at Dove St	C	C	A	D	D	100	D	A	D	D	100		C	C	C		150		A	A	100
EDSALL ROAD																						
48	Edsall Rd at Winterview Dr	B	C	A	A	C	100	C	C	A	C	75	A	B	B	B		450	B	A	A	150
49	Edsall Rd at Farrington Ave Extended	A	C		C	C	200							A	B	A		325	B	A		125
50	Edsall Rd at Yoakum Pkwy	B	B	B	B	B	150	B	B	A	A	125	C	B	B	B		275	C	B	A	150
51	Edsall Rd at S Whiting St	C	C	B	A	B	175	E	B	B	C	325	C	C	C	C		550	C	C	C	250
52	Edsall Rd at New Metro St	D	C		B	C	500							C	D	D		400	E	E		475
71	Edsall Rd at S Reynolds St	C						C		B	B	350	C	C		C		450		D	B	300
SOUTH PICKETT STREET																						
53	Farrington Ave Ext W at S Pickett St	D		C	C	C	25	C	C		C	350							B		A	125
54	Farrington Ave Ext at S Pickett St	D	D	D	D	D	150	D	D	A	C	25	C	D	D	D		500	B	B	A	200
55	New High St at S Pickett St	C		D		D	100	D	E	E	D	475	C	C	D	C		300	D	C	A	400
56	S Pickett St at Multimodal Bridge	E	E	E	C	D	1,275	D	D	E	D	450	D	D	C	D		550	F	F	F	500
72	S Pickett St at New Main St	D	A	A	A	A	175	C	E	E	E	625	E	C	F	E		75	F	E	B	50
57	S Pickett St at Edsall Rd	F	E	C	C	D	375	B	D	E	D	350	C	B	A	B		150	F	F	F	1,275
58	S Pickett St at Trade Center Shopping	E	F		A	C	75							A	A	A		125	F	F		1,300
NEW HIGH STREET (PROPOSED)																						
59	New Landmark St at New High St	C	C		C	C	450							E	A	C		250	B	A		125
60	New High St at Stevenson Ave	C	B	B	B	B	325	D	C	C	C	400	C	C	C	C		175	C	C	D	150
61	New High St at Van Dorn Plaza	B		B	A	A	250	B	B		B	325							C		B	250
73	New High St at S Whiting St	B		C	A	B	475		B	B	B	100							C		B	650
62	New High St at New Main St	A		A	A	A	150	A	A		A	125							C		A	125
74	New High St at Courtney Ave Ext	F	A	F	F	F	50	F	E	F	F	525	F	F	F	F		750	B	B	A	125
75	New High St at New Metro Rd	B	C		B	B	250							A	B	A		75	B	A		225
76	New High St at New Warehouse St	C	B	C	B	C	175	C	C	B	C	400	D	D	C	D		150	C	D	B	225
77	Farrington Ave at New High St	C						D		B	D	375	B	B		B		300		C	C	250
MISCELLANEOUS INTERSECTIONS																						
63	New Landmark St at New East St	C	C		C	C	350							D	A	C		450	C	C		450
64	New Metro St at New Main St	D	C	B		C	500		C	C	C	575	E	F	F	F		450	F	F	F	
65	Farrington Ave at Farrington Ave Extended	A						A		A	A	100	D	D		D		150		E	A	100
78	Farrington Ave Ext at New Warehouse St	A		A	A	A	125	A	A		A	75							C		C	200
79	Farrington Ave Ext at New Metro Rd	B		A	A	A	150	A	A		A	125							E		F	225
80	Farrington Ave Ext at Courtney Ave Ext	D		C	E	D	325	E	C		D	350							C		C	175
81	New Metro Rd at Van Dorn St NB Off-Ramp	A	A		A	A	50							A		A		125		A		150
82	New Station Pkwy at Metro Bus Loop	F						E		C	E	175	E	A		C		400		F	F	1,575
83	New Presidential Pkwy at New Victory Dr	F	C		A	B	150							F	F	F		400	F	F		875
84	New Presidential Pkwy at New Bush Hill Dr	C	C		B	B	150							D	D	D		725	C	B		275
85	New Presidential Pkwy at Clermont Ave	C	A		A	A	175							D	B	C		275	D	D		350
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	A						A		A	A	225	C			C		225				

☐ = New intersections for 2040 Build scenario

Table 8.3 – Year 2040 Build with Multimodal Bridge – PM Peak Hour Levels of Service (LOS) and Max. Queues (ft)

Int. No.	Intersections	Intersection Overall	Northbound				Max. Queue	Southbound				Max. Queue	Eastbound				Max. Queue	Westbound				Max. Queue	
			L	T	R	Approach		L	T	R	Approach		L	T	R	Approach		L	T	R	Approach		
VAN DORN STREET																							
1	N Van Dorn St at Holmes Run Pkwy	D		B	A	B	325	D	D		D	675					E		A	B	75		
2	N Van Dorn St at New Landmark St	E	D	B	B	B	325	F	F	F	F	1,425	D	D	E	E	300	F	E	A	D	425	
3	S Van Dorn St at EOS 21 Apartments	E		A	A	A	75	F	F		F	975						A		A	A	0	
4	S Van Dorn St at Stevenson Ave	F	E	A	A	C	300	F	F	F	F	850	F	F	F	F	675	E	D	A	D	125	
5	S Van Dorn St at Van Dorn Plaza	C	D	B		C	850		C	C	C	425	E		E	E	300						
6	S Van Dorn St at Edsall Rd	F	F	C	C	E	600	F	F	E	F	1,075	E	F	C	E	475	F	E	D	E	475	
7	S Van Dorn St at New Main St	E	F	D	F	D	725	F	D	C	E	675	F	F	F	F	500	F	F	F	F	525	
8	S Van Dorn St at S Pickett St	E	C	C	A	B	450	B	D	D	D	650	F	F	F	F	500	F	E	E	F	600	
9	S Van Dorn St at Courtney Ave	C	B	A	A	A	650	A	D	C	D	550	E	E	C	D	375	E	E	E	E	150	
10	S Van Dorn St at Eisenhower Ave	E	F	C	B	D	875	F	E	E	E	1,400	E	E	C	D	425	F	F	E	F	450	
11	S Van Dorn St at I-495 Ramps	E	E	B		C	525		E	C	D	1,450	F		F	F	1,400						
12	S Van Dorn St at Oakwood Rd	A	F	A	A	A	350	F	A	A	A	700	F	A	A	E	100	F	A	F	F	50	
EISENHOWER AVENUE																							
13	Eisenhower Ave at Old Metro Rd	D						D		B	C	50	F	F		F	325		D	C	D	425	
67	Eisenhower Ave at New Metro Rd South	D						D		B	B	175	F	E		E	300		D	F	E	200	
68	Eisenhower Ave at New Metro Rd North	C		C	D	D	375	D	B		C	450						D		C	C	450	
14	Eisenhower Ave at Multimodal Bridge/Bus Loop	F	F	F	F	F	450	D	D	C	D	1,125	F	B	A	E	425	F	F	F	F	825	
69	Eisenhower Ave at New Victory Dr	C	E	E	A	C	125	A	F	D	C	150	A	A	C	A	125	D	C	C	C	100	
70	Eisenhower Ave at New Bush Hill Dr	B	E	A	A	C	25	C	D	A	B	75	A	A	A	A	125	A	A	A	A	175	
15	Eisenhower Ave at Clermont Dr	F	E	D	A	C	350	F	F	F	E	450	E	C	B	C	350	F	E	E	F	1,675	
16	Eisenhower Ave at Cameron Parke Pl	A						D		C	C	400	A	A		A	275		A	A	A	625	
17	Eisenhower Ave at Bluestone Rd	A						D		A	D	300	A	A		A	275		A	A	A	1,675	
18	Eisenhower Ave at Mill Rd W	D	D	D	B	C	150	D	C	B	C	300	A	A	A	A	300	D	E	F	E	1,675	
19	Eisenhower Ave at Stovall St	F	F	F	F	F	300	F	F	B	F	375	E	C	C	C	475	F	B	B	B	625	
20	Eisenhower Ave at Swamp Fox Road	A	D		A	D	100	E		A	C	125	A	A		A	550		A	A	A	600	
21	Eisenhower Ave at Mill Race Ln	A	A	A	A	A	0	E	A	D	D	200	A	A	A	A	400	B	A	A	A	275	
22	Eisenhower Ave at Mill Rd E	D	F	D	C	E	225	D	D	C	D	400	C	B	B	B	400	F	C	C	E	325	
23	Eisenhower Ave at Elizabeth Ln	E	F	F	F	A	100	F	A	F	F	325	F	A	A	A	175	F	F	B	F	175	
24	Eisenhower Ave at John Carlyle St	A						D		B	B	300	A	A		A	200		A	A	A	300	
DUKE STREET																							
25	Duke St at New East St	C						A		B	B	100	E	B		C	525		C	A	C	125	
26	Duke St at New Landmark St	C						D		D	D	200	E	B		C	625		C	B	C	400	
27	Duke St at N Ripley St	B						E		E	E	300	E	B		B	275		B	B	B	350	
28	Duke St at S Reynolds St	B	E	D	B	D	250	D	D	C	D	100	A	A	A	A	475	C	A	A	A	175	
29	Duke St at N Paxton St	B	D	E	A	D	100	E	E	C	D	300	A	A	A	A	225	B	A	A	A	275	
30	Duke St at S Pickett St	E	F		F	F	1,675								C	D	C	425	E	A		C	425
31	Duke St at Cameron Stn Blvd/N Pickett	B	E	D	D	E	175	F	D	D	E	350	C	B	A	B	500	C	B	B	B	500	
32	Duke St at Somerville St	B			B	B	0			A	A	0		B	B	B	850		A	A	A	25	
33	Duke St at Shops@Fox Chase	D	E	E	D	D	150	F	F	C	E	300	D	D	D	D	975	D	D	D	D	675	
34	Duke St at Jordan St	D	E	E	A	D	200	D	D	B	D	275	F	D	D	D	700	D	C	B	C	300	
35	Duke St at Ingram St	C	E	E	F	E	225	D	D	C	C	175	D	D	D	D	1,250	C	A	A	A	325	
36	Duke St at N Gordon St	B						E		B	C	75	C	B		B	450		A	A	A	200	
37	Duke St at S Gordon St	A	E	A	E	E	175	D	A	A	D	25	A	B	A	A	200	B	A	A	A	425	
38	Duke St at Early St	F	E	D	D	E	425	F	F	F	F	475	F	F	F	F	1,625	D	B	B	B	450	
39	Duke St at Wheeler Ave	F	E	A	A	B	225	F	A	A	F	25	F	F	F	F	1,675	F	A	A	A	275	

■ = New intersections for 2040 Build scenario

Table 8.4 – Year 2040 Build with Multimodal Bridge – PM Peak Hour Levels of Service (LOS) and Max. Queues (ft) – continued

DUKE STREET (Continued)																						
40	Duke St at N Quaker Ln	E																				
41	Duke St at S Quaker Ln	B	E	A	E	E	225	A	A	A	A	0	A	C	C	C	450	B	A	A	A	200
42	Duke St at Alexandria Commons	C	D	D	D	D	175	F	F	F	F	275	C	A	A	A	350	D	B	B	B	675
43	Duke St at Sweeley St	D	F	F	F	F	250	D	D	B	D	250	F	C	C	C	675	D	D	E	D	825
44	Duke St at Roth St	D	D	A	D	D	325	E	A	E	E	175	B	B	A	B	825	E	E	E	E	775
45	Duke St at Witter St	D	E		C	D	200							A	A	A	800	D	E		E	850
46	Duke St at W Taylor Run Pkwy	E						F	F	F	E	400	F	C	C	C	800		F	E	F	1,675
47	Duke St at Dove St	C	D	C	D	D	125	F	A	E	E	100		A	A	A	200		D	C	D	1,300
EDSALL ROAD																						
48	Edsall Rd at Winterview Dr	B	C	B	A	C	100	C	C	A	C	50	B	B	B	B	275	B	A	A	A	200
49	Edsall Rd at Farrington Ave Extended	B	C		E	C	250							C	B	C	250	B	A		A	175
50	Edsall Rd at Yoakum Pkwy	F	C	F	D	D	100	F	D	B	F	175	F	E	E	F	275	D	C	A	C	175
51	Edsall Rd at S Whiting St	D	D	C	B	C	400	F	D	C	E	475	A	C	C	B	875	C	C	C	C	525
52	Edsall Rd at New Metro St	E	F		F	F	525							B	A	B	300	A	E		E	400
71	Edsall Rd at S Reynolds St	C						C		B	B	225	C	D		C	450		D	B	C	325
SOUTH PICKETT STREET																						
53	Farrington Ave Ext W at S Pickett St	E		B	B	B	50	A	A		A	500						B		A	A	300
54	Farrington Ave Ext at S Pickett St	E	D	C	D	D	200	D	A	A	B	25	C	C	B	C	450	A	A	A	A	175
55	New High St at S Pickett St	C	C	E	A	D	75	D	D	D	D	375	C	D	C	D	300	B	B	A	A	150
56	S Pickett St at Multimodal Bridge	F	F	F	E	F	1,525	C	C	C	C	450	F	D	C	D	775	E	F	F	F	500
72	S Pickett St at New Main St	D	A	A	A	A	175	C	E	D	E	600	E	E	F	E	75	F	F	B	E	50
57	S Pickett St at Edsall Rd	F	F	D	C	E	325	C	F	F	D	275	B	B	A	A	150	F	F	F	F	1,100
58	S Pickett St at Trade Center Shopping	F	F		A	E	175							C	C	C	550	F	F		F	875
NEW HIGH STREET (PROPOSED)																						
59	New Landmark St at New High St	C	C		C	C	350							C	B	B	200	B	A		B	175
60	New High St at Stevenson Ave	D	B	C	B	C	625	E	D	D	D	1,350	D	D	E	D	625	D	C	C	D	375
61	New High St at Van Dorn Plaza	C		B	A	B	750	C	C		C	500						D		C	C	450
73	New High St at S Whiting St	B		C	A	B	275		C	B	C	300						C		C	C	625
62	New High St at New Main St	D		D	E	E	225	D	D		D	600						C		A	C	225
74	New High St at Courtney Ave Ext	B	D	D	C	D	50	C	C	A	B	100		B	B	B	250	C	C	A	B	125
75	New High St at New Metro Rd	B	C		B	B	425							A	A	A	125	B	A		B	575
76	New High St at New Warehouse St	D	B	C	A	C	175	C	C	C	C	375	D	D	B	D	200	F	F	F	F	325
77	Farrington Ave at New High St	C						D		A	C	425	B	B		B	575		C	C	C	300
MISCELLANEOUS INTERSECTIONS																						
63	New Landmark St at New East St	C	C		B	B	375							D	A	D	350	D	D		D	550
64	New Metro St at New Main St	E	E	E	F	E	475		A	B	A	575	F	F	F	F	600	F	F	F	F	
65	Farrington Ave at Farrington Ave Extended	D						A		A	A	400	D	D		D	100		D	A	B	50
78	Farrington Ave Ext at New Warehouse St	A		A	A	A	50	A			A	275						C		C	C	50
79	Farrington Ave Ext at New Metro Rd	A		A	A	A	75	A	A		A	400						D		C	D	100
80	Farrington Ave Ext at Courtney Ave Ext	A		A	A	A	75	A	A		A	375						C		C	C	125
81	New Metro Rd at Van Dorn St NB Off-Ramp	A	A		A	A	50							A		A	225		A		A	475
82	New Station Pkwy at Metro Bus Loop	F						E		E	E	100	F	A		E	275		F	F	F	475
83	New Presidential Pkwy at New Victory Dr	B	C		A	B	100							B	C	C	125	C	B		C	100
84	New Presidential Pkwy at New Bush Hill Dr	E	C		B	B	100							F	F	F	700	B	A		B	125
85	New Presidential Pkwy at Clermont Ave	F	C		B	C	175							F	F	F	675	D	B		D	200
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	E						A		A	A	200	C			C	75					

■ = New intersections for 2040 Build scenario

Table 8.5 – Year 2040 Build with Multimodal Bridge – AM Peak Hour Intersection Delay (sec/veh)

Int. No.	Intersections	Intersection Overall	Northbound				Southbound				Eastbound				Westbound			
			L	T	R	Approach	L	T	R	Approach	L	T	R	Approach	L	T	R	Approach
VAN DORN STREET																		
1	N Van Dorn St at Holmes Run Pkwy	14		12	12	12	28	11		13				47		23	24	
2	N Van Dorn St at New Landmark St	28	23	24	21	23	16	24	10	21	60	2	4	51	39	56	13	26
3	S Van Dorn St at EOS 21 Apartments	2		3	1	2	45	0		1				0		8	8	
4	S Van Dorn St at Stevenson Ave	21	64	8	7	12	90	20	3	19	78	65	34	61	53	47	5	37
5	S Van Dorn St at Van Dorn Plaza	24	16	18		17		20	23	21	50		57	53				
6	S Van Dorn St at Edsall Rd	59	240	30	47	64	130	38	41	58	94	74	5	66	53	68	23	47
7	S Van Dorn St at New Main St	62	122	66	54	70	104	24	23	34	87	67	64	74	80	93	109	102
8	S Van Dorn St at S Pickett St	75	35	78	20	57	32	43	45	43	30	49	3	16	208	216	208	210
9	S Van Dorn St at Courtney Ave	50	56	57	49	57	17	2	4	3	252	169	155	217	54	63	59	61
10	S Van Dorn St at Eisenhower Ave	109	255	163	139	162	109	53	37	60	73	74	10	51	85	149	77	84
11	S Van Dorn St at I-495 Ramps	62	68	80		76		42	22	36	88		54	69				
12	S Van Dorn St at Oakwood Rd	86	161	143	129	143	107	9	6	10	102	0	8	96	104	0	119	116
EISENHOWER AVENUE																		
13	Eisenhower Ave at Old Metro Rd	37					25		20	22	41	46		46		24	15	24
67	Eisenhower Ave at New Metro Rd South	22					62		21	27	20	13		17		28	68	36
68	Eisenhower Ave at New Metro Rd North	26		12	18	17	15	6		11				41		39	39	
14	Eisenhower Ave at Multimodal Bridge/Bus Loop	153	96	111	101	106	121	92	80	99	64	15	12	39	219	336	250	299
69	Eisenhower Ave at New Victory Dr	55	98	63	24	41	32	148	129	127	42	19	33	24	69	51	48	53
70	Eisenhower Ave at New Bush Hill Dr	11	44	41	5	29	35	0	5	14	10	6	7	7	10	10	12	12
15	Eisenhower Ave at Clermont Dr	48	113	55	25	61	70	50	48	54	70	30	31	34	58	33	33	36
16	Eisenhower Ave at Cameron Parke Pl	4					23		5	21	4	3		4		3	2	3
17	Eisenhower Ave at Bluestone Rd	4					41		6	24	2	2		2		4	4	4
18	Eisenhower Ave at Mill Rd W	15	39	40	10	21	40	40	11	24	7	7	5	7	17	18	21	18
19	Eisenhower Ave at Stovall St	107	191	200	437	359	70	60	8	35	33	20	25	22	96	17	14	17
20	Eisenhower Ave at Swamp Fox Road	7	67		13	44	60		6	33	8	4		4		7	8	7
21	Eisenhower Ave at Mill Race Ln	8	0	0	0	0	43	0	53	52	4	12	0	11	0	2	2	2
22	Eisenhower Ave at Mill Rd E	40	104	105	99	102	34	31	6	24	27	17	12	18	58	21	16	24
23	Eisenhower Ave at Elizabeth Ln	3	0	0	0	0	58	0	7	23	7	1	1	2	2	3	3	3
24	Eisenhower Ave at John Carlyle St	2					0		7	7	9	1		2		2	0	2
DUKE STREET																		
25	Duke St at New East St	19					0		23	23	61	14		21		15	5	15
26	Duke St at New Landmark St	35					29		42	39	82	27		32		41	18	37
27	Duke St at N Ripley St	27					90		102	96	56	17		20		23	13	23
28	Duke St at S Reynolds St	9	55	0	9	31	45	48	21	32	5	4	4	4	18	5	2	6
29	Duke St at N Paxton St	11	55	50	19	43	80	81	29	50	11	7	5	7	14	4	3	4
30	Duke St at S Pickett St	30	57		33	40						31	25	30	63	5		24
31	Duke St at Cameron Stn Blvd/N Pickett	31	64	57	56	61	107	119	123	113	27	22	11	22	37	23	14	22
32	Duke St at Somerville St	24			23	23			4	4		26	40	40		1	1	1
33	Duke St at Shops@Fox Chase	46	61	68	36	47	67	56	8	41	55	61	38	60	30	26	25	26
34	Duke St at Jordan St	55	57	54	40	52	89	59	10	59	91	70	61	73	40	28	12	26
35	Duke St at Ingram St	77	135	131	161	146	76	47	26	50	131	122	121	122	24	5	5	5
36	Duke St at N Gordon St	35					85		18	63	63	56		56		1	2	1
37	Duke St at S Gordon St	20	68	0	99	75	79	0	0	79	0	28	5	27	21	5	4	5
38	Duke St at Early St	188	81	98	452	244	153	113	46	98	247	306	322	305	17	7	7	7
39	Duke St at Wheeler Ave	227	69	0	20	31	88	0	0	88	337	398	414	398	143	4	7	29
40	Duke St at N Quaker Ln	71					389		272	372	46	64		62		34	4	20

= New intersections for 2040 Build scenario

Table 8.6 – Year 2040 Build with Multimodal Bridge – AM Peak Hour Intersection Delay (sec/veh) – continued

DUKE STREET (Continued)																		
41	Duke St at S Quaker Ln	16	55		64	57					25	21	25	28	7		7	
42	Duke St at Alexandria Commons	21	59	62	61	61	76	54	39	56	34	13	3	14	73	24	17	25
43	Duke St at Sweeley St	41	69	47	57	57	62	64	26	47	97	38	28	39	33	42	44	42
44	Duke St at Roth St	37	79	40	54	55	57	53	35	50	9	11	0	11	51	55	50	55
45	Duke St at Witter St	21	57		13	32						4	4	4	20	35		35
46	Duke St at W Taylor Run Pkwy	39					110	110	138	113	114	12	15	15		46	33	45
47	Duke St at Dove St	22	27	0	40	36	54	0	51	53		31	34	31		3	5	3
EDSALL ROAD																		
48	Edsall Rd at Winterview Dr	10	26	0	4	22	32	34	6	20	8	11	11	11	15	6	2	6
49	Edsall Rd at Farrington Ave Extended	9	28		22	27						4	14	8	16	4		4
50	Edsall Rd at Yoakum Pkwy	15	18	17	14	15	18	13	2	9	21	16	17	17	28	17	2	15
51	Edsall Rd at S Whiting St/New High St	25	23	16	9	16	59	12	12	27	25	31	23	28	26	23	26	25
52	Edsall Rd at New Metro St	44	32		14	23						34	39	37	75	63		67
71	Edsall Rd at S Reynolds St	29					25		14	17	31	32		32		38	13	36
SOUTH PICKETT STREET																		
53	Farrington Ave Ext W at S Pickett St	44		25	30	28	31	28		31					17		9	9
54	Farrington Ave Ext E at S Pickett St	38	46	39	49	47	35	39	5	26	32	42	38	40	20	11	7	18
55	New High St at S Pickett St	34	35	43	0	38	40	66	59	51	23	33	49	28	40	21	7	25
56	S Pickett St at Multimodal Bridge	61	63	62	29	53	42	55	72	54	54	42	30	41	89	119	97	102
72	S Pickett St at New Main St	41	5	3	1	3	26	80	56	78	57	30	213	69	155	69	17	76
57	S Pickett St at Edsall Rd	88	73	32	24	43	17	39	72	37	26	15	3	12	170	269	227	250
58	S Pickett St at Trade Center Shopping	73	82		6	31						3	4	3	97	158		152
HIGH STREET (PROPOSED 2040)																		
59	New Landmark St at New High St	24	24		26	25						64	6	34	14	8		13
60	New High St at Stevenson Ave	23	16	17	16	17	37	21	20	22	24	24	28	25	32	34	36	34
61	New High St at Van Dorn Plaza	12		12	6	9	17	12		13					21		11	15
73	New High St at S Whiting St	19		21	8	12		11	12	12					35		13	32
62	New High St at New Main St	8		5	8	6	2	5		4					28		6	17
74	New High St at Courtney Ave Ext	170	0	132	139	134	251	77	121	190	197	303	366	264	14	14	7	11
75	New High St at New Metro Rd	13	24		13	13						6	14	7	15	6		14
76	New High St at New Warehouse St	23	20	24	14	22	21	22	20	21	43	41	24	40	27	40	19	21
77	Farrington Ave at New High St	31					52		12	48	19	19		19		25	23	24
MISCELLANEOUS INTERSECTIONS																		
63	New Landmark St at New East St	28	27		23	23						44	9	29	35	25		29
64	New Metro St at New Main St	38	28	20		22		34	34	34	71		93	86				
65	Farrington Ave at Farrington Ave Extended	8					3		1	3	42	48		48		60	7	28
78	Farrington Ave Ext at New Warehouse St	5		2	1	2	2	2		2					25		24	24
79	Farrington Ave Ext at New Metro Rd	13		10	2	8	2	2		2					58		85	66
80	Farrington Ave Ext at Courtney Ave Ext	36		25	74	42	70	22		38					22		31	30
81	New Metro Rd at Van Dorn St NB Off-Ramp	7	9		5	6						7		7		7		7
82	New Station Pkwy at Metro Bus Loop	160					78		28	60	62	4		32		483	525	498
83	New Presidential Pkwy at New Victory Dr	150	28		8	16						401	418	415	221	160		203
84	New Presidential Pkwy at New Bush Hill Dr	26	21		11	18						39	41	39	22	13		14
85	New Presidential Pkwy at Clermont Ave	21	10		5	8						47	15	24	39	36		37
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	4					5			5	23			23				

☐ = New intersections for 2040 Build scenario

Table 8.7 – Year 2040 Build with Multimodal Bridge – PM Peak Hour Intersection Delay (sec/veh)

Int. No.	Intersections	Intersection Overall	Northbound				Southbound				Eastbound				Westbound			
			L	T	R	Approach	L	T	R	Approach	L	T	R	Approach	L	T	R	Approach
VAN DORN STREET																		
1	N Van Dorn St at Holmes Run Pkwy	38		18	10	17	40	55		52				60		4		11
2	N Van Dorn St at New Landmark St	74	44	15	10	19	97	115	97	112	50	38	70	57	84	62	8	45
3	S Van Dorn St at EOS 21 Apartments	79		2	1	2	118	114		114				0		2		2
4	S Van Dorn St at Stevenson Ave	108	74	7	6	23	156	169	109	160	113	99	86	96	57	52	6	43
5	S Van Dorn St at Van Dorn Plaza	27	41	11		21		21	24	21	57		76	68				
6	S Van Dorn St at Edsall Rd	84	243	30	33	76	177	92	78	104	64	90	31	70	102	78	38	77
7	S Van Dorn St at New Main St	67	105	42	81	54	160	48	34	58	161	135	122	139	84	103	111	100
8	S Van Dorn St at S Pickett St	56	21	23	7	18	16	54	41	52	84	87	110	102	155	71	60	106
9	S Van Dorn St at Courtney Ave	29	17	9	8	9	0	39	21	38	79	69	22	53	65	57	60	58
10	S Van Dorn St at Eisenhower Ave	61	113	29	19	39	150	66	58	75	64	79	27	45	94	141	71	87
11	S Van Dorn St at I-495 Ramps	60	69	16		32		58	21	50	120		98	103				
12	S Van Dorn St at Oakwood Rd	10	99	7	0	9	95	6	6	7	83	0	7	76	100	0	102	102
EISENHOWER AVENUE																		
13	Eisenhower Ave at Old Metro Rd	53					42		19	28	95	81		81		35	32	35
67	Eisenhower Ave at New Metro Rd South	43					50		15	20	83	57		70		43	100	57
68	Eisenhower Ave at New Metro Rd North	30		32	47	44	39	16		25					37		22	29
14	Eisenhower Ave at Multimodal Bridge/Bus Loop	95	98	150	134	137	50	38	22	36	106	12	8	69	84	144	120	133
69	Eisenhower Ave at New Victory Dr	28	61	57	9	33	6	102	37	33	7	4	35	9	44	33	34	35
70	Eisenhower Ave at New Bush Hill Dr	10	62	0	4	32	34	36	5	17	10	7	5	7	8	8	8	8
15	Eisenhower Ave at Clermont Dr	81	58	40	5	32	154	112	101	130	57	28	16	27	151	68	56	108
16	Eisenhower Ave at Cameron Parke Pl	9					36		23	29	4	6		6		7	5	7
17	Eisenhower Ave at Bluestone Rd	6					42		6	36	3	3		3		5	4	5
18	Eisenhower Ave at Mill Rd W	44	35	42	15	22	41	30	11	25	9	8	7	8	49	58	114	77
19	Eisenhower Ave at Stovall St	112	236	247	626	530	121	92	13	82	60	21	27	27	89	16	17	16
20	Eisenhower Ave at Swamp Fox Road	8	52		8	35	58		9	26	8	4		4		9	9	9
21	Eisenhower Ave at Mill Race Ln	9	0	0	0	0	56	0	54	54	3	10	0	10	12	3	3	3
22	Eisenhower Ave at Mill Rd E	45	111	38	22	63	51	48	21	41	28	14	12	15	203	28	22	72
23	Eisenhower Ave at Elizabeth Ln	78	136	116	82	0	237	0	303	297	86	4	0	8	352	97	12	95
24	Eisenhower Ave at John Carlyle St	5					54		13	14	8	1		2		6	0	6
DUKE STREET																		
25	Duke St at New East St	22					0		11	11	62	16		23		23	6	23
26	Duke St at New Landmark St	23					36		35	35	79	17		21		30	11	24
27	Duke St at N Ripley St	19					59		58	59	62	13		17		16	10	15
28	Duke St at S Reynolds St	13	56	53	17	41	53	49	21	35	9	9	6	8	24	7	3	10
29	Duke St at N Paxton St	11	53	59	9	46	77	75	22	44	10	9	1	9	11	4	3	4
30	Duke St at S Pickett St	56	137		216	196						25	39	28	57	7		23
31	Duke St at Cameron Stn Blvd/N Pickett	20	67	53	50	60	93	47	49	66	27	10	7	11	24	18	11	18
32	Duke St at Somerville St	11			15	15			4	4		15	15	15		6	5	6
33	Duke St at Shops@Fox Chase	49	59	57	38	47	83	83	30	63	52	53	49	52	41	42	35	41
34	Duke St at Jordan St	36	57	57	7	43	54	50	17	35	81	40	49	46	36	30	14	27
35	Duke St at Ingram St	34	77	69	81	78	51	46	22	30	52	46	37	46	23	9	5	9
36	Duke St at N Gordon St	12					62		12	33	20	20		20		2	2	2
37	Duke St at S Gordon St	9	59	0	57	59	54	0	0	54	0	10	2	10	17	3	0	4
38	Duke St at Early St	90	69	54	37	57	198	204	154	174	126	133	108	131	35	14	11	16
39	Duke St at Wheeler Ave	116	59	0	6	19	94	0	0	94	234	213	165	212	83	1	1	10
40	Duke St at N Quaker Ln	79					558		397	532	34	64		60		23	2	15

= New intersections for 2040 Build scenario

Table 8.8 – Year 2040 Build with Multimodal Bridge – PM Peak Hour Intersection Delay (sec/veh) – continued

DUKE STREET (Continued)																		
41	Duke St at S Quaker Ln	16	63		75	66					32	33	32	13	2		2	
42	Duke St at Alexandria Commons	23	47	52	35	41	134	136	120	132	24	6	2	7	37	16	16	18
43	Duke St at Sweeley St	47	118	111	121	120	51	53	12	43	103	32	24	34	40	49	56	49
44	Duke St at Roth St	50	50	0	49	49	64	0	62	64	14	15	0	15	69	77	68	76
45	Duke St at Witter St	36	63		31	41					9	8	9	38	63		63	
46	Duke St at W Taylor Run Pkwy	68					241	242	312	246	108	23	28	27		84	59	82
47	Duke St at Dove St	25	41	31	40	40	85	0	66	76		8	8	8		35	32	35
EDSALL ROAD																		
48	Edsall Rd at Winterview Dr	13	22	19	6	20	32	35	4	25	11	16	13	15	13	7	3	7
49	Edsall Rd at Farrington Ave Extended	17	27		55	28						27	15	22	13	3		3
50	Edsall Rd at Yoakum Pkwy	115	32	106	36	50	363	49	14	93	665	67	57	215	44	27	5	23
51	Edsall Rd at S Whiting St/New High St	35	37	32	10	29	87	55	23	58	10	24	29	17	30	24	24	25
52	Edsall Rd at New Metro St	60	207		86	144						13	9	11	0	71		71
71	Edsall Rd at S Reynolds St	29					33		10	16	27	37		34		37	12	31
SOUTH PICKETT STREET																		
53	Farrington Ave Ext W at S Pickett St	60		17	18	17	5	4		5				13		9	9	
54	Farrington Ave Ext E at S Pickett St	79	40	30	41	40	37	1	5	10	21	21	19	20	8	4	2	7
55	New High St at S Pickett St	34	31	56	0	43	40	39	39	40	22	47	32	42	10	12	5	10
56	S Pickett St at Multimodal Bridge	81	85	201	71	128	22	25	23	24	101	41	22	43	66	107	122	90
72	S Pickett St at New Main St	38	5	3	2	3	34	66	51	65	64	60	195	78	142	81	18	74
57	S Pickett St at Edsall Rd	92	109	37	26	71	27	91	98	53	18	11	2	10	176	223	199	208
58	S Pickett St at Trade Center Shopping	94	108		7	61						29	20	28	104	185		177
HIGH STREET (PROPOSED 2040)																		
59	New Landmark St at New High St	21	30		32	31						26	19	20	12	2		10
60	New High St at Stevenson Ave	40	20	21	20	20	55	54	49	53	36	44	69	51	53	31	32	37
61	New High St at Van Dorn Plaza	23		15	6	12	33	25		26				41		21	34	
73	New High St at S Whiting St	19		23	8	11		26	17	22				27		20	26	
62	New High St at New Main St	39		52	78	66	42	38		40				34		7	21	
74	New High St at Courtney Ave Ext	18	41	39	33	38	29	23	9	16	17	19	19	18	27	21	10	17
75	New High St at New Metro Rd	14	21		14	14						8	9	8	16	7		14
76	New High St at New Warehouse St	39	15	23	9	22	25	26	21	25	38	36	20	36	109	94	83	83
77	Farrington Ave at New High St	22					39		8	33	13	11		11		23	20	22
MISCELLANEOUS INTERSECTIONS																		
63	New Landmark St at New East St	32	20		17	17						51	5	37	41	37		38
64	New Metro St at New Main St	79	60	73		70		9	11	9	232		154	175				
65	Farrington Ave at Farrington Ave Extended	39					2		1	2	55	48		49		43	8	11
78	Farrington Ave Ext at New Warehouse St	3		1	1	1	2			1					26		27	27
79	Farrington Ave Ext at New Metro Rd	7		2	2	2	2	1		1					48		27	38
80	Farrington Ave Ext at Courtney Ave Ext	9		9	7	9	5	5		5					22		28	25
81	New Metro Rd at Van Dorn St NB Off-Ramp	8	9		6	6						9		9		7		7
82	New Station Pkwy at Metro Bus Loop	150					74		56	64	105	5		68		365	394	379
83	New Presidential Pkwy at New Victory Dr	19	25		5	11						17	23	21	26	13		22
84	New Presidential Pkwy at New Bush Hill Dr	55	22		13	18						89	87	88	17	8		10
85	New Presidential Pkwy at Clermont Ave	107	30		11	21						195	204	202	50	18		37
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	69					3			3	24			24				

■ = New intersections for 2040 Build scenario

Figure 8.9 – Change in AM Peak Hour Delay (sec/veh) – 2040 Build with Multimodal Bridge vs. 2040 Baseline

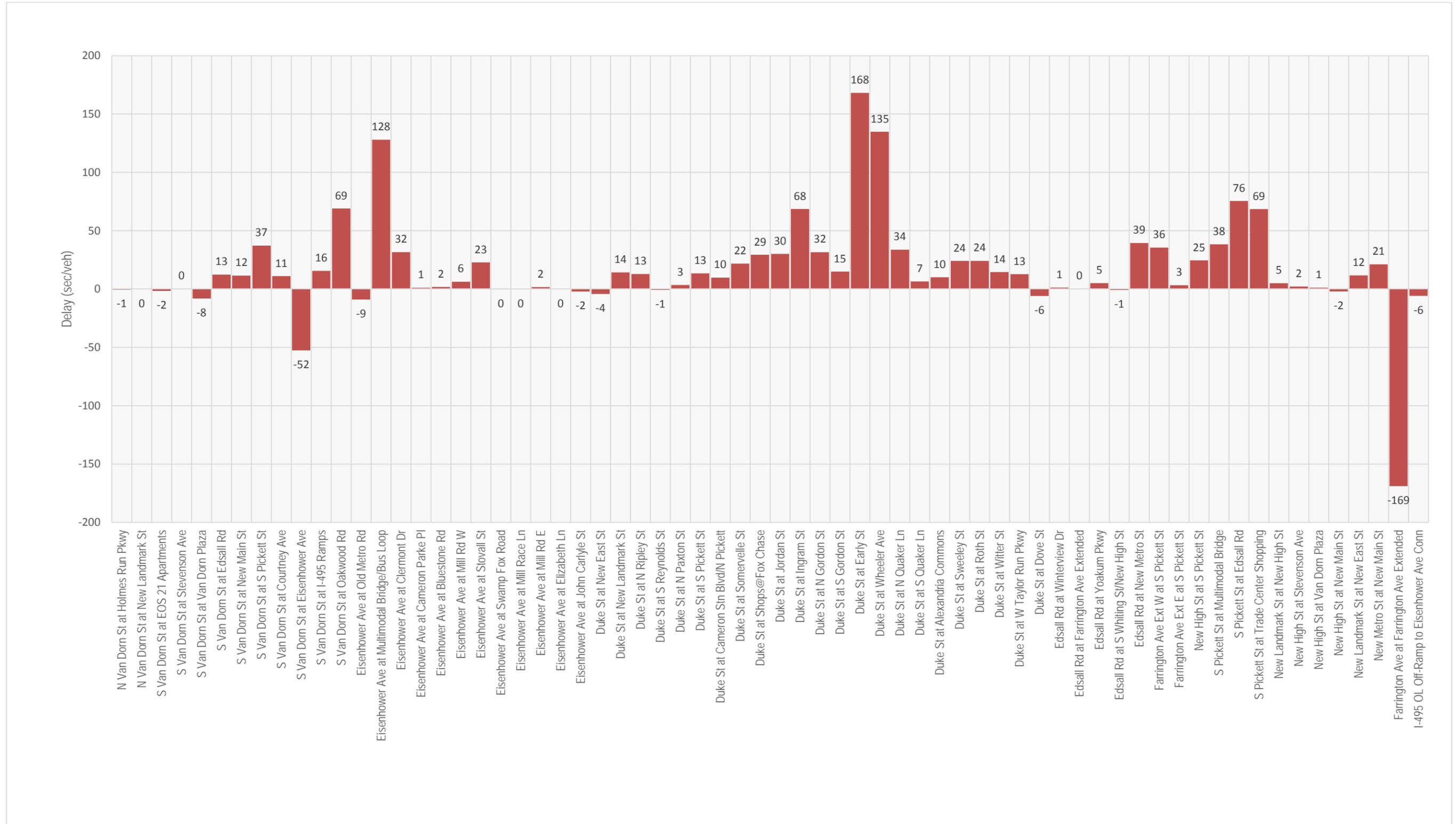
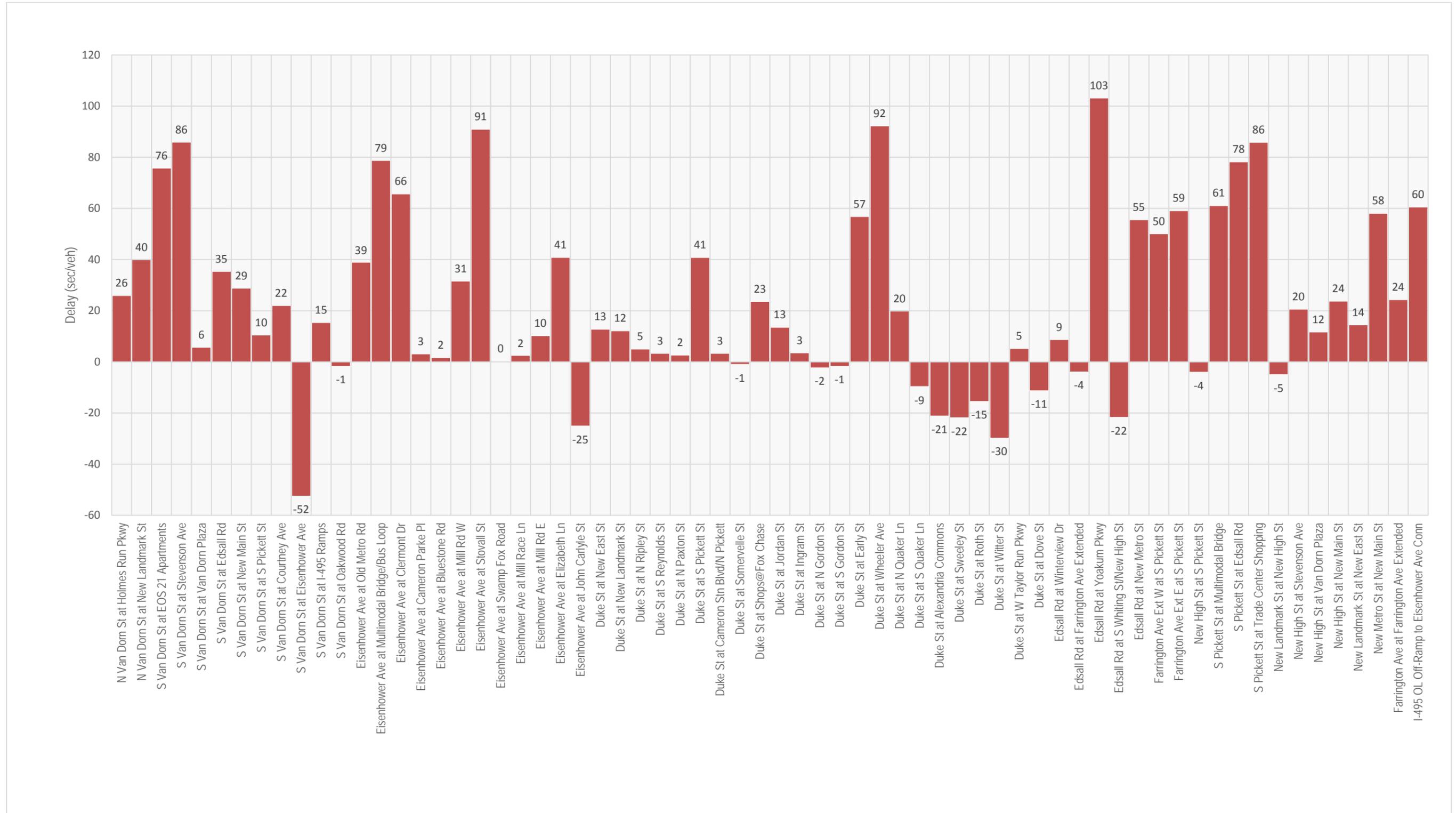


Figure 8.10 – Change in PM Peak Hour Delay (sec/veh) – 2040 Build with Multimodal Bridge vs. 2040 Baseline



Tables 8.9 and 8.10 summarize the VISSIM analysis of the projected Year 2040 Build scenario traffic operations along I-95/I-495 in the vicinity of the Van Dorn Street and Telegraph Road interchanges during the AM and PM peak hours, respectively. The results of the traffic analyses indicate that there would be several lane drops, lane additions, ramp merge areas, ramp diverge areas, and freeway segments along the Inner Loop (IL) and Outer Loop (OL) of the Capital Beltway in this area that would operate at LOS E under the 2040 Build Conditions. The analysis did not show any queues extending from the local intersections back down ramps onto the interstate. The tables show the levels of service (LOS) and densities (passenger cars per lane per mile) for each of these segments. Figure 6.9 shows these levels of service and densities where they would occur along I-95/I-495 during the AM and PM peak hours.

**Table 8.9 – Year 2040 Build with Multimodal Bridge
VISSIM I-95/I-495 Levels of Service (LOS) and Density – AM Peak Hour**

Beltway Segment	Analysis	Density (pc/ln/mi)	LOS
Upstream of Off-Ramp from OL I-95/495 to Van Dorn Street	Lane Drop	32.7	D
At Van Dorn Street On-Ramp to OL I-95/495	Lane Add	27.9	D
At NB Van Dorn Street On-Ramp to OL I-95/495	Merge	23.4	C
OL I-95/495 Segment East of Van Dorn Street	Freeway	36.5	E
At OL I-95/495 Off-Ramp to Eisenhower Ave Connector	Diverge	29.6	D
At Eisenhower Ave Connector On-Ramp to OL I-95/495	Lane Add	28.2	D
Upstream of Off-Ramp from IL I-495 to Eisenhower Ave Connector	Lane Drop	25.9	C
At Eisenhower Ave Connector On-Ramp to IL I-95/495	Merge	31.8	D
IL I-95/495 Segment West of Eisenhower Ave Connector	Freeway	37.9	E
At IL I-95/495 Off-Ramp to Van Dorn Street	Diverge	32.1	D
At Van Dorn Street On-Ramp to IL I-95/495	Lane Add	29.6	D
IL I-95/495 Segment West of Van Dorn Street	Freeway	24.4	C

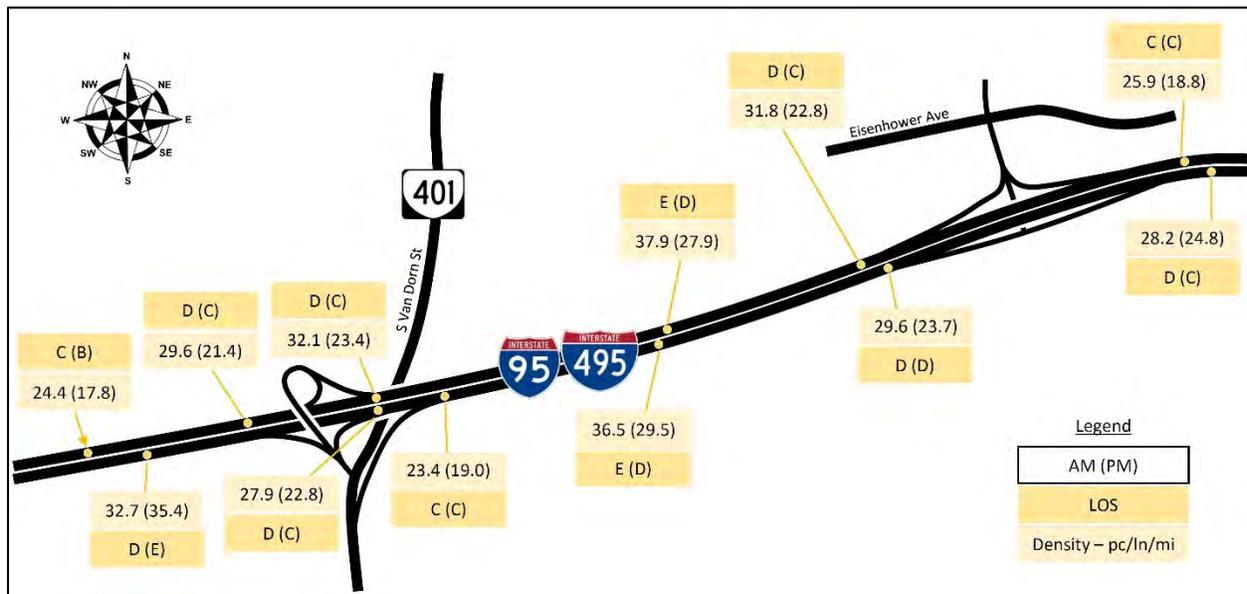
Note: The freeway segment west of Van Dorn St and the segment east of the Eisenhower Avenue Connector each do not reflect the effects of merging and diverging maneuvers at the I-395 interchange and Telegraph Road interchange, respectively.

**Table 8.10 – Year 2040 Build with Multimodal Bridge
VISSIM I-95/I-495 Levels of Service (LOS) and Density – PM Peak Hour**

Beltway Segment	Analysis	Density (pc/ln/mi)	LOS
Upstream of Off-Ramp from OL I-95/495 to Van Dorn Street	Lane Drop	35.4	E
At Van Dorn Street On-Ramp to OL I-95/495	Lane Add	22.8	C
At NB Van Dorn Street On-Ramp to OL I-95/495	Merge	19.0	C
OL I-95/495 Segment East of Van Dorn Street	Freeway	29.5	D
At OL I-95/495 Off-Ramp to Eisenhower Ave Connector	Diverge	23.7	C
At Eisenhower Ave Connector On-Ramp to OL I-95/495	Lane Add	24.8	C
Upstream of Off-Ramp from IL I-495 to Eisenhower Ave Connector	Lane Drop	18.8	C
At Eisenhower Ave Connector On-Ramp to IL I-95/495	Merge	22.8	C
IL I-95/495 Segment West of Eisenhower Ave Connector	Freeway	27.9	D
At IL I-95/495 Off-Ramp to Van Dorn Street	Diverge	23.4	C
At Van Dorn Street On-Ramp to IL I-95/495	Lane Add	21.4	C
IL I-95/495 Segment West of Van Dorn Street	Freeway	17.8	B

Note: The freeway segment west of Van Dorn St and the segment east of the Eisenhower Avenue Connector each do not reflect the effects of merging and diverging maneuvers at the I-395 interchange and Telegraph Road interchange, respectively.

Figure 8.11 – Year 2040 Build with Multimodal Bridge
 VISSIM I-95/I-495 Levels of Service (LOS) and Density



The results of the analysis of projected future traffic operations on the Capital Beltway near the Eisenhower West Transportation Study area under the 2040 Build Conditions indicate the inner loop of the beltway would experience the most congestion (i.e., the poorest LOS) during the AM peak hour, whereas the outer loop would experience the highest levels of congestion during the PM peak hour.

8.2 2040 Build without the Multimodal Bridge

This Build scenario assumes the planned Multimodal Bridge providing transit vehicles, bicycles, pedestrians and general traffic with a direct connection across the Norfolk Southern railroad tracks to the Van Dorn Street Metrorail Station would not be built. However, this bridge was assumed to be completed under the 2040 Baseline conditions. Under this Build scenario without the bridge, South Van Dorn Street would need to be widened to provide northbound and southbound dedicated transit lanes between South Pickett Street and Eisenhower Avenue to provide access for the proposed West End Transitway that would have followed the parallel Multimodal Bridge alignment if the bridge were to be built. Additionally, the pedestrian and bicycle connectivity improvements proposed for the unbuilt Multimodal Bridge (i.e., wider sidewalks and a buffer-separated cycle track) would need to be provided along this segment of South Van Dorn Street.

Figures 8.12, 8.13, 8.14 and 8.15 are maps showing the projected Year 2040 Build intersection turning movement volumes for the AM and PM peak hours at each of the intersections that were evaluated using VISSIM, assuming no Multimodal Bridge. Comparing the peak hour volumes along South Van Dorn Street at a location parallel to the proposed Multimodal Bridge alignment (i.e., intersection #9 on Figures 8.5 and 8.12) for the Build alternative with the bridge versus without the bridge shows the volumes would be 400 to 900 vehicles per hour *higher* without the bridge.

Tables 8.11, 8.12, 8.13 and 8.14 summarize the overall intersection, approach and individual turning movement levels of service (LOS) for the AM and PM peak hours, along with the maximum queue length simulated for each approach (regardless of movement). **Tables 8.15, 8.16, 8.17 and 8.18** summarize the delay per vehicle associated with the levels of service shown in the previous tables. Comparing the levels of service and delays for 2040 Build with and without the Multimodal Bridge shows the segment of South Van Dorn Street that is parallel to proposed bridge alignment would have higher delays if the Multimodal Bridge is not built.

Figures 8.16 and 8.17 are bar charts showing the projected change in overall delay at each key intersection within the study area for 2040 Build without the Multimodal Bridge vs. with the Multimodal Bridge. The results of this comparison show that most intersections would experience an increase in delay if the proposed Multimodal Bridge were not built, especially during the PM peak hour.

Figure 8.12 – Year 2040 Build without Multimodal Bridge – AM (PM) Peak Hour Volumes (Western Area #1)

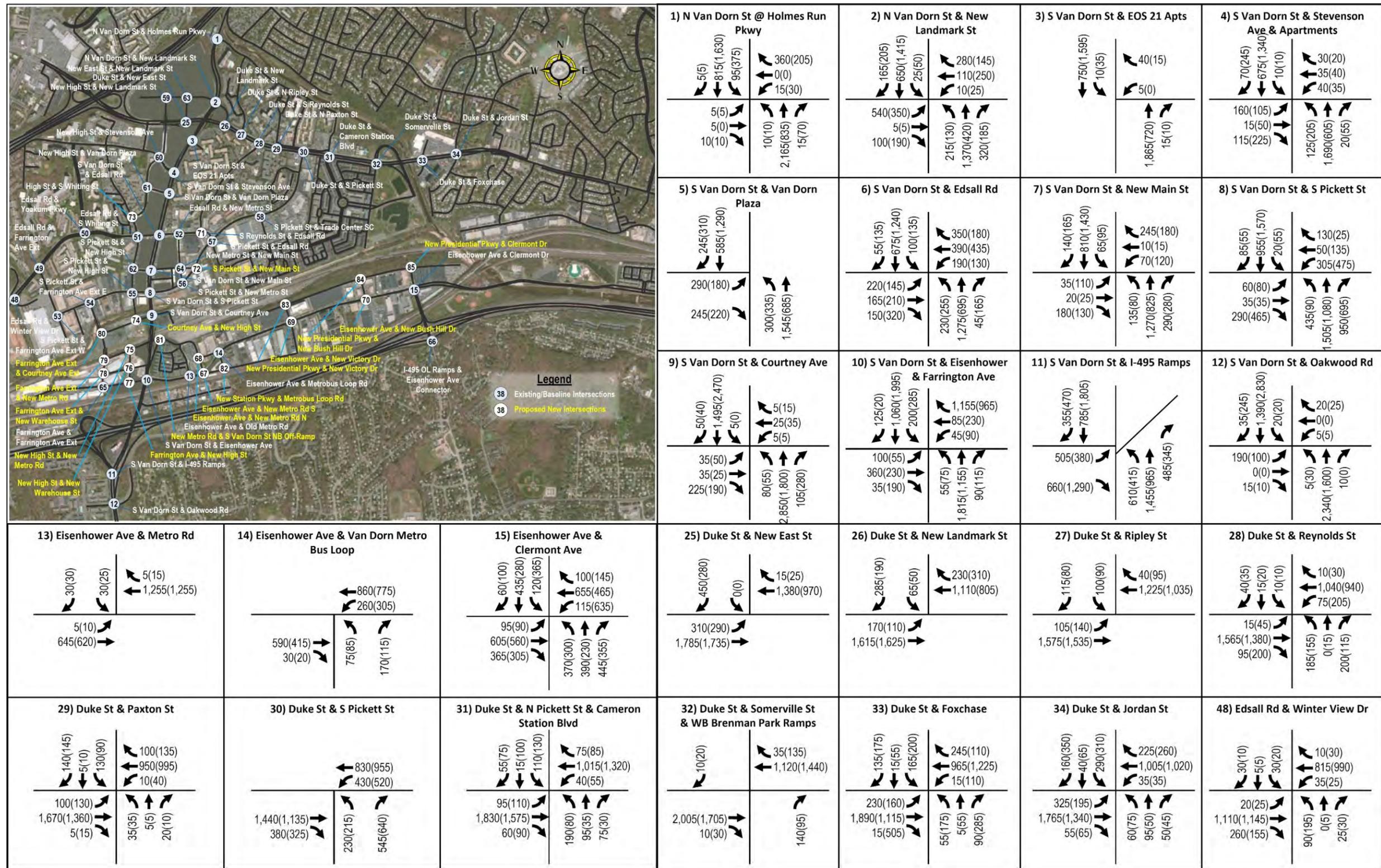


Figure 8.13 – Year 2040 Build without Multimodal Bridge – AM (PM) Peak Hour Volumes (Western Area #2)

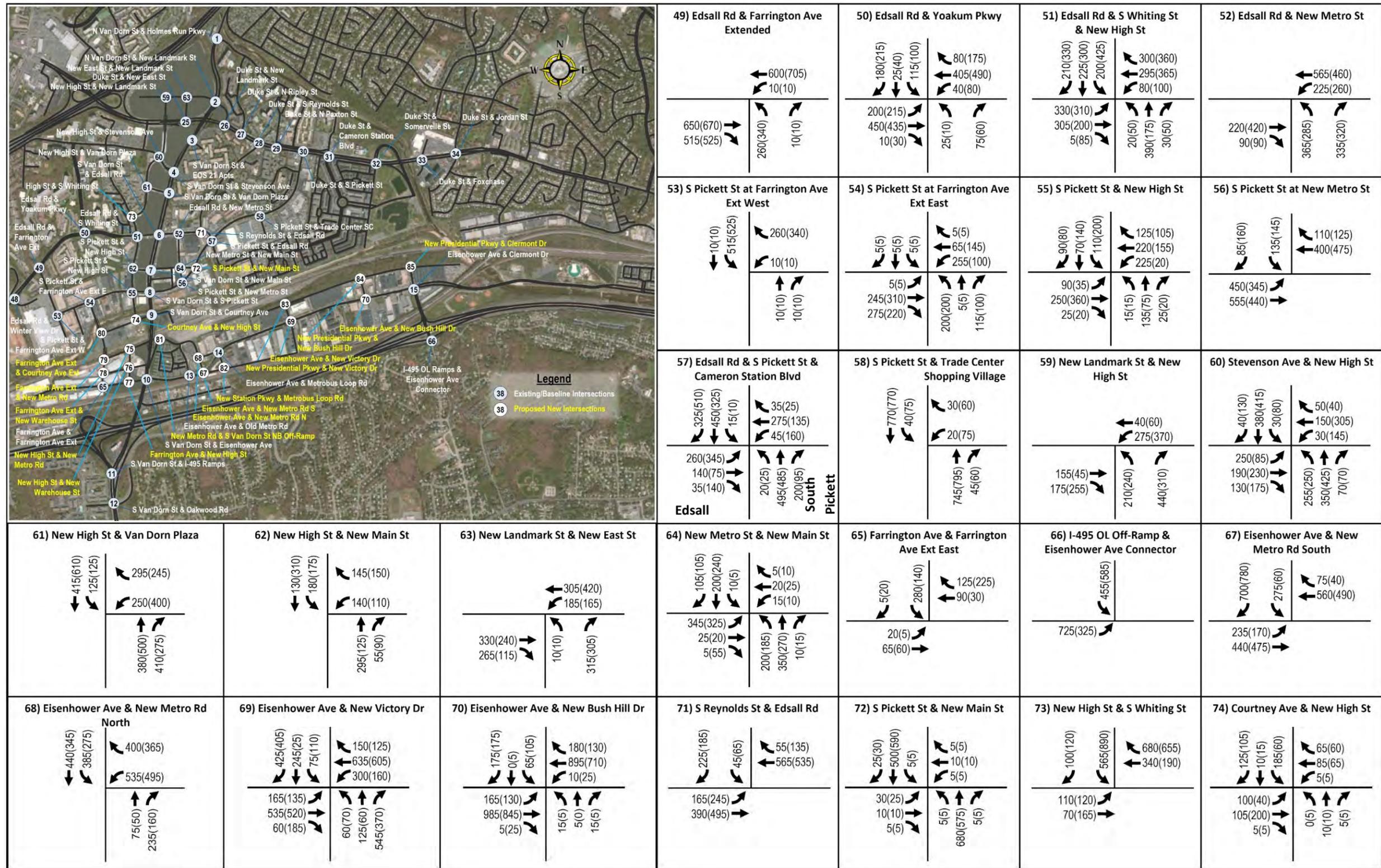


Figure 8.14 – Year 2040 Build without Multimodal Bridge – AM (PM) Peak Hour Volumes (Western Area #3)

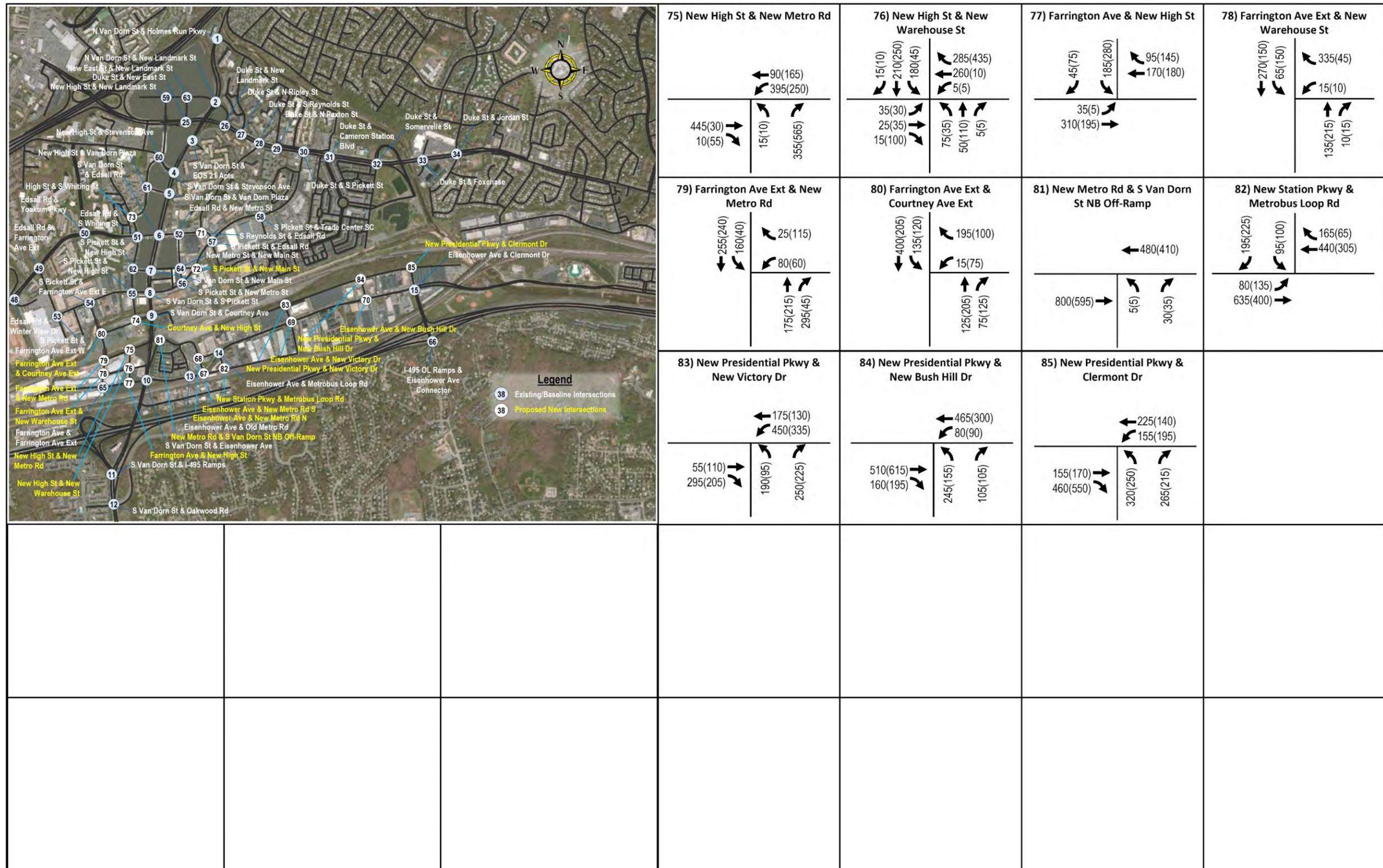


Figure 8.15 – Year 2040 Build without Multimodal Bridge – AM (PM) Peak Hour Volumes (Eastern Area)

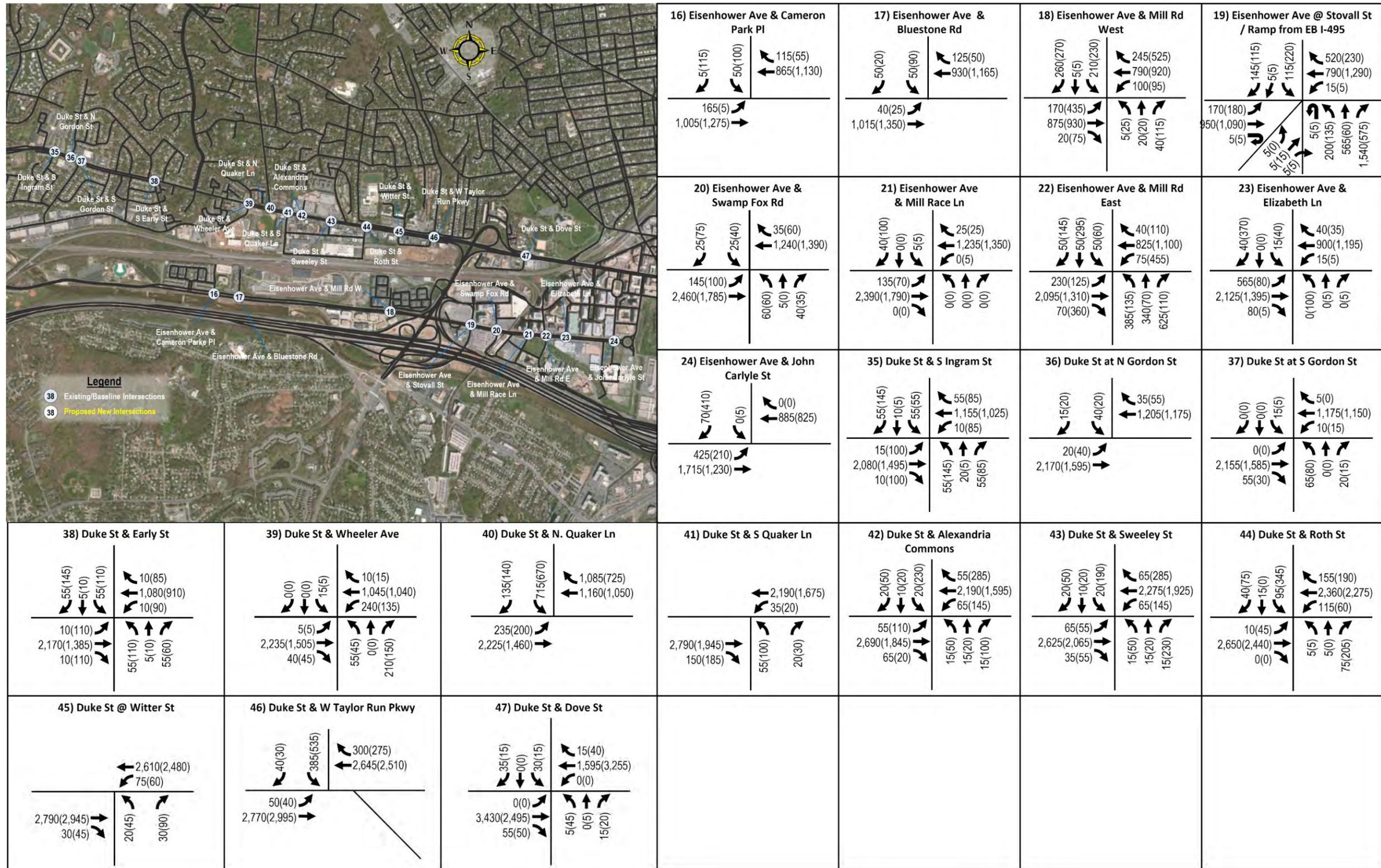


Table 8.11 – Year 2040 Build, No Multimodal Bridge – AM Peak Hour Levels of Service (LOS) and Max. Queues (ft)

Int. No.	Intersections	Intersection Overall	Northbound					Southbound					Eastbound					Westbound					
			L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue	
VAN DORN STREET																							
1	N Van Dorn St at Holmes Run Pkwy	B		B	B	B	675	E	B		B	325					E		C	C	200		
2	N Van Dorn St at New Landmark St	C	E	C	C	C	900	F	C	B	C	625	E	A	A	D	500	D	E	B	C	175	
3	S Van Dorn St at EOS 21 Apartments	A		A	A	A	325	E	B		B	525					E		B	B	50		
4	S Van Dorn St at Stevenson Ave	B	E	B	B	B	325	F	C	A	C	350	E	E	C	D	300	D	D	A	D	0	
5	S Van Dorn St at Van Dorn Plaza	C	E	C		C	500		B	C	C	425	E		A	D	350						
6	S Van Dorn St at Edsall Rd	E	F	D	D	E	525	F	D	D	E	550	E	E	A	D	400	D	F	E	E	475	
7	S Van Dorn St at New Main St	E	F	E	D	E	575	F	B	C	C	450	F	E	E	E	300	F	F	F	F	400	
8	S Van Dorn St at S Pickett St	E	F	D	C	D	525	F	C	D	D	525	F	F	A	D	275	F	F	F	F	950	
9	S Van Dorn St at Courtney Ave	E	F	F	F	F	1,425	F	B	B	B	525	F	F	F	A	450	E	E	F	E	150	
10	S Van Dorn St at Eisenhower Ave	F	F	F	F	F	1,675	F	D	C	D	700	F	F	C	F	250	F	F	F	F	1,025	
11	S Van Dorn St at I-495 Ramps	F	F	F		F	750		C	C	C	275	F		F	F	1,675						
12	S Van Dorn St at Oakwood Rd	F	F	F	F	F	1,675	F	A	A	A	75	F	A	F	F	275	F	A	F	F	50	
EISENHOWER AVENUE																							
13	Eisenhower Ave at Old Metro Rd	D						D		E	D	150	E	E		E	275		E	D	E	375	
67	Eisenhower Ave at New Metro Rd South	E						F		F	F	425	E	C		D	200		F	F	F	400	
68	Eisenhower Ave at New Metro Rd North	E		C	D	D	200	E	E		E	475							F		C	E	450
14	Eisenhower Ave at Bus Loop	F	F		E	E	200							E	E	E	75	F	F		F	850	
69	Eisenhower Ave at New Victory Dr	D	F	E	C	D	475	B	E	D	E	450	B	A	A	A	125	D	D	D	D	500	
70	Eisenhower Ave at New Bush Hill Dr	B	D	D	A	C	50	D	A	A	B	150	B	A	A	A	150	B	B	B	B	675	
15	Eisenhower Ave at Clermont Dr	D	F	D	B	E	475	F	D	C	D	300	F	D	C	D	350	F	D	C	D	375	
16	Eisenhower Ave at Cameron Parke Pl	A						D		B	D	100	B	A		A	225		A	A	A	250	
17	Eisenhower Ave at Bluestone Rd	A						D		A	C	100	A	A		A	125		A	A	A	200	
18	Eisenhower Ave at Mill Rd W	B	D	E	B	C	125	D	D	B	C	250	A	A	A	A	200	A	B	B	B	325	
19	Eisenhower Ave at Stovall St	F	F	F	F	F	1,675	E	E	A	C	150	D	C	B	C	450	F	C	B	C	300	
20	Eisenhower Ave at Swamp Fox Road	C	F		F	F	175	F		B	E	75	B	D		D	575		A	A	A	175	
21	Eisenhower Ave at Mill Race Ln	C	A	A	A	A	0	D	A	D	D	100	C	D	A	D	750	A	A	A	A	100	
22	Eisenhower Ave at Mill Rd E	D	F	F	F	F	375	D	D	A	C	175	C	B	B	C	400	E	C	C	C	350	
23	Eisenhower Ave at Elizabeth Ln	A	A	A	A	A	0	F	A	A	E	50	A	A	A	A	125	A	A	A	A	75	
24	Eisenhower Ave at John Carlyle St	A						A		E	E	100	B	A		A	200		A	A	A	175	
DUKE STREET																							
25	Duke St at New East St	C						A		A	A	150	E	D		D	625		A	A	A	200	
26	Duke St at New Landmark St	E						F		D	E	275	F	F		F	825		B	B	B	450	
27	Duke St at N Ripley St	D						F		F	F	325	E	E		E	475		B	B	B	450	
28	Duke St at S Reynolds St	D	F	A	F	F	325	F	D	C	D	175	B	E	C	E	475	C	A	A	A	175	
29	Duke St at N Paxton St	D	E	E	F	F	100	F	F	F	F	325	B	E	C	E	450	B	A	A	A	200	
30	Duke St at S Pickett St	E	E		C	D	425							E	F	F	700	F	B		F	625	
31	Duke St at Cameron Stn Blvd/N Pickett	F	F	F	F	E	475	F	F	F	E	325	E	B	B	B	550	F	F	F	F	1,200	
32	Duke St at Somerville St	C			A	A	25			A	A	0		A	A	A	325		E	D	E	925	
33	Duke St at Shops@Fox Chase	C	F	F	C	E	150	E	E	D	E	325	C	B	B	B	800	D	D	D	D	850	
34	Duke St at Jordan St	C	F	E	A	D	275	E	E	D	E	275	E	C	B	C	600	D	D	C	D	575	
35	Duke St at Ingram St	C	E	E	E	E	225	E	E	E	E	175	C	C	C	C	575	C	B	B	B	425	
36	Duke St at N Gordon St	B						E		C	D	75	C	B		B	325		A	A	A	200	
37	Duke St at S Gordon St	B	E	A	E	E	150	E	A	A	E	50	A	A	A	A	125	D	B	C	B	775	
38	Duke St at Early St	F	F	F	F	F	325	F	F	D	F	250	F	F	F	F	1,225	C	B	B	B	625	
39	Duke St at Wheeler Ave	F	E	A	B	C	350	E	A	A	E	50	F	F	F	F	1,675	C	A	A	B	400	

= New intersections for 2040 Build scenario

Table 8.12 – Year 2040 Build, No Multimodal Bridge – AM Peak Hour Levels of Service (LOS) and Max. Queues (ft) - continued

DUKE STREET (Continued)																								
40	Duke St at N Quaker Ln	D								F	F	F	525	D	D		D	500	B	A	A	425		
41	Duke St at S Quaker Ln	B	E	A	E	E	150	A	A	A	A	0	A	B	B	B	B	450	C	A	A	A	350	
42	Duke St at Alexandria Commons	B	D	E	C	D	100	E	E	D	E	100	D	B	A	B	B	350	E	B	B	C	650	
43	Duke St at Sweeley St	C	E	D	E	E	100	E	D	C	D	75	E	B	B	C	C	650	C	C	D	C	800	
44	Duke St at Roth St	B	E	D	D	D	150	E	E	E	E	150	B	B	A	B	B	675	D	C	C	C	700	
45	Duke St at Witter St	A	E		B	C	75								A	A	A	375	B	A		A	650	
46	Duke St at W Taylor Run Pkwy	C						D	D	B	D	350	F	C	C	C	C	775		C	B	C	1,075	
47	Duke St at Dove St	C	D	A	D	D	100	E	A	E	E	100		D	D	D	D	725		A	A	A	100	
EDSALL ROAD																								
48	Edsall Rd at Winterview Dr	B	C	A	C	C	175	C	D	D	D	125	B	B	B	B	B	450	B	A	A	A	175	
49	Edsall Rd at Farrington Ave Extended	A	C		C	C	250								A	A	A	425	B	A		A	150	
50	Edsall Rd at Yoakum Pkwy	B	D	D	D	D	175	D	C	A	B	275	A	A	A	A	A	150	B	A	A	A	100	
51	Edsall Rd at S Whiting St	D	D	D	C	D	375	D	D	D	D	500	C	C	C	C	C	625	C	D	E	D	375	
52	Edsall Rd at New Metro St	D	D		B	C	225								C	D	C	150	E	E		E	450	
71	Edsall Rd at S Reynolds St	C						C		A	A	200	C	D		C	C	325		C	B	C	325	
SOUTH PICKETT STREET																								
53	Farrington Ave Ext W at S Pickett St	C		A	A	A	75	B	B		B	550							C		C	C	250	
54	Farrington Ave Ext at S Pickett St	C	D	D	D	D	225	F	A	A	F	25	C	C	C	C	C	525	B	A	A	B	100	
55	New High St at S Pickett St	C	D	D	D	D	300	C	C	C	C	275	B	B	B	B	B	375	B	B	A	B	400	
56	S Pickett St at New Metro St	F						D		F	E	175	F	E		E	E	550		F	F	F	500	
72	S Pickett St at New Main St	E	A	A	A	A	100	F	F	F	F	600	D	E	F	E	E	75	F	E	B	F	50	
57	S Pickett St at Edsall Rd	F	F	D	D	E	375	C	E	F	D	275	D	C	A	B	B	175	F	F	F	F	1,300	
58	S Pickett St at Trade Center Shopping	F	F		A	F	100							C	B	C	C	200	F	F		F	1,675	
NEW HIGH STREET (PROPOSED)																								
59	New Landmark St at New High St	C	D		D	D	850							C	A	B	B	150	B	A		B	125	
60	New High St at Stevenson Ave	C	C	B	C	C	225	D	B	B	B	400	C	C	C	C	C	300	A	B	C	B	100	
61	New High St at Van Dorn Plaza	B		B	A	A	175	C	C		C	475									B	B	225	
73	New High St at S Whiting St	C		D	C	C	550		B	C	C	175									C	C	650	
62	New High St at New Main St	B		A	B	B	200	B	A		A	325									D	B	C	125
74	New High St at Courtney Ave Ext	F	A	F	F	E	50	F	F	F	E	200	E	F	F	F	F	100	C	C	B	B	125	
75	New High St at New Metro Rd	E	C		C	C	400								E	F	E	500	F	D		E	500	
76	New High St at New Warehouse St	E	C	C	B	C	125	E	E	E	E	400	D	D	C	D	D	100	F	F	E	F	825	
77	Farrington Ave at New High St	F						F		C	F	200	F	F		F	F	275		C	B	C	225	
MISCELLANEOUS INTERSECTIONS																								
63	New Landmark St at New East St	C	C		C	C	375							E	B	D	D	450	C	C		C	425	
64	New Metro St at New Main St	D	D	C		C	300	D	D	D	D	275	E	F	F	E	E	350	F	F	F	F		
65	Farrington Ave at Farrington Ave Extended	D						D		B	D	100	D	F		E	E	100		D	A	C	125	
78	Farrington Ave Ext at New Warehouse St	D			C	C	200	B	C		C	150								E		E	E	350
79	Farrington Ave Ext at New Metro Rd	C			B	C	200	D	C		D	225								D	D	D	200	
80	Farrington Ave Ext at Courtney Ave Ext	B			B	B	100	B	B		B	300								E		D	D	175
81	New Metro Rd at Van Dorn St NB Off-Ramp	B	B		A	A	25								B		B	400		B		B	275	
82	New Station Pkwy at Metro Bus Loop	D						E		C	D	275	D	A		B	B	125		E	F	F	800	
83	New Presidential Pkwy at New Victory Dr	D	C		A	B	150							E	F	F	F	300	E	D		E	300	
84	New Presidential Pkwy at New Bush Hill Dr	C	C		A	B	100							D	D	D	D	800	C	B		B	300	
85	New Presidential Pkwy at Clermont Ave	C	B		B	B	150							D	B	C	C	300	A	D		C	300	
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	B						B			B	300	B			B	B	175						

☐ = New intersections for 2040 Build scenario

Table 8.13 – Year 2040 Build, No Multimodal Bridge – PM Peak Hour Levels of Service (LOS) and Max. Queues (ft)

Int. No.	Intersections	Intersection Overall	Northbound					Southbound					Eastbound					Westbound				
			L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue
VAN DORN STREET																						
1	N Van Dorn St at Holmes Run Pkwy	E		B	A	B	175	D	F		F	675					F		A	B	100	
2	N Van Dorn St at New Landmark St	F	F	B	B	D	275	F	F	F	F	1,425	D	B	C	D	425	E	D	A	C	450
3	S Van Dorn St at EOS 21 Apartments	E		A	A	A	50	F	F		F	1,025					A		A	A	0	
4	S Van Dorn St at Stevenson Ave	F	F	B	B	C	300	F	F	F	F	850	F	F	F	F	625	F	E	A	E	100
5	S Van Dorn St at Van Dorn Plaza	D	F	D		F	1,075		C	D	C	425	F		E	E	250					
6	S Van Dorn St at Edsall Rd	F	F	E	E	F	600	F	F	F	F	1,075	F	F	E	F	475	F	F	E	F	475
7	S Van Dorn St at New Main St	E	F	E	F	E	775	F	E	E	E	650	F	F	F	F	500	F	F	F	F	425
8	S Van Dorn St at S Pickett St	F	F	F	C	E	525	F	F	E	F	675	F	E	F	F	500	F	F	F	F	875
9	S Van Dorn St at Courtney Ave	E	F	F	F	F	1,400	A	D	C	D	525	F	E	C	A	225	E	E	F	E	125
10	S Van Dorn St at Eisenhower Ave	F	F	F	F	F	1,425	F	E	D	E	1,375	F	F	F	F	400	F	F	F	F	950
11	S Van Dorn St at I-495 Ramps	F	F	E		F	625		E	D	E	275	F		F	F	1,675					
12	S Van Dorn St at Oakwood Rd	D	F	F	A	F	850	F	B	B	B	500	F	A	F	F	125	F	A	F	F	50
EISENHOWER AVENUE																						
13	Eisenhower Ave at Old Metro Rd	D						E		F	E	225	D	D		D	150		E	D	E	425
67	Eisenhower Ave at New Metro Rd South	E						D		D	D	400	D	C		D	200		F	F	F	475
68	Eisenhower Ave at New Metro Rd North	C		C	B	B	25	C	C		C	525						E		C	D	450
14	Eisenhower Ave at Bus Loop	E	E		F	F	125							C	F	D	150	F	F		F	1,250
69	Eisenhower Ave at New Victory Dr	B	D	D	B	C	225	A	E	C	C	375	A	A	A	A	175	B	B	B	B	1,075
70	Eisenhower Ave at New Bush Hill Dr	A	E	A	A	C	25	D	D	A	B	75	A	A	A	A	100	A	A	A	A	275
15	Eisenhower Ave at Clermont Dr	F	E	D	A	D	250	F	D	D	E	425	F	D	C	D	225	F	F	F	F	375
16	Eisenhower Ave at Cameron Parke Pl	F						F		F	F	200	A	A		A	200		F	F	F	350
17	Eisenhower Ave at Bluestone Rd	F						D		F	D	125	A	A		A	225		F	F	F	200
18	Eisenhower Ave at Mill Rd W	E	F	D	B	C	125	D	D	C	C	275	B	A	A	A	250	E	F	F	F	950
19	Eisenhower Ave at Stovall St	E	E	D	C	D	575	F	F	F	F	725	E	C	C	D	525	F	D	C	D	450
20	Eisenhower Ave at Swamp Fox Road	B	E		C	D	100	F		C	D	75	C	C		C	575		B	A	B	125
21	Eisenhower Ave at Mill Race Ln	C	A	A	A	A	0	E	A	E	E	200	C	D	A	D	750	B	A	A	A	100
22	Eisenhower Ave at Mill Rd E	C	D	C	C	D	225	E	D	B	D	425	C	C	C	C	425	E	B	B	C	375
23	Eisenhower Ave at Elizabeth Ln	C	D	D	C	A	100	E	A	F	F	250	B	A	A	A	225	A	A	A	A	125
24	Eisenhower Ave at John Carlyle St	C						F		F	F	300	A	B		B	275		B	A	B	300
DUKE STREET																						
25	Duke St at New East St	C						A		A	A	75	E	C		D	625		A	A	A	100
26	Duke St at New Landmark St	D						F		D	D	225	F	E		E	825		C	B	B	375
27	Duke St at N Ripley St	D						F		F	F	350	E	E		E	425		B	B	B	300
28	Duke St at S Reynolds St	D	F	E	F	F	325	F	D	B	D	125	C	F	D	E	475	B	A	A	A	150
29	Duke St at N Paxton St	E	E	D	F	E	100	F	F	E	F	325	C	F	C	F	425	B	A	A	A	175
30	Duke St at S Pickett St	F	F		F	F	1,625							E	F	F	700	F	C		E	625
31	Duke St at Cameron Stn Blvd/N Pickett	D	F	F	E	F	350	E	F	F	F	350	E	B	A	B	425	F	F	D	F	1,075
32	Duke St at Somerville St	C			A	A	0			B	B	0		B	C	C	750		D	C	D	700
33	Duke St at Shops@Fox Chase	D	F	E	C	D	150	E	E	D	E	325	D	D	D	D	875	D	D	C	D	800
34	Duke St at Jordan St	D	F	E	D	E	250	F	E	C	D	350	E	D	C	D	650	C	D	B	D	750
35	Duke St at Ingram St	E	F	F	F	F	225	F	E	E	E	175	F	F	F	F	1,250	D	B	B	B	425
36	Duke St at N Gordon St	C						E		C	D	75	F	D		D	450		A	A	A	150
37	Duke St at S Gordon St	C	E	A	F	E	175	E	A	A	E	25	A	B	A	B	200	D	C	A	C	575
38	Duke St at Early St	F	F	F	F	F	400	F	F	F	F	500	F	F	F	F	1,625	D	B	B	C	500
39	Duke St at Wheeler Ave	F	E	A	C	C	250	F	A	A	F	25	F	F	F	F	1,675	E	A	A	A	300

= New intersections for 2040 Build scenario

Table 8.14 – Year 2040 Build, No Multimodal Bridge – PM Peak Hour Levels of Service (LOS) and Max. Queues (ft) – continued

DUKE STREET (Continued)																						
40	Duke St at N Quaker Ln	E					F	F	F	525	C	F		E	500	B	A	A	325			
41	Duke St at S Quaker Ln	C	E	A	E	E	200	A	A	A	A	0	A	D	C	D	450	B	A	A	A	175
42	Duke St at Alexandria Commons	D	E	E	F	E	175	F	F	F	F	275	E	C	B	C	350	F	D	C	D	650
43	Duke St at Sweeley St	E	F	F	F	F	250	E	E	C	E	250	F	E	D	E	675	E	E	F	E	825
44	Duke St at Roth St	E	E	A	E	E	325	F	A	F	F	175	D	D	A	D	825	E	F	F	F	775
45	Duke St at Witter St	F	F		F	F	225						F	E	F		800	E	F		F	825
46	Duke St at W Taylor Run Pkwy	F						D	D	E	D	400	F	D	E	E	800		F	F	F	1,675
47	Duke St at Dove St	E	C	C	C	C	125	E	A	F	E	100		B	B	B	225		F	E	F	1,300
EDSALL ROAD																						
48	Edsall Rd at Winterview Dr	B	C	B	C	C	100	C	C	B	B	50	B	B	B	B	275	B	A	A	A	250
49	Edsall Rd at Farrington Ave Extended	C	C		D	C	200							B	C	C	350	C	C		C	250
50	Edsall Rd at Yoakum Pkwy	B	C	D	D	D	125	D	C	A	B	200	B	B	A	B	550	C	B	A	B	150
51	Edsall Rd at S Whiting St	E	D	F	E	E	150	F	F	E	F	500	F	F	F	F	1,150	F	F	E	E	450
52	Edsall Rd at New Metro St	C	E		C	D	550						B	B	B		150	C	C		C	425
71	Edsall Rd at S Reynolds St	C						C		A	B	475	C	D		D	400		B	B	B	275
SOUTH PICKETT STREET																						
53	Farrington Ave Ext W at S Pickett St	C		A	B	B	25	D	C		D	500						C		C	C	250
54	Farrington Ave Ext at S Pickett St	D	C	C	D	D	200	D	C	A	B	25	D	E	E	E	575	D	C	C	C	125
55	New High St at S Pickett St	D	D	E	E	E	125	D	D	D	D	250	D	D	D	D	450		A	A	A	75
56	S Pickett St at New Metro St	F					0	E		F	F	400	F	F		F	325		F	F	F	525
72	S Pickett St at New Main St	E	A	A	A	A	100	F	F	F	F	600	F	F	F	F	75	F	F	B	F	50
57	S Pickett St at Edsall Rd	F	F	E	D	F	525	C	F	F	E	275	C	C	A	B	150	F	F	F	F	1,275
58	S Pickett St at Trade Center Shopping	F	F		D	F	300						F	F	F	F	625	F	F		F	1,675
NEW HIGH STREET (PROPOSED)																						
59	New Landmark St at New High St	C	C		C	C	325						C	B	B		300	C	A		B	250
60	New High St at Stevenson Ave	D	E	D	E	D	525	F	F	F	F	1,475	E	F	F	F	550	D	C	C	C	200
61	New High St at Van Dorn Plaza	E		C	B	C	400	E	E		E	675						F		D	F	525
73	New High St at S Whiting St	D		A	A	A	0		F	D	E	350						F		E	F	825
62	New High St at New Main St	F		C	E	D	325	F	F		F	650						D		B	C	100
74	New High St at Courtney Ave Ext	C	F	F	F	F	50	C	C	A	B	75	C	C	B	C	175	B	B	A	B	75
75	New High St at New Metro Rd	E	C		C	C	400						C	E	D		75	F	E		F	125
76	New High St at New Warehouse St	D	B	C	B	B	225	D	E	D	E	200	D	D	F	E	150	F	F	F	F	775
77	Farrington Ave at New High St	F						F		E	F	200	F	F		F	125		B	B	B	400
MISCELLANEOUS INTERSECTIONS																						
63	New Landmark St at New East St	D	C		C	C	425						D	A	D		325	D	D		D	550
64	New Metro St at New Main St	E	D	C		D	275		B	C	C	175	F	F	F	F	625	F	F	F	F	
65	Farrington Ave at Farrington Ave Extended	F						F		D	F	75	B	F		E	75		C	A	A	75
78	Farrington Ave Ext at New Warehouse St	C		A	A	A	75	A	E	E	D	50						E		C	D	75
79	Farrington Ave Ext at New Metro Rd	D		A	A	A	75	C	E		E	75						D		C	C	100
80	Farrington Ave Ext at Courtney Ave Ext	C		A	A	A	100	B	C		C	100						D		E	E	100
81	New Metro Rd at Van Dorn St NB Off-Ramp	C	B		A	A	25						B		B		275		E		E	150
82	New Station Pkwy at Metro Bus Loop	F						F	F	F	F	475	C	B		B	175		F	F	F	1,575
83	New Presidential Pkwy at New Victory Dr	B	C		A	B	75						B	B	B		325	B	A		B	650
84	New Presidential Pkwy at New Bush Hill Dr	C	C		B	B	125						D	D	D		850	C	A		B	150
85	New Presidential Pkwy at Clermont Ave	C	B		A	B	175						D	C	D		450	D	C		C	325
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	A						A		A		225	B		B		100					

☐ = New intersections for 2040 Build scenario

Table 8.15 – Year 2040 Build without Multimodal Bridge – AM Peak Hour Intersection Delay (sec/veh)

Int. No.	Intersections	Intersection Overall	Northbound				Southbound				Eastbound				Westbound			
			L	T	R	Approach	L	T	R	Approach	L	T	R	Approach	L	T	R	Approach
VAN DORN STREET																		
1	N Van Dorn St at Holmes Run Pkwy	14		14	11	13	71	10		17				55		25	26	
2	N Van Dorn St at New Landmark St	33	72	24	22	29	85	30	13	27	65	3	5	55	51	57	14	27
3	S Van Dorn St at EOS 21 Apartments	9		6	4	6	58	15		15				76		13	15	
4	S Van Dorn St at Stevenson Ave	20	64	11	13	15	89	28	3	27	68	60	23	50	51	53	5	38
5	S Van Dorn St at Van Dorn Plaza	27	73	27		34		20	22	20	65		9	39				
6	S Van Dorn St at Edsall Rd	64	165	41	49	57	197	43	51	61	78	66	5	54	53	87	79	77
7	S Van Dorn St at New Main St	61	123	57	53	62	104	19	20	24	108	67	68	75	121	138	178	163
8	S Van Dorn St at S Pickett St	67	109	49	23	47	114	35	45	37	113	101	10	36	407	266	295	339
9	S Van Dorn St at Courtney Ave	75	184	104	96	106	774	13	11	15	244	228	159	0	61	67	81	65
10	S Van Dorn St at Eisenhower Ave	219	665	666	613	664	111	45	29	53	214	106	26	123	190	209	187	189
11	S Van Dorn St at I-495 Ramps	214	88	499		365		29	28	26	411		266	328				
12	S Van Dorn St at Oakwood Rd	346	618	1237	1062	1236	115	7	6	8	251	0	84	238	104	0	198	175
EISENHOWER AVENUE																		
13	Eisenhower Ave at Old Metro Rd	50					36		63	51	67	80		79		61	49	61
67	Eisenhower Ave at New Metro Rd South	69					88		91	90	61	25		38		101	188	98
68	Eisenhower Ave at New Metro Rd North	59		34	48	44	77	63		56					116		25	76
14	Eisenhower Ave at Bus Loop	127	88		72	66						64	67	65	195	214		209
69	Eisenhower Ave at New Victory Dr	36	91	66	28	40	12	71	55	56	16	8	5	9	36	48	40	43
70	Eisenhower Ave at New Bush Hill Dr	12	48	46	3	31	38	0	8	17	12	7	5	8	13	13	15	14
15	Eisenhower Ave at Clermont Dr	45	111	46	19	56	80	37	34	45	88	36	26	37	115	38	33	40
16	Eisenhower Ave at Cameron Parke Pl	7					42		13	40	11	5		6		6	6	6
17	Eisenhower Ave at Bluestone Rd	5					43		6	25	3	3		3		5	5	5
18	Eisenhower Ave at Mill Rd W	12	38	56	12	27	37	37	12	23	8	9	8	8	9	10	13	11
19	Eisenhower Ave at Stovall St	88	187	195	227	216	57	60	7	29	45	31	20	33	82	25	14	21
20	Eisenhower Ave at Swamp Fox Road	32	115		388	228	127		14	71	15	38		37		7	8	7
21	Eisenhower Ave at Mill Race Ln	31	0	0	0	0	52	0	52	52	32	50	0	49	0	2	2	2
22	Eisenhower Ave at Mill Rd E	38	91	89	85	88	41	35	6	26	31	20	19	21	69	23	23	26
23	Eisenhower Ave at Elizabeth Ln	3	0	0	0	0	172	0	7	58	7	1	1	2	5	4	5	4
24	Eisenhower Ave at John Carlyle St	6					0		66	66	12	2		4		5	0	5
DUKE STREET																		
25	Duke St at New East St	29					0		7	7	78	46		51		9	6	9
26	Duke St at New Landmark St	61					125		48	63	122	102		104		12	10	12
27	Duke St at N Ripley St	51					187		142	163	77	60		61		18	12	18
28	Duke St at S Reynolds St	53	106	0	189	149	143	50	22	47	17	69	34	66	24	5	1	6
29	Duke St at N Paxton St	52	63	62	136	86	214	166	86	138	20	67	26	64	17	6	3	6
30	Duke St at S Pickett St	77	56		30	38						71	171	92	285	19		107
31	Duke St at Cameron Stn Blvd/N Pickett	82	239	192	146	207	88	154	189	129	65	16	13	18	134	174	98	168
32	Duke St at Somerville St	27			9	9			6	6		0	9	9		76	51	76
33	Duke St at Shops@Fox Chase	31	145	106	21	71	59	58	51	56	24	17	15	18	39	51	43	50
34	Duke St at Jordan St	31	89	56	10	53	69	67	44	58	71	21	17	28	43	40	22	37
35	Duke St at Ingram St	21	77	69	78	76	58	64	63	61	31	24	34	24	27	12	12	12
36	Duke St at N Gordon St	13					64		24	51	27	17		17		7	6	7
37	Duke St at S Gordon St	12	76	0	78	76	67	0	0	67	0	9	3	8	43	14	22	14
38	Duke St at Early St	93	160	215	686	355	130	127	41	86	126	137	151	137	28	12	16	12
39	Duke St at Wheeler Ave	167	68	0	15	27	64	0	0	64	208	292	273	292	30	7	9	11
40	Duke St at N Quaker Ln	47					208		177	203	36	41		40		15	4	10

■ = New intersections for 2040 Build scenario

Table 8.16 – Year 2040 Build without Multimodal Bridge – AM Peak Hour Intersection Delay (sec/veh) – continued

DUKE STREET (Continued)																			
41	Duke St at S Quaker Ln	12	55		68	58						17	11	17	35	6	6		
42	Duke St at Alexandria Commons	17	54	56	35	49	71	73	43	60	48	11	4	12	66	20	18	21	
43	Duke St at Sweeley St	28	66	48	64	59	61	50	20	42	75	19	13	20	27	34	49	34	
44	Duke St at Roth St	20	72	38	55	55	58	61	61	59	11	10	0	10	35	23	25	24	
45	Duke St at Witter St	8	58		18	34						7	6	7	19	9		9	
46	Duke St at W Taylor Run Pkwy	26					45	46	14	42	115	25	29	28		25	20	24	
47	Duke St at Dove St	26	36	0	35	36	56	0	58	57		37	40	37		3	5	3	
EDSALL ROAD																			
48	Edsall Rd at Winterview Dr	12	29	0	23	28	33	39	40	37		12	12	15	12	15	7	7	7
49	Edsall Rd at Farrington Ave Extended	8	27		27	27						1	8	4	11	7		7	
50	Edsall Rd at Yoakum Pkwy	11	36	39	36	37	41	33	3	19	9	6	5	7	15	6	2	6	
51	Edsall Rd at S Whiting St/New High St	40	53	45	20	44	49	54	43	49	30	25	25	28	22	36	74	51	
52	Edsall Rd at New Metro St	43	41		14	28						26	41	30	72	63		65	
71	Edsall Rd at S Reynolds St	25					21		6	9	33	36		35		34	19	32	
SOUTH PICKETT STREET																			
53	Farrington Ave Ext W at S Pickett St	23		7	6	6	19	19		19					25		32	32	
54	Farrington Ave Ext E at S Pickett St	29	41	42	43	42	403	7	5	90	20	26	28	27	13	6	5	11	
55	New High St at S Pickett St	21					31		27	29	12	12		12		17	6	13	
56	S Pickett St at New Metro St	104					49		126	64	85	66		74		290	202	265	
72	S Pickett St at New Main St	62	4	3	2	3	101	206	195	204	51	64	273	73	162	79	18	84	
57	S Pickett St at Edsall Rd	172	265	51	45	76	22	64	143	46	38	24	5	20	561	1001	918	956	
58	S Pickett St at Trade Center Shopping	243	330		6	120						26	19	26	564	817		803	
HIGH STREET (PROPOSED 2040)																			
59	New Landmark St at New High St	29	38		47	45						33	4	18	16	5		15	
60	New High St at Stevenson Ave	21	29	19	29	24	44	17	16	19	23	21	24	22	7	19	23	17	
61	New High St at Van Dorn Plaza	15		12	5	8	25	22		23				24			14	18	
73	New High St at S Whiting St	30		36	30	32		17	25	22				34			21	32	
62	New High St at New Main St	14		9	13	10	10	9		10				50			14	32	
74	New High St at Courtney Ave Ext	124	0	285	304	292	249	121	86	179	70	175	131	123	32	22	14	19	
75	New High St at New Metro Rd	57	34		33	33						58	146	60	85	50		78	
76	New High St at New Warehouse St	65	24	25	20	24	62	63	67	63	55	48	34	48	89	86	77	81	
77	Farrington Ave at New High St	105					127		22	105	104	180		173		23	16	21	
MISCELLANEOUS INTERSECTIONS																			
63	New Landmark St at New East St	31	25		24	24						57	13	39	33	27		29	
64	New Metro St at New Main St	49	47	26		34		50	49	49	75		96	78					
65	Farrington Ave at Farrington Ave Extended	46					54		16	54	53	83		76		53	6	22	
78	Farrington Ave Ext at New Warehouse St	38		29	23	28	14	23		21					67		61	62	
79	Farrington Ave Ext at New Metro Rd	30		16	22	19	46	34		38					45		48	46	
80	Farrington Ave Ext at Courtney Ave Ext	19		11	15	13	11	15		14					57		45	46	
81	New Metro Rd at Van Dorn St NB Off-Ramp	16	18		7	8						16		16		16		16	
82	New Station Pkwy at Metro Bus Loop	46					62		28	39	39	7		11		77	106	85	
83	New Presidential Pkwy at New Victory Dr	53	26		8	15						77	84	83	73	51		67	
84	New Presidential Pkwy at New Bush Hill Dr	27	22		9	15						37	39	37	26	18		18	
85	New Presidential Pkwy at Clermont Ave	20	19		13	16						40	13	20	6	43		27	
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	13					15			15	11			11					

☐ = New intersections for 2040 Build scenario

Table 8.17 – Year 2040 Build without Multimodal Bridge – PM Peak Hour Intersection Delay (sec/veh)

Int. No.	Intersections	Intersection Overall	Northbound				Southbound				Eastbound				Westbound			
			L	T	R	Approach	L	T	R	Approach	L	T	R	Approach	L	T	R	Approach
VAN DORN STREET																		
1	N Van Dorn St at Holmes Run Pkwy	56		18	10	17	55	97		88				95		4	14	
2	N Van Dorn St at New Landmark St	87	141	20	15	39	205	151	132	150	51	14	35	44	69	45	7	34
3	S Van Dorn St at EOS 21 Apartments	71		2	2	2	97	103		103				0		5	5	
4	S Van Dorn St at Stevenson Ave	116	81	10	10	26	159	181	112	170	170	178	182	178	90	59	6	59
5	S Van Dorn St at Van Dorn Plaza	47	175	47		83		33	47	32	95		65	78				
6	S Van Dorn St at Edsall Rd	106	225	69	64	95	131	151	148	149	169	119	71	116	101	106	62	90
7	S Van Dorn St at New Main St	76	136	75	81	79	128	61	56	65	243	238	200	221	133	125	124	127
8	S Van Dorn St at S Pickett St	84	130	91	29	69	92	91	78	90	85	66	108	101	318	269	266	272
9	S Van Dorn St at Courtney Ave	71	220	115	109	117	0	40	28	40	95	79	22	0	65	76	94	79
10	S Van Dorn St at Eisenhower Ave	127	280	245	203	243	191	66	40	77	143	302	160	214	191	201	157	168
11	S Van Dorn St at I-495 Ramps	86	370	58		149		76	36	68	148		104	113				
12	S Van Dorn St at Oakwood Rd	44	151	96	0	97	111	10	11	11	101	0	84	99	99	0	96	96
EISENHOWER AVENUE																		
13	Eisenhower Ave at Old Metro Rd	47					57		90	77	36	38		38		60	52	60
67	Eisenhower Ave at New Metro Rd South	79					53		52	52	41	35		37		170	138	168
68	Eisenhower Ave at New Metro Rd North	31		25	17	19	29	26		23					72		27	44
14	Eisenhower Ave at Bus Loop	79	74		85	81						30	89	39	170	97		117
69	Eisenhower Ave at New Victory Dr	16	50	48	15	23	3	67	28	24	10	7	8	8	12	12	11	12
70	Eisenhower Ave at New Bush Hill Dr	9	66	0	3	34	38	38	5	18	10	8	7	8	6	6	7	7
15	Eisenhower Ave at Clermont Dr	254	70	42	6	37	105	46	39	74	149	51	28	47	1336	1118	955	1208
16	Eisenhower Ave at Cameron Parke Pl	106					342		446	398	7	10		10		221	115	216
17	Eisenhower Ave at Bluestone Rd	160					35		139	50	4	4		4		427	335	424
18	Eisenhower Ave at Mill Rd W	55	108	41	15	32	42	43	23	32	11	9	8	10	79	112	103	107
19	Eisenhower Ave at Stovall St	70	74	51	30	35	833	978	385	640	75	29	33	36	120	47	24	44
20	Eisenhower Ave at Swamp Fox Road	19	71		28	49	99		25	47	24	28		28		17	8	17
21	Eisenhower Ave at Mill Race Ln	30	0	0	0	0	61	0	61	61	33	53	0	53	14	4	5	4
22	Eisenhower Ave at Mill Rd E	31	54	33	21	37	56	54	19	44	24	28	28	28	60	19	19	27
23	Eisenhower Ave at Elizabeth Ln	21	37	44	32	0	79	0	105	102	14	10	7	10	6	7	5	7
24	Eisenhower Ave at John Carlyle St	28					142		151	151	7	13		12		18	0	18
DUKE STREET																		
25	Duke St at New East St	23					0		4	4	70	30		36		5	4	5
26	Duke St at New Landmark St	47					104		41	55	97	67		68		20	18	20
27	Duke St at N Ripley St	47					183		107	146	63	56		56		17	11	17
28	Duke St at S Reynolds St	51	88	61	125	99	92	46	19	38	22	82	45	76	13	3	1	5
29	Duke St at N Paxton St	57	55	47	195	77	221	165	67	125	29	86	31	80	13	7	4	7
30	Duke St at S Pickett St	130	226		362	328						67	175	89	157	24		62
31	Duke St at Cameron Stn Blvd/N Pickett	54	176	137	56	139	79	116	144	108	69	11	8	14	88	84	55	83
32	Duke St at Somerville St	28			6	6			16	16		12	29	29		40	32	39
33	Duke St at Shops@Fox Chase	40	85	55	33	52	67	64	54	62	47	39	41	40	49	45	33	45
34	Duke St at Jordan St	39	98	68	39	68	86	68	35	54	74	38	34	42	34	44	19	39
35	Duke St at Ingram St	63	133	123	164	145	95	69	75	79	88	88	92	89	38	12	11	13
36	Duke St at N Gordon St	29					61		23	39	98	47		48		6	7	6
37	Duke St at S Gordon St	21	71	0	84	73	73	0	0	73	0	17	5	17	46	23	0	24
38	Duke St at Early St	146	121	96	476	212	264	248	189	221	233	227	183	226	40	18	17	20
39	Duke St at Wheeler Ave	192	70	0	21	33	94	0	0	94	459	397	391	396	56	4	5	10
40	Duke St at N Quaker Ln	74					270		206	259	34	86		80		13	2	9

– New intersections for 2040 Build scenario

Table 8.18 – Year 2040 Build without Multimodal Bridge – PM Peak Hour Intersection Delay (sec/veh) – continued

DUKE STREET (continued)																		
41	Duke St at S Quaker Ln	26	63		75	66					45	27	43	16	3		4	
42	Duke St at Alexandria Commons	48	64	65	80	73	175	153	139	166	65	32	16	34	110	36	33	40
43	Duke St at Sweeley St	73	145	141	144	144	71	65	33	62	130	57	37	58	61	77	113	80
44	Duke St at Roth St	75	76	0	66	66	111	0	149	117	47	48	0	48	78	95	88	94
45	Duke St at Witter St	80	94		83	86					81	70	81	58	81		80	
46	Duke St at W Taylor Run Pkwy	94					43	44	66	45	141	52	59	56		150	127	148
47	Duke St at Dove St	56	27	21	24	26	57	0	89	71		14	15	14		85	70	85
EDSALL ROAD																		
48	Edsall Rd at Winterview Dr	15	22	19	21	22	21	22	19	19	16	18	18	18	18	8	6	8
49	Edsall Rd at Farrington Ave Extended	21	34		36	34						10	34	21	29	24		24
50	Edsall Rd at Yoakum Pkwy	15	35	47	39	40	46	33	4	20	14	11	8	12	25	16	3	13
51	Edsall Rd at S Whiting St/New High St	78	46	84	67	73	89	133	63	92	188	176	128	165	90	83	70	75
52	Edsall Rd at New Metro St	26	58		20	38						13	13	13	26	33		30
71	Edsall Rd at S Reynolds St	31					35		5	13	35	52		46		18	10	16
SOUTH PICKETT STREET																		
53	Farrington Ave Ext W at S Pickett St	30		9	17	13	55	31		54				24		30	29	
54	Farrington Ave Ext E at S Pickett St	48	35	33	49	36	37	21	4	18	48	74	67	71	41	23	23	31
55	New High St at S Pickett St	42	38	59	66	58	37	37	37	37	46	53	54	53	10	8	8	8
56	S Pickett St at New Metro St	88					62		138	102	102	103		103		242	150	223
72	S Pickett St at New Main St	77	6	3	3	3	99	192	143	189	104	97	284	121	184	102	19	97
57	S Pickett St at Edsall Rd	184	312	69	52	179	25	99	195	73	28	20	3	18	493	1005	836	895
58	S Pickett St at Trade Center Shopping	226	500		53	267						100	80	99	424	529		517
HIGH STREET (PROPOSED 2040)																		
59	New Landmark St at New High St	22	26		27	27						31	15	18	22	6		20
60	New High St at Stevenson Ave	53	55	39	55	48	105	90	95	88	58	88	87	83	40	29	33	30
61	New High St at Van Dorn Plaza	57		27	19	24	66	76		74				133		42	114	
73	New High St at S Whiting St	51		3	9	7		97	54	78				100		68	96	
62	New High St at New Main St	89		21	71	40	160	130		149				53		14	31	
74	New High St at Courtney Ave Ext	23	193	129	117	144	28	32	9	17	21	20	15	20	19	17	8	13
75	New High St at New Metro Rd	66	30		32	32						26	68	53	106	77		95
76	New High St at New Warehouse St	52	15	21	11	20	40	65	39	61	51	46	90	72	138	107	84	85
77	Farrington Ave at New High St	153					197		57	166	170	276		274		17	12	15
MISCELLANEOUS INTERSECTIONS																		
63	New Landmark St at New East St	35	28		24	24						54	5	39	47	46		46
64	New Metro St at New Main St	56	47	32		38		20	22	20	141		161	145				
65	Farrington Ave at Farrington Ave Extended	94					179		45	162	12	83		78		23	2	4
78	Farrington Ave Ext at New Warehouse St	32		4	3	4	10	69		40					69		32	39
79	Farrington Ave Ext at New Metro Rd	36		4	4	4	35	59		55				40		21	25	
80	Farrington Ave Ext at Courtney Ave Ext	24		7	10	8	19	28		25				53		65	60	
81	New Metro Rd at Van Dorn St NB Off-Ramp	29	19		7	8						13		13		55	55	
82	New Station Pkwy at Metro Bus Loop	108					112		121	118	31	13		18		203	198	202
83	New Presidential Pkwy at New Victory Dr	15	25		6	11						14	15	15	20	8		17
84	New Presidential Pkwy at New Bush Hill Dr	28	23		12	18						38	39	38	25	6		10
85	New Presidential Pkwy at Clermont Ave	27	17		7	12						48	34	38	38	30		35
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	7					7			7	11			11				

■ = New intersections for 2040 Build scenario

Figure 8.16 – Change in AM Peak Hour Delay (sec/veh) – 2040 Build without Bridge vs. 2040 Build with Bridge

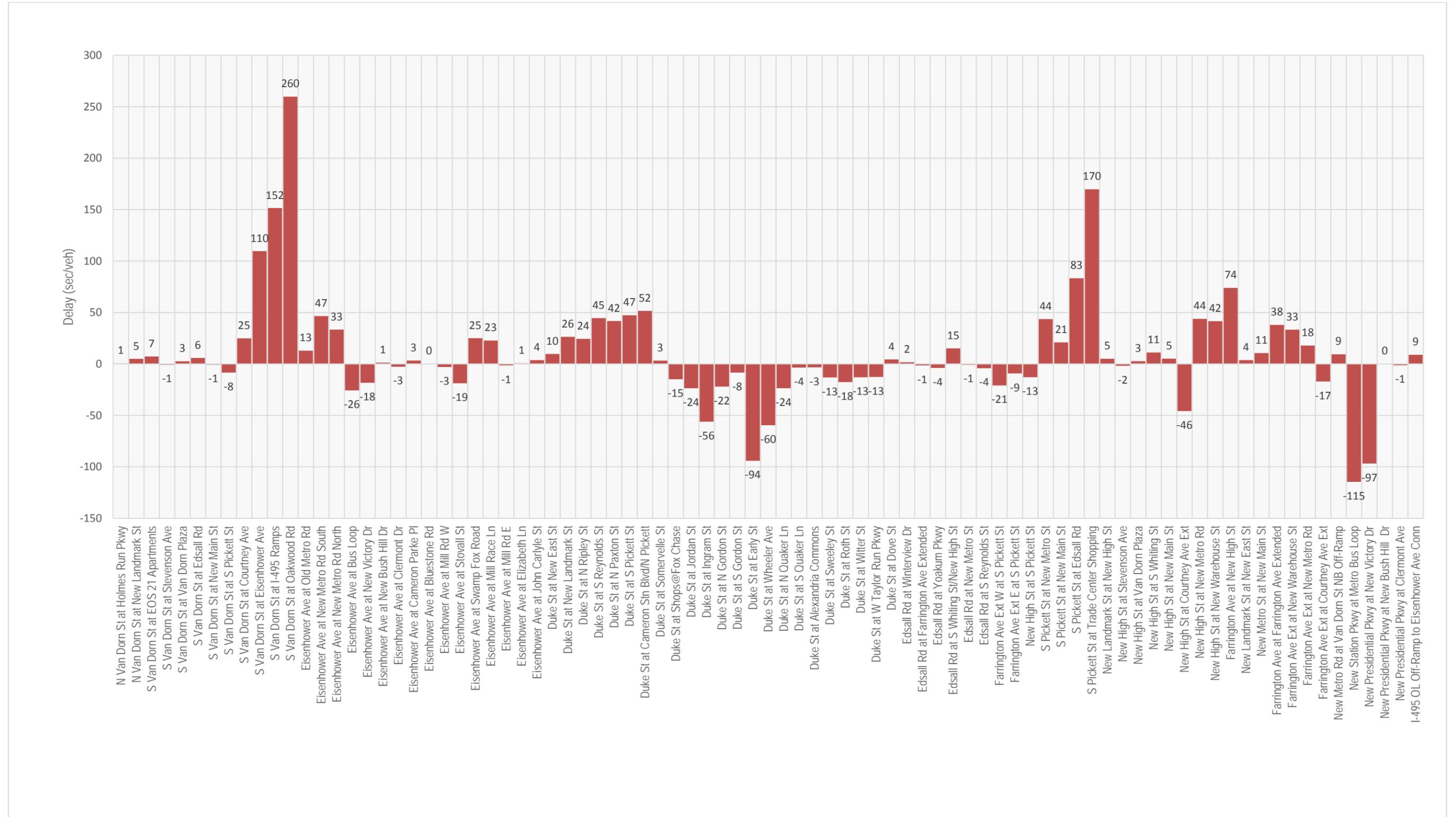


Figure 8.17 – Change in PM Peak Hour Delay (sec/veh) – 2040 Build without Bridge vs. 2040 Build with Bridge

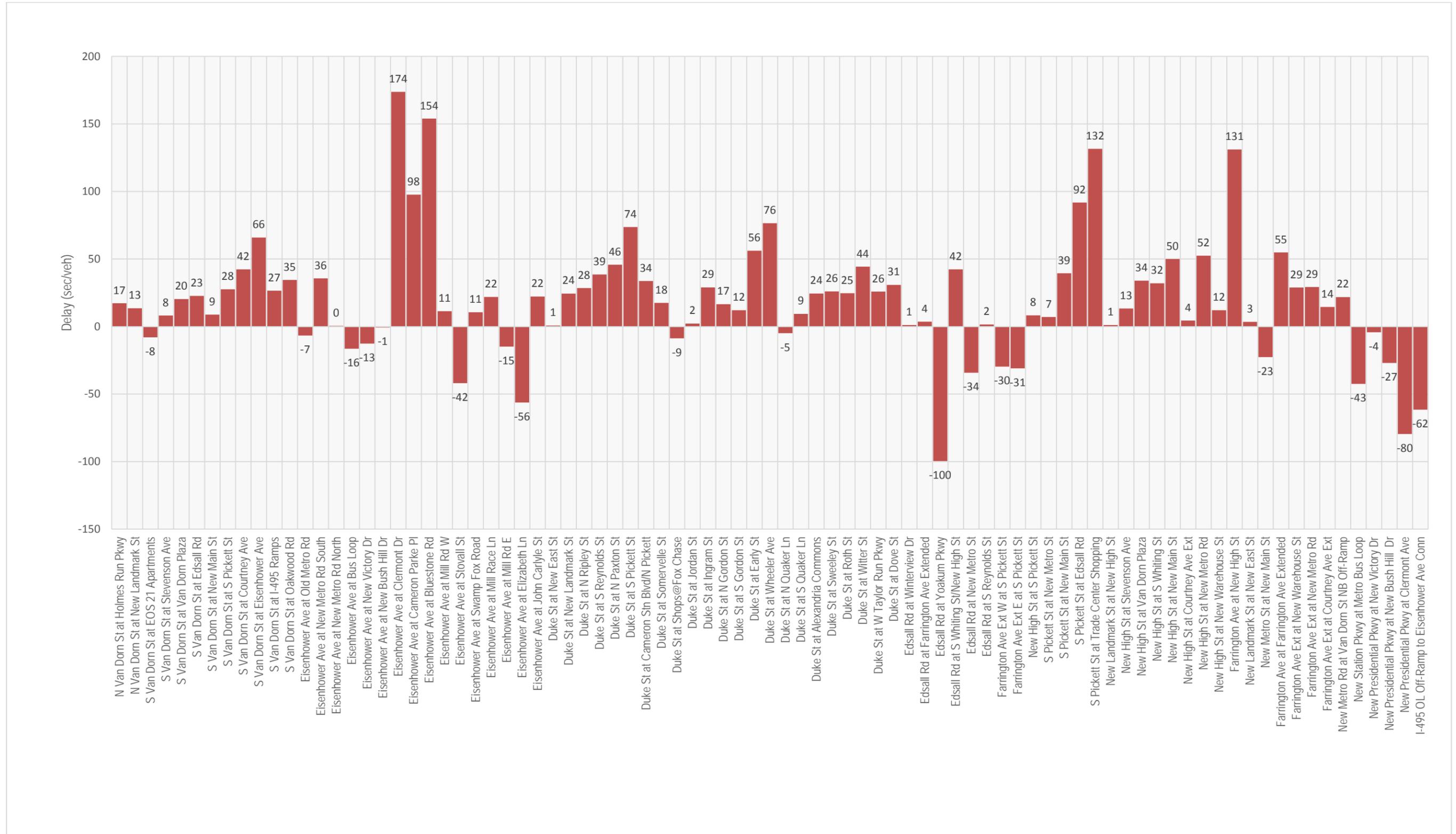


Table 8.19 summarizes the VISSIM-simulated travel times along Van Dorn Street and along Eisenhower Avenue for the 2040 Build scenario with the Multimodal Bridge. **Table 8.20** shows the simulated travel times along these two corridors without the Multimodal Bridge. These tables also show the effects of potential traffic impact mitigation options on the travel times, which are discussed later in this report.

Comparing the travel times for 2040 Build with and without the Multimodal Bridge shows the times would be significantly longer (in some cases more than twice as long) if the bridge is not built. The worst increases in travel time without the bridge would occur along the segment of Van Dorn Street parallel to the proposed Multimodal Bridge alignment, and along the portion of Eisenhower Avenue that carries traffic that would otherwise use the bridge if it were available.

Table 8.19 – Year 2040 Build Travel Times with the Multimodal Bridge

				2040 Build w/Bridge Travel Time (minutes)		2040 Build w/Bridge w/Mitigation Travel Time (minutes)		Change in Travel Time due to Mitigation	
Road Name	Direction	From	To	AM	PM	AM	PM	AM	PM
Van Dorn St	NB	Oakwood Rd	I-495 Ramps	0.5	0.7	0.4	0.4	-0.1	-0.3
		I-495 Ramps	Eisenhower Ave	1.7	0.9	1.4	0.7	-0.3	-0.2
		Eisenhower Ave	Courtney Ave	1.4	0.6	0.6	0.3	-0.8	-0.3
		Courtney Ave	Pickett St	1.2	0.7	0.6	0.4	-0.5	-0.3
		Pickett St	New Main St	1.7	1.1	1.1	0.7	-0.6	-0.4
		New Main St	Edsall Rd	1.8	1.2	1.2	0.8	-0.6	-0.4
		Edsall Rd	Van Dorn Plaza	0.8	0.7	0.8	0.7	0.0	0.0
		Van Dorn Plaza	Stevenson Ave	0.2	0.2	0.2	0.2	0.0	0.0
		Stevenson Ave	Duke St EB Ramps	0.3	0.2	0.3	0.2	0.0	0.0
		Duke St EB Ramps	Duke St WB/New Landmark St	0.8	0.5	0.8	0.5	0.0	0.0
Duke St WB/New Landmark St	Holmes Run Pkwy	0.6	0.6	0.6	0.6	0.0	0.0		
Total		Oakwood Rd	Holmes Run Pkwy	10.9	7.4	8.0	5.6	-2.9	-1.8
Road Name	Direction	From	To	AM	PM	AM	PM	AM	PM
Van Dorn St	SB	Holmes Run Pkwy	Duke St WB/New Landmark St	0.8	1.3	0.6	1.0	-0.2	-0.3
		Duke St WB/New Landmark St	Duke St EB Ramps	0.4	0.5	0.4	0.5	0.0	-0.1
		Duke St EB Ramps	Stevenson Ave	0.7	1.3	0.4	0.9	-0.3	-0.4
		Stevenson Ave	Van Dorn Plaza	0.5	0.5	0.2	0.5	-0.3	0.0
		Van Dorn Plaza	Edsall Rd	1.8	1.9	0.9	0.9	-0.9	-1.0
		Edsall Rd	New Main St	1.6	1.1	0.9	1.1	-0.7	-0.1
		New Main St	Pickett St	1.9	1.4	0.4	0.8	-1.4	-0.6
		Pickett St	Courtney Ave	0.4	0.8	0.3	0.5	-0.1	-0.3
		Courtney Ave	Eisenhower Ave	0.9	2.6	0.8	1.8	-0.1	-0.7
		Eisenhower Ave	I-495 Ramps	1.3	1.4	1.2	1.3	-0.1	-0.1
I-495 Ramps	Oakwood Rd	0.3	0.3	0.3	0.3	0.0	0.0		
Total Travel Time		Holmes Run Pkwy	Oakwood Rd	10.4	13.2	6.3	9.6	-4.1	-3.6

Road Name	Direction	From	To	AM	PM	AM	PM	AM	PM
Eisenhower Ave	EB	Van Dorn St	New Victory Drive	6.2	4.9	4.9	4.6	-1.4	-0.3
		New Victory Drive	Clermont Dr	1.8	1.4	1.4	1.3	-0.4	-0.1
		Clermont Dr	Stovall St	4.3	3.4	3.3	3.1	-0.9	-0.2
		Stovall St	John Carlyle St	2.1	1.7	1.7	1.6	-0.5	-0.1
		Total Travel Time		Van Dorn St	John Carlyle St	14.3	11.3	11.2	10.6
Road Name	Direction	From	To	AM	PM	AM	PM	AM	PM
Eisenhower Ave	WB	John Carlyle St	Stovall St	2.2	1.8	2.2	1.8	0.0	0.0
		Stovall St	Clermont Dr	6.9	5.5	5.4	5.1	-1.5	-0.4
		Clermont Dr	New Victory Drive	8.6	6.8	7.2	1.3	-1.4	-5.5
		New Victory Drive	Van Dorn St	7.1	5.6	5.9	5.0	-1.2	-0.6
		Total Travel Time		John Carlyle St	Van Dorn St	24.8	19.6	20.7	13.2

Table 8.20 – Year 2040 Build Travel Times without the Multimodal Bridge

				2040 Build w/o Bridge Travel Time (minutes)		2040 Build w/o Bridge w/Mitigation Travel Time (minutes)		Change in Travel Time due to Mitigation	
Road Name	Direction	From	To	AM	PM	AM	PM	AM	PM
Van Dorn St	NB	Oakwood Rd	I-495 Ramps	3.5	0.9	0.5	0.9	-3.0	0.0
		I-495 Ramps	Eisenhower Ave	6.8	2.4	5.9	2.0	-0.9	-0.3
		Eisenhower Ave	Courtney Ave	5.6	1.6	4.8	1.4	-0.7	-0.2
		Courtney Ave	Pickett St	3.8	1.3	3.3	1.1	-0.5	-0.2
		Pickett St	New Main St	3.8	1.8	3.3	1.5	-0.5	-0.2
		New Main St	Edsall Rd	4.0	2.6	3.5	2.2	-0.5	-0.3
		Edsall Rd	Van Dorn Plaza	0.8	1.1	1.0	1.2	0.1	0.1
		Van Dorn Plaza	Stevenson Ave	0.2	0.3	0.2	0.3	0.0	0.0
		Stevenson Ave	Duke St EB Ramps	0.3	0.3	0.3	0.3	0.0	0.0
		Duke St EB Ramps	Duke St WB/New Landmark St	0.8	0.7	0.8	0.8	0.0	0.1
Duke St WB/New Landmark St	Holmes Run Pkwy	0.7	0.7	0.7	0.8	0.1	0.0		
Total		Oakwood Rd	Holmes Run Pkwy	30.3	13.6	24.4	12.6	-5.9	-1.0
Road Name	Direction	From	To	AM	PM	AM	PM	AM	PM
Van Dorn St	SB	Holmes Run Pkwy	Duke St WB/New Landmark St	1.1	4.3	1.0	2.4	-0.1	-1.9
		Duke St WB/New Landmark St	Duke St EB Ramps	0.8	1.0	0.4	0.6	-0.4	-0.4
		Duke St EB Ramps	Stevenson Ave	1.4	2.1	0.4	1.9	-1.0	-0.3
		Stevenson Ave	Van Dorn Plaza	1.2	0.9	0.2	0.7	-0.9	-0.2
		Van Dorn Plaza	Edsall Rd	4.9	3.9	1.1	2.7	-3.9	-1.1
		Edsall Rd	New Main St	3.4	1.8	0.8	0.9	-2.6	-0.9
		New Main St	Pickett St	3.2	2.2	1.3	1.2	-1.9	-1.0
		Pickett St	Courtney Ave	0.5	0.6	0.4	0.3	-0.1	-0.3
		Courtney Ave	Eisenhower Ave	1.1	1.6	0.9	1.1	-0.1	-0.5
		Eisenhower Ave	I-495 Ramps	1.3	3.0	1.1	1.8	-0.2	-1.2
I-495 Ramps	Oakwood Rd	0.3	0.7	0.3	0.4	0.0	-0.3		
Total Travel Time		Holmes Run Pkwy	Oakwood Rd	19.1	22.1	7.8	14.1	-11.3	-8.0

Road Name	Direction	From	To	AM	PM	AM	PM	AM	PM
Eisenhower Ave	EB	Van Dorn St	New Victory Drive	4.3	4.6	2.6	3.6	-1.7	-1.1
		New Victory Drive	Clermont Dr	3.5	3.7	2.0	2.1	-1.5	-1.6
		Clermont Dr	Stovall St	4.2	4.5	4.2	4.5	0.0	0.0
		Stovall St	John Carlyle St	3.1	2.0	3.1	2.0	0.0	0.0
		Total Travel Time		Van Dorn St	John Carlyle St	15.0	14.9	11.9	12.2
Road Name	Direction	From	To	AM	PM	AM	PM	AM	PM
Eisenhower Ave	WB	John Carlyle St	Stovall St	2.2	1.8	2.2	1.8	0.0	0.0
		Stovall St	Clermont Dr	6.9	5.8	7.0	5.4	0.1	-0.5
		Clermont Dr	New Victory Drive	15.5	14.7	10.0	5.9	-5.5	-8.8
		New Victory Drive	Van Dorn St	9.2	8.1	7.6	3.2	-1.6	-4.8
Total Travel Time		John Carlyle St	Van Dorn St	33.8	30.4	27.0	16.2	-6.9	-14.1

8.3 Potential Traffic Impact Mitigation

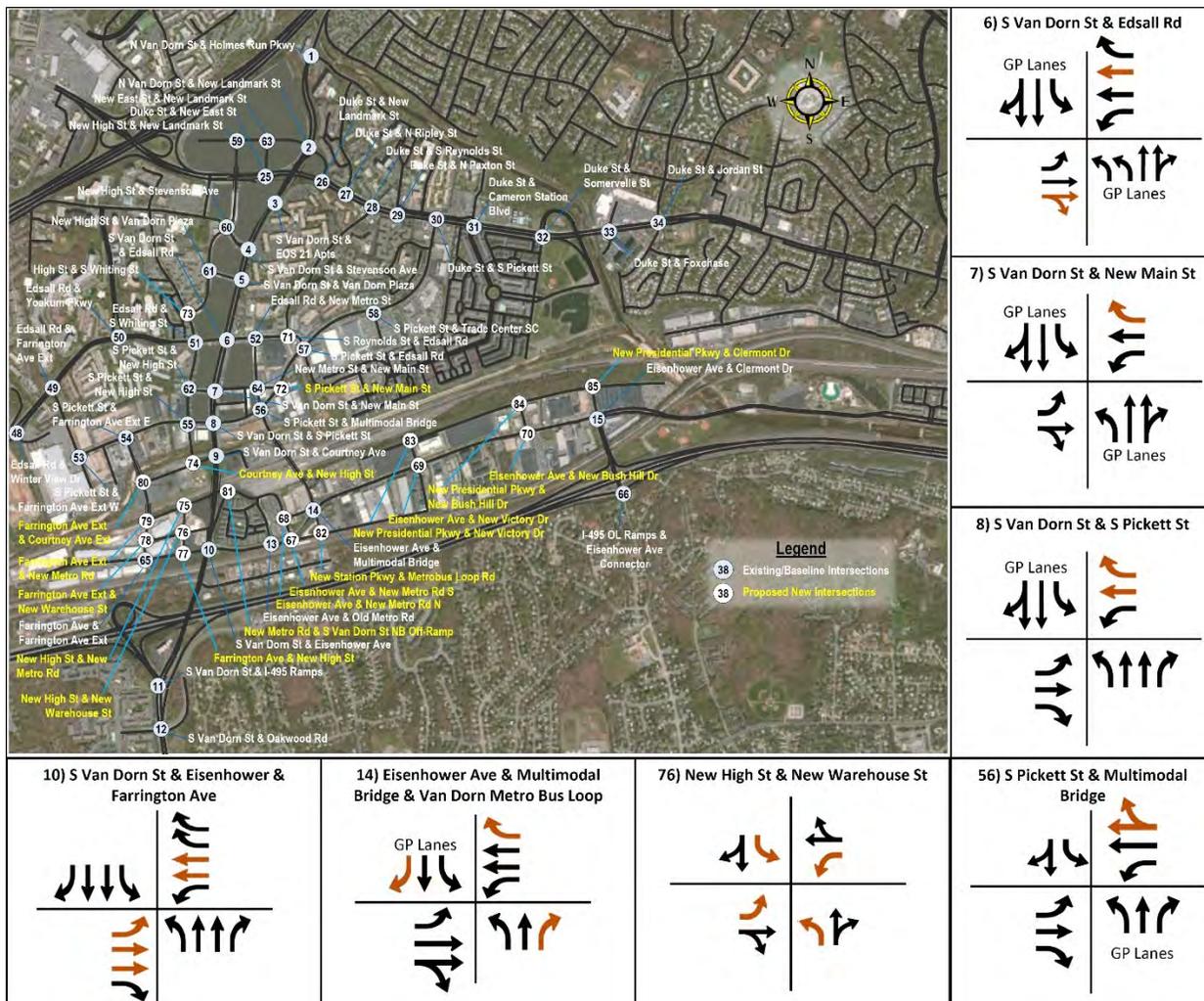
The analysis results for the 2040 Build scenario, with or without the planned Multimodal Bridge connecting to the Van Dorn Street Metrorail Station, indicate the additional development associated with the 2040 Build (as compared to 2040 Baseline) would adversely affect traffic operations during the AM and PM peak hours. Key intersections affected negatively by the planned increase in development are primarily located along South Van Dorn Street between Eisenhower Avenue and Edsall Road.

Figure 8.18 shows several intersections that would operate worse under 2040 Build with Multimodal Bridge versus the 2040 Baseline conditions, along with the specific improvements suggested to improve AM and PM peak hour operations at those locations. Note that these improvements would not necessarily solve the projected operational issues associated with the 2040 Build with Bridge scenario, but nevertheless would result in a tangible delay reduction. The following is a brief summary of the suggested mitigation options for this scenario:

1. South Van Dorn Street at Edsall Road: Add a second westbound through lanes and use an optimized cycle length of 140 seconds

2. South Pickett Street at Edsall Road: Optimize the signal cycle length and splits to provide coordination with adjacent signals and improve traffic throughput
3. South Van Dorn Street at New Main Street (Proposed): Provide protected/permissive left-turn phasing on the minor street approaches, and provide a separate right turn lane on the westbound approach; also, optimize the signal cycle length at 140 seconds and optimize the splits
4. South Van Dorn Street at South Pickett Street: Provide a separate left, through and right lane on the westbound approach, and replace the protected westbound left turn phasing with protected/permissive phasing; also, use optimized 140 second cycle length and optimal splits
5. South Van Dorn Street at Courtney Ave: Use an optimized 140 second cycle length and optimized splits
6. South Van Dorn Street at Eisenhower Avenue: Provide 2 eastbound and westbound through lanes and separate eastbound and westbound left turn lanes; replace east-west split-phasing with protected/permissive left turn phasing; change north-south phasing to protected/permissive left turn phasing; Optimize cycle length at 140 seconds with optimal splits

Figure 8.18 – 2040 Build with Multimodal Bridge – Suggested Geometric Mitigation Options

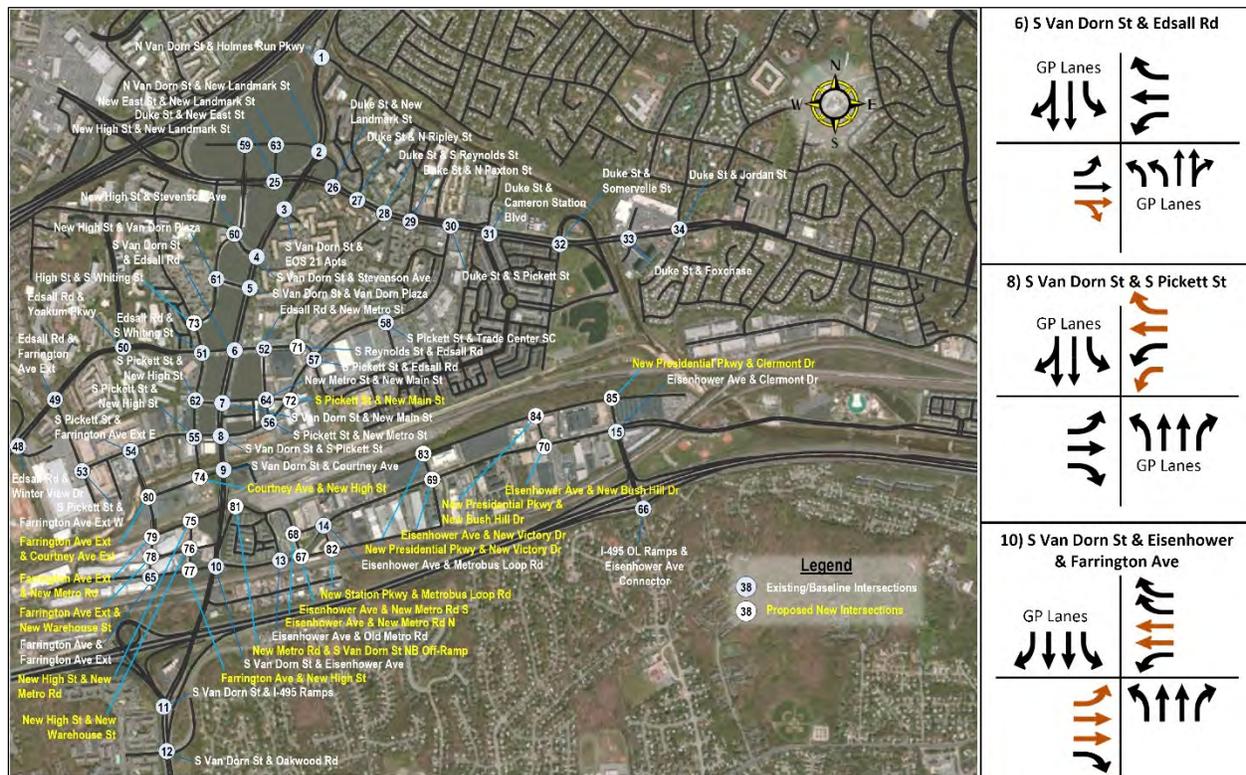


Note: Suggested improvements for 2040 Build impact mitigation are shown in orange.

In addition to these potential improvements, enhanced transit service would be provided along Eisenhower Avenue between the Van Dorn Street Metrorail station and the Eisenhower Avenue Metrorail station. This enhanced service would include buses running at 15 minute headways during peak periods and 30 minute headways during off-peak periods. Transit signal priority would be implemented along the corridor to improve transit vehicle speeds and schedule reliability.

Figure 8.19 shows the suggested impact mitigation options for the 2040 Build scenario without the Multimodal Bridge. These figures only depict suggested geometric improvements (denoted by orange arrows); other mitigations options tested include signal timing optimization, including modifying cycle lengths and types of left-turn phasing. As with the other intersection lane configuration figures, these figures show lanes for use by general traffic – dedicated transit lanes are not shown.

Figure 8.19 – 2040 Build with No Multimodal Bridge – Suggested Geometric Mitigation Options



Note: Suggested improvements for 2040 Build impact mitigation are shown in orange.

The following is a summary of the potential mitigation options for the 2040 Build scenario with no Multimodal Bridge:

1. South Van Dorn Street at Edsall Road: Use shorter optimized cycle lengths and optimal splits
2. South Van Dorn Street at New Main Street (Proposed): Use shorter optimized cycle lengths and optimal splits
3. South Van Dorn Street at South Pickett Street: Add a second westbound left-turn lane and provide a separate westbound through lane; Use shorter optimized cycle length and splits

4. Northbound Van Dorn Street from Eisenhower Avenue to South Pickett Street: Add a third northbound through lane to accommodate additional demand due to the absence of the Multimodal Bridge; Optimize signal cycle lengths and splits at Courtney Avenue
5. South Van Dorn Street at Eisenhower Avenue: Provide 2 eastbound and westbound through lanes and separate eastbound and westbound left turn lanes; replace east-west split-phasing with protected/permissive left turn phasing; change north-south phasing to protected/permissive left turn phasing; Provide a second southbound left turn lane; Optimize signal cycle length and splits

The same enhanced transit service along Eisenhower Avenue described previously to mitigate impacts for 2040 Build with Multimodal Bridge would also be implemented for this scenario without the bridge.

As shown previously in **Table 8.19** and **Table 8.20**, these mitigation options, along with the signal optimization performed at several other intersections along South Van Dorn Street and Eisenhower Avenue in the heart of the 2040 Build redevelopment area, would result in a notable improvement in the travel times along these two corridors during the AM and PM peak hours, regardless of whether or not the planned Multimodal Bridge is built. However, even with mitigation, traffic operations under 2040 Build conditions would be significantly better with the Multimodal Bridge than without it.

For the 2040 Build scenario with the Multimodal Bridge and traffic impact mitigation options, **Tables 8.21, 8.22, 8.23 and 8.24** show the AM and PM peak hour levels of service at each key intersection in the study area by movement, approach, and for the overall intersection. The maximum queue lengths on each approach, as determined from the VISSIM analysis, are also shown at each intersection. **Tables 8.25, 8.26, 8.27, and 8.28** show the average delays corresponding to the levels of service described previously.

For the 2040 Build scenario with the Multimodal Bridge and mitigation, **Figures 8.20 and 8.21** show the reduction in delay at each intersection due to mitigation for the AM and PM peak hours, respectively. Note that delays would improve at locations somewhat distant from the specific intersections being improved for mitigation. This is indicative of the widespread effect the poor operations at these specific intersections were having on the entire transportation network in terms of excessive queuing, and in some cases, gridlock. By making improvements at a small number of key locations, traffic operations would improve across a larger area.

For the 2040 Build scenario with No Multimodal Bridge and traffic impact mitigation options, **Tables 8.29, 8.30, 8.31 and 8.32** show the AM and PM peak hour levels of service at each key intersection in the study area by movement, approach, and for the overall intersection. The maximum queue lengths on each approach, as determined from the VISSIM analysis, are also shown at each intersection. These tables show the analysis results for the 2040 Build scenario with the Multimodal Bridge and traffic impact mitigation options. **Tables 8.33, 8.34, 8.35, and 8.36** show the average delays corresponding to the levels of service described previously.

For the 2040 Build scenario with No Multimodal Bridge and mitigation, **Figures 8.20 and 8.21** show the reduction in delay at each intersection due to mitigation for the AM and PM peak hours, respectively. The widespread effects of the localized mitigation efforts are similar to the analysis results with the Multimodal Bridge.

Table 8.21 – Year 2040 Build with Multimodal Bridge and Mitigation – AM Peak Hour Levels of Service (LOS) and Max. Queues (ft)

Int. No.	Intersections	Intersection Overall	Northbound					Southbound					Eastbound					Westbound				
			L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue
VAN DORN STREET																						
1	N Van Dorn St at Holmes Run Pkwy	B		B	A	B	650	C	A		B	175						D		C	C	250
2	N Van Dorn St at New Landmark St	C	C	B	B	C	700		C	A	C	375	E	A	A	D		D	D	B	C	275
3	S Van Dorn St at EOS 21 Apartments	A		A	A	A	100	D	A		A	25						A		A	A	0
4	S Van Dorn St at Stevenson Ave	B	E	A	A	A	350	F	A	A	A	325	E	E	B	D		D	D	A	D	125
5	S Van Dorn St at Van Dorn Plaza	C	B	B		B	425		A	A	A	375	D		A	D						
6	S Van Dorn St at Edsall Rd	D	F	D	D	D	600	F	C	C	D	450	D	D	A	D		D	E	C	D	275
7	S Van Dorn St at New Main St	C	E	B	C	C	750	E	B	B	C	475	E	E	E	E		E	D	B	C	650
8	S Van Dorn St at S Pickett St	C	B	B	B	C	500	E	B	C	C	425	E	E	A	B		E	F	D	E	475
9	S Van Dorn St at Courtney Ave	C	B	B	B	B	550	B	A	A	A	225	F	F	D	A		A	A	A	D	75
10	S Van Dorn St at Eisenhower Ave	F	F	F	F	F	1,675	D	B	B	B	650	B	C	B	B		E	E	D	E	425
11	S Van Dorn St at I-495 Ramps	E	E	E		E	725		C	A	C	350	E		C	D						
12	S Van Dorn St at Oakwood Rd	F	F	F	F	F	1,550	F	A	A	A	450	F	A	A	F		F	A	F	F	50
EISENHOWER AVENUE																						
13	Eisenhower Ave at Old Metro Rd	B						B		B	B	100	D	D		D			A	A	A	325
67	Eisenhower Ave at New Metro Rd South	B						E		A	B	175	C	B		B			A	D	B	400
68	Eisenhower Ave at New Metro Rd North	C		C	C	C	400	D	B		C	750						C		A	B	475
14	Eisenhower Ave at Multimodal Bridge/Bus Loop	F	D	F	E	E	475	D	C	C	C	1,625	E	C	B	D		F	F	F	F	1,600
69	Eisenhower Ave at New Victory Dr	D	F	D	B	C	525	B	E	D	E	450	B	A	A	A		D	D	D	D	1,475
70	Eisenhower Ave at New Bush Hill Dr	B	D	D	A	C	50	D	A	A	B	425	B	A	A	A		A	A	A	A	1,500
15	Eisenhower Ave at Clermont Dr	C	D	D	B	C	700	D	D	C	D	375	C	C	B	C		B	C	C	C	375
16	Eisenhower Ave at Cameron Parke Pl	A						C		A	B	75	A	A		A			A	A	A	150
17	Eisenhower Ave at Bluestone Rd	A						C		A	B	75	A	A		A			A	A	A	175
18	Eisenhower Ave at Mill Rd W	B	C	C	A	B	100	D	C	B	C	250	A	A	A	A		A	B	B	B	350
19	Eisenhower Ave at Stovall St	F	F	F	F	F	1,675	E	E	A	C	150	C	C	B	C		F	B	B	B	275
20	Eisenhower Ave at Swamp Fox Road	A	D		B	D	125	E		A	C	75	A	A		A			A	A	A	175
21	Eisenhower Ave at Mill Race Ln	A	A	A	A	A	0	D	A	D	D	125	A	B	A	B		A	A	A	A	125
22	Eisenhower Ave at Mill Rd E	D	F	F	F	F	400	D	C	A	C	175	C	B	B	B		E	C	B	C	300
23	Eisenhower Ave at Elizabeth Ln	A	A	A	A	A	0	E	A	A	C	50	A	A	A	A		A	A	A	A	75
24	Eisenhower Ave at John Carlyle St	A						A		A	A	50	A	A		A			A	A	A	100
DUKE STREET																						
25	Duke St at New East St	B						A		A	A	325	D	A		B			A	A	A	250
26	Duke St at New Landmark St	B						C		D	D	275	E	B		C			A	A	A	475
27	Duke St at N Ripley St	B						E		E	E	400	E	A		A			B	B	B	450
28	Duke St at S Reynolds St	A	D	A	A	C	225	D	D	B	C	100	A	A	A	A		B	A	A	A	150
29	Duke St at N Paxton St	A	D	D	B	D	100	E	E	C	D	325	A	A	A	A		B	A	A	A	125
30	Duke St at S Pickett St	C	D		C	C	600								C	A	B		D	A	B	400
31	Duke St at Cameron Stn Blvd/N Pickett	C	D	D	D	D	350	E	F	F	F	300	C	B	B	B		C	B	A	B	300
32	Duke St at Somerville St	A			A	A	250			A	A	0		A	A	A			A	A	A	0
33	Duke St at Shops@Fox Chase	B	E	E	B	D	150	D	D	A	C	250	B	B	A	B		C	B	C	C	600
34	Duke St at Jordan St	C	D	E	A	D	225	E	E	B	D	225	E	A	A	B		D	C	B	C	275
35	Duke St at Ingram St	B	E	E	E	E	250	E	D	C	D	175	A	A	A	A		C	A	A	A	250
36	Duke St at N Gordon St	A						D		B	D	100	A	A		A			A	A	A	125
37	Duke St at S Gordon St	A	E	A	E	E	175	D	A	A	D	50	A	A	A	A		C	A	A	A	300
38	Duke St at Early St	D	E	E	F	F	325	F	F	C	D	225	C	D	B	D		B	A	A	A	200
39	Duke St at Wheeler Ave	F	E	A	B	C	350	E	A	A	E	50	F	F	F	F		C	A	A	A	475

= New intersections for 2040 Build scenario

Table 8.22 – Year 2040 Build with Multimodal Bridge and Mitigation – AM Peak Hour Levels of Service (LOS) and Max. Queues (ft) - Continued

DUKE STREET (Continued)																						
40	Duke St at N Quaker Ln	D								F	F	F	525	C	C		C	500	B	A	A	450
41	Duke St at S Quaker Ln	B	E	A	E	E	150	A	A	A	A	0	A	B	A	B	450	C	A	A	A	300
42	Duke St at Alexandria Commons	B	D	D	C	D	125	E	E	D	D	100	D	A	A	A	350	D	B	B	B	675
43	Duke St at Sweeley St	C	E	D	E	E	100	E	D	B	D	75	D	B	A	B	675	C	C	C	C	825
44	Duke St at Roth St	B	E	C	D	D	150	D	D	C	D	150	A	A	A	A	475	C	B	B	B	775
45	Duke St at Witter St	A	D		B	C	75							A	A	A	300	B	A		A	825
46	Duke St at W Taylor Run Pkwy	C						D	D	B	D	400	F	B	B	B	550		C	B	C	1,500
47	Duke St at Dove St	B	C	A	D	C	100	D	A	D	D	100		C	C	C	175		A	A	A	100
EDSALL ROAD																						
48	Edsall Rd at Winterview Dr	A	C	A	A	C	75	C	C	A	C	75	A	A	A	A	275	B	A	A	A	175
49	Edsall Rd at Farrington Ave Extended	A	B		B	B	200							A	A	A	125	A	A		A	150
50	Edsall Rd at Yoakum Pkwy	B	B	B	B	B	125	B	B	A	A	150	A	A	A	A	300	B	A	A	A	175
51	Edsall Rd at S Whiting St	C	C	B	A	B	150	D	B	B	C	375	B	B	B	B	625	B	C	C	C	350
52	Edsall Rd at New Metro St	C	C		A	B	475							B	B	B	350	D	D		D	450
71	Edsall Rd at S Reynolds St	C						B		A	A	250	C	C		C	325		C	B	C	325
SOUTH PICKETT STREET																						
53	Farrington Ave Ext W at S Pickett St	B		A	A	A	50	A	A		A	175						B		A	A	150
54	Farrington Ave Ext at S Pickett St	C	D	C	D	D	225	D	A	A	A	25	B	B	B	B	400	A	A	A	A	125
55	New High St at S Pickett St	C	D	D		D	100	C		C	C	325	B	B		B	125		B	A	B	175
56	S Pickett St at Multimodal Bridge	E	F	E	E	F	1,675	C	C	C	C	450	D	D	C	D	650	D	D	D	D	500
72	S Pickett St at New Main St	A	A	A	A	A	75	A	A	A	A	500	D	D	A	D	50	F	E	B	E	50
57	S Pickett St at Edsall Rd	C	B	C	B	C	500	B	C	C	C	325	C	B	A	B	175	C	E	D	E	1,050
58	S Pickett St at Trade Center Shopping	A	D		A	B	50							A	A	A	125	A	A		A	675
NEW HIGH STREET (PROPOSED)																						
59	New Landmark St at New High St	C	C		C	C	500							C	A	B	250	B	A		B	100
60	New High St at Stevenson Ave	C	B	B	B	B	350	C	B	B	B	400	C	C	A	B	200	A	B	B	B	125
61	New High St at Van Dorn Plaza	B		B	A	A	325	B	B		B	375						C		B	B	200
73	New High St at S Whiting St	B		C	A	B	525		B	B	B	100						B		A	B	600
62	New High St at New Main St	B		A	A	A	200	A	A		A	125						D		A	C	200
74	New High St at Courtney Ave Ext	C	A	D	D	D	50	C	B	A	C	125	B	C	C	C	325	B	B	A	B	125
75	New High St at New Metro Rd	B	C		B	B	325							A	B	B	100	B	A		B	250
76	New High St at New Warehouse St	B	A	B	A	B	175	B	B	A	B	200	C	C	A	C	75	C	C	B	B	200
77	Farrington Ave at New High St	C						B		A	B	275	B	B		B	400		B	B	B	400
MISCELLANEOUS INTERSECTIONS																						
63	New Landmark St at New East St	C	C		C	C	350							D	A	C	450	C	C		C	450
64	New Metro St at New Main St	C	B	B		B	500		A	A	A	625	D	D	E	D	400	F	F	F	F	
65	Farrington Ave at Farrington Ave Extended	B						A		A	A	175	D	D		D	150		D	A	C	225
78	Farrington Ave Ext at New Warehouse St	A		A	A	A	100	A			A	150						C		C	C	125
79	Farrington Ave Ext at New Metro Rd	A		A	A	A	125	A	A		A	100						D		D	D	75
80	Farrington Ave Ext at Courtney Ave Ext	B		A	B	A	125	A	A		A	150						C		C	C	150
81	New Metro Rd at Van Dorn St NB Off-Ramp	A	A		A	A	25							B		B	450		A		A	150
82	New Station Pkwy at Metro Bus Loop	D						D		A	C	300	D	A		C	450		E	F	F	1,400
83	New Presidential Pkwy at New Victory Dr	D	C		A	B	225							E	F	F	400	E	D		E	850
84	New Presidential Pkwy at New Bush Hill Dr	C	B		A	B	150							C	C	C	800	C	B		B	550
85	New Presidential Pkwy at Clermont Ave	C	A		A	A	200							D	B	B	300	A	C		C	325
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	B						A			A	225	B			B	250					

☐ = New intersections for 2040 Build scenario

Table 8.23 – Year 2040 Build with Multimodal Bridge and Mitigation – PM Peak Hour Levels of Service (LOS) and Max. Queues (ft)

Int. No.	Intersections	Intersection Overall	Northbound					Southbound					Eastbound					Westbound					
			L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue	
VAN DORN STREET																							
1	N Van Dorn St at Holmes Run Pkwy	C		B	A	B	300	C	D		D	675					E		A	B	75		
2	N Van Dorn St at New Landmark St	E	D	B	B	C	225	F	F	E	F	1,425	D	A	B	C	450	D	D	A	C	550	
3	S Van Dorn St at EOS 21 Apartments	A		A	A	A	75	F	A		B	1,025					A		A	A	0		
4	S Van Dorn St at Stevenson Ave	D	E	A	A	B	275	E	D	B	D	850	F	F	F	F	675	E	D	A	D	100	
5	S Van Dorn St at Van Dorn Plaza	C	E	B		C	600		B	B	B	425	D		C	D	400						
6	S Van Dorn St at Edsall Rd	E	E	D	D	E	500	F	E	E	E	950	E	D	B	D	450	D	E	A	E	425	
7	S Van Dorn St at New Main St	D	E	D	E	D	575	F	C	C	C	675	F	F	F	F	500	D	E	C	D	250	
8	S Van Dorn St at S Pickett St	D	B	B	A	B	275	B	D	D	D	650	E	E	C	D	400	E	E	B	D	675	
9	S Van Dorn St at Courtney Ave	B	C	A	A	A	250	A	B	A	B	475	E	E	C	A	275	A	A	A	E	125	
10	S Van Dorn St at Eisenhower Ave	D	F	C	B	C	800	C	D	D	D	1,300	B	D	C	D	275	E	E	D	E	625	
11	S Van Dorn St at I-495 Ramps	E	E	B		C	475		D	C	D	1,325	E		E	E	1,675						
12	S Van Dorn St at Oakwood Rd	A	E	A	A	A	300	E	A	A	A	250	E	A	A	E	125	E	A	E	E	50	
EISENHOWER AVENUE																							
13	Eisenhower Ave at Old Metro Rd	C						B		B	B	75	D	C		C	300		C	C	C	375	
67	Eisenhower Ave at New Metro Rd South	C						D		A	B	350	D	C		D	325		C	C	C	200	
68	Eisenhower Ave at New Metro Rd North	C		A	B	B	375	B	A		A	175						D		C	C	475	
14	Eisenhower Ave at Multimodal Bridge/Bus Loop	D	E	F	D	E	475	D	D	C	D	600	D	B	A	D	400	C	D	B	C	575	
69	Eisenhower Ave at New Victory Dr	A	D	D	A	C	125	A	D	B	B	175	A	A	A	A	125	A	A	A	A	100	
70	Eisenhower Ave at New Bush Hill Dr	A	E	A	A	C	25	C	C	A	B	100	A	A	A	A	125	A	A	A	A	150	
15	Eisenhower Ave at Clermont Dr	C	C	C	A	B	350	C	C	C	C	450	D	C	C	C	275	D	D	B	C	1,125	
16	Eisenhower Ave at Cameron Parke Pl	A						C		B	C	200	A	A		A	200		A	A	A	325	
17	Eisenhower Ave at Bluestone Rd	A						C		A	C	150	A	A		A	200		A	A	A	250	
18	Eisenhower Ave at Mill Rd W	C	C	C	B	B	125	D	D	B	C	250	B	A	A	A	250	B	C	D	D	1,375	
19	Eisenhower Ave at Stovall St	C	D	D	B	C	400	E	E	A	D	250	E	C	C	D	475	E	B	B	B	375	
20	Eisenhower Ave at Swamp Fox Road	A	E		B	D	125	E		A	C	75	B	A		A	525		A	A	A	225	
21	Eisenhower Ave at Mill Race Ln	A	A	A	A	A	0	E	A	D	E	200	A	A	A	A	600	B	A	A	A	175	
22	Eisenhower Ave at Mill Rd E	B	D	C	B	D	300	E	D	B	D	400	B	A	A	A	425	C	B	B	B	500	
23	Eisenhower Ave at Elizabeth Ln	B	C	C	C	A	100	E	A	E	E	350	B	A	A	A	200	A	A	A	A	700	
24	Eisenhower Ave at John Carlyle St	A						E		B	B	225	A	A		A	125		A	A	A	225	
DUKE STREET																							
25	Duke St at New East St	A						A		A	A	175	D	A		A	650		A	A	A	225	
26	Duke St at New Landmark St	C						C		C	C	225	E	B		B	450		B	B	B	400	
27	Duke St at N Ripley St	B						E		E	E	275	E	A		B	425		B	A	B	350	
28	Duke St at S Reynolds St	A	D	D	A	D	225	D	D	B	C	100	A	A	A	A	150	B	A	A	A	150	
29	Duke St at N Paxton St	A	D	D	A	D	100	E	E	C	D	300	B	A	A	A	175	B	A	A	A	200	
30	Duke St at S Pickett St	E	F		F	F	1,675									B	B	B	400	C	A	B	475
31	Duke St at Cameron Stn Blvd/N Pickett	B	D	D	D	D	150	E	E	E	E	375	C	A	A	B	475	C	A	A	B	300	
32	Duke St at Somerville St	B			A	A	50			A	A	0		B	C	C	625		A	A	A	25	
33	Duke St at Shops@Fox Chase	C	D	D	C	D	150	E	D	B	D	325	D	D	D	D	1,025	C	C	B	C	725	
34	Duke St at Jordan St	D	E	E	A	D	200	E	D	B	D	250	E	D	C	D	775	C	C	B	B	350	
35	Duke St at Ingram St	D	F	E	F	F	250	D	D	C	C	175	D	E	E	E	1,125	C	A	A	A	300	
36	Duke St at N Gordon St	B						E		B	C	75	C	C		C	450		A	A	A	125	
37	Duke St at S Gordon St	B	E	A	E	E	150	E	A	A	E	25	A	B	A	B	200	C	A	A	A	125	
38	Duke St at Early St	F	E	E	D	E	175	F	F	F	F	500	F	F	F	F	1,600	C	B	B	B	375	
39	Duke St at Wheeler Ave	F	E	A	A	B	225	F	A	A	F	25	F	F	F	F	1,675	D	A	A	A	200	

■ = New intersections for 2040 Build scenario

Table 8.24 – Year 2040 Build with Multimodal Bridge and Mitigation – PM Peak Hour Levels of Service (LOS) and Max. Queues (ft) - Continued

DUKE STREET (continued)																						
40	Duke St at N Quaker Ln	E								F	F	F	525	C	E		E	500	B	A	A	400
41	Duke St at S Quaker Ln	B	E	A	E	E	225	A	A	A	A	0	A	C	C	C	450	B	A	A	A	75
42	Duke St at Alexandria Commons	C	D	D	C	D	175	F	F	F	F	300	C	A	A	A	350	D	B	B	B	675
43	Duke St at Sweeley St	D	F	F	F	F	250	D	D	B	D	250	F	C	B	C	600	D	D	D	D	825
44	Duke St at Roth St	D	D	A	D	D	250	E	A	E	E	175	B	B	A	B	750	E	E	E	E	800
45	Duke St at Witter St	C	E		C	D	200							A	A	A	500	C	E		E	850
46	Duke St at W Taylor Run Pkwy	E						D	D	E	D	425	F	C	C	C	775		E	D	E	1,625
47	Duke St at Dove St	C	C	B	C	C	150	E	A	E	E	100		A	A	A	150		D	C	D	1,150
EDSALL ROAD																						
48	Edsall Rd at Winterview Dr	A	C	B	A	B	125	B	C	A	B	50	B	A	A	A	375	B	A	A	A	225
49	Edsall Rd at Farrington Ave Extended	B	C		C	C	400							A	B	A	625	B	A		A	125
50	Edsall Rd at Yoakum Pkwy	B	C	D	C	D	75	D	C	A	B	350	A	A	A	A	1,025	C	B	A	B	300
51	Edsall Rd at S Whiting St	D	C	C	A	C	150	D	D	C	D	475	B	C	D	C	275	E	C	C	D	500
52	Edsall Rd at New Metro St	B	C		B	C	450							B	A	B	300	A	B		B	250
71	Edsall Rd at S Reynolds St	B						C		A	A	200	C	C		C	475		B	B	B	300
SOUTH PICKETT STREET																						
53	Farrington Ave Ext W at S Pickett St	B		A	B	B	50	A	A		A	175						B		B	B	250
54	Farrington Ave Ext at S Pickett St	C	C	C	B	C	450	D	A	A	B	25	B	C	C	C	400	A	A	A	A	100
55	New High St at S Pickett St	B		D		D	75	C		D	D	300	A	A		A	175		A	A	A	125
56	S Pickett St at Multimodal Bridge	C	C	D	B	C	875	C	C	C	C	450	C	D	B	C	275	C	C	C	C	350
72	S Pickett St at New Main St	A	A	A	A	A	50	A	A	A	A	225	D	E	A	D	50	F	E	B	E	50
57	S Pickett St at Edsall Rd	C	C	C	B	C	300	B	C	B	B	350	B	B	A	B	175	B	C	C	C	750
58	S Pickett St at Trade Center Shopping	D	D		C	D	125							E	D	E	875	B	A		A	150
NEW HIGH STREET (PROPOSED)																						
59	New Landmark St at New High St	B	C		C	C	400							C	A	B	150	B	A		B	175
60	New High St at Stevenson Ave	D	C	C	C	C	500	E	D	D	D	900	D	E	D	E	400	C	C	C	C	275
61	New High St at Van Dorn Plaza	B		B	A	B	450	C	C		C	525						C		C	C	375
73	New High St at S Whiting St	B		A	A	A	375		C	B	C	175						C		C	C	575
62	New High St at New Main St	C		B	D	C	325	D	C		D	525						D		A	C	200
74	New High St at Courtney Ave Ext	B	D	D	C	D	50	C	C	A	B	100	B	B	A	B	150	B	B	A	B	100
75	New High St at New Metro Rd	C	C		C	C	425							A	A	A	75	B	A		B	225
76	New High St at New Warehouse St	D	A	B	A	A	425	B	B	A	B	225	C	B	A	C	100	D	F	E	E	400
77	Farrington Ave at New High St	D						C		A	B	250	C	B		B	175		B	B	B	500
MISCELLANEOUS INTERSECTIONS																						
63	New Landmark St at New East St	C	B		B	B	350							D	A	D	375	D	D		D	550
64	New Metro St at New Main St	D	C	B		B	500		A	A	A	200	F	F	F	F	500	F	F	F	F	
65	Farrington Ave at Farrington Ave Extended	D						A		A	A	75	B	D		D	125		B	A	A	175
78	Farrington Ave Ext at New Warehouse St	A		A	A	A	75	A			A	75						C		C	C	75
79	Farrington Ave Ext at New Metro Rd	A		A	A	A	75	A	A		A	100						C		B	C	75
80	Farrington Ave Ext at Courtney Ave Ext	B		A	A	A	225	A	A		A	125						C		C	C	125
81	New Metro Rd at Van Dorn St NB Off-Ramp	A	A		A	A	25							A		A	200		A		A	150
82	New Station Pkwy at Metro Bus Loop	C						A		C	B	125	C	A		B	325		D	E	D	675
83	New Presidential Pkwy at New Victory Dr	A	C		A	B	100							A	A	A	150	A	A		A	100
84	New Presidential Pkwy at New Bush Hill Dr	B	C		B	B	125							C	C	C	950	B	A		A	150
85	New Presidential Pkwy at Clermont Ave	C	B		A	B	225							D	B	C	1,650	B	B		B	250
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	A						A		A	A	225	A			A	100					

■ = New intersections for 2040 Build scenario

Table 8.25 – Year 2040 Build with Multimodal Bridge and Mitigation – AM Peak Hour Intersection Delay (sec/veh)

Int. No.	Intersections	Intersection Overall	Northbound				Southbound				Eastbound				Westbound			
			L	T	R	Approach	L	T	R	Approach	L	T	R	Approach	L	T	R	Approach
VAN DORN STREET																		
1	N Van Dorn St at Holmes Run Pkwy	13		12	7	12	23	9		11				46			20	22
2	N Van Dorn St at New Landmark St	28	23	20	18	24	19	23	9	21	58	1	4	49	39	54	11	24
3	S Van Dorn St at EOS 21 Apartments	2		3	2	3	43	0		1				0			6	6
4	S Van Dorn St at Stevenson Ave	16	56	6	5	10	84	9	2	9	63	59	18	45	49	51	5	37
5	S Van Dorn St at Van Dorn Plaza	22	14	14		14		5	7	6	53		8	37				
6	S Van Dorn St at Edsall Rd	42	82	39	40	45	87	23	24	38	54	50	4	42	45	59	21	42
7	S Van Dorn St at New Main St	33	78	20	20	25	75	19	19	26	63	61	57	61	60	53	10	21
8	S Van Dorn St at S Pickett St	34	18	20	14	20	68	17	23	20	57	60	4	17	72	90	37	57
9	S Van Dorn St at Courtney Ave	21	16	15	14	15	14	5	6	5	97	84	54	0	0	0	0	50
10	S Van Dorn St at Eisenhower Ave	104	144	151	157	168	39	13	15	17	17	22	13	18	71	63	48	65
11	S Van Dorn St at I-495 Ramps	61	70	76		74		29	6	22	79		32	53				
12	S Van Dorn St at Oakwood Rd	85	111	140	143	140	98	5	6	6	130	0	8	125	89	0	141	130
EISENHOWER AVENUE																		
13	Eisenhower Ave at Old Metro Rd	20					14		13	14	44	39		39		0	0	0
67	Eisenhower Ave at New Metro Rd South	16					60		3	10	24	15		19		9	46	16
68	Eisenhower Ave at New Metro Rd North	29		34	23	25	35	20		29					26		9	15
14	Eisenhower Ave at Multimodal Bridge/Bus Loop	105	55	88	69	77	43	32	25	34	69	25	20	51	114	144	160	150
69	Eisenhower Ave at New Victory Dr	36	84	52	16	32	12	71	55	56	16	6	5	8	36	48	40	45
70	Eisenhower Ave at New Bush Hill Dr	10	46	41	3	28	38	0	8	17	12	6	2	8	9	9	8	8
15	Eisenhower Ave at Clermont Dr	33	39	40	18	31	38	35	29	35	22	28	19	25	19	28	23	26
16	Eisenhower Ave at Cameron Parke Pl	4					21		4	19	4	3		3		3	3	3
17	Eisenhower Ave at Bluestone Rd	4					31		6	19	3	3		3		4	4	4
18	Eisenhower Ave at Mill Rd W	12	27	28	9	16	35	32	11	22	7	7	5	7	8	10	12	10
19	Eisenhower Ave at Stovall St	85	178	185	206	199	55	57	7	28	32	21	16	23	82	17	13	17
20	Eisenhower Ave at Swamp Fox Road	8	55		11	37	59		8	33	7	5		5		6	7	6
21	Eisenhower Ave at Mill Race Ln	8	0	0	0	0	43	0	52	51	3	11	0	10	0	1	1	1
22	Eisenhower Ave at Mill Rd E	38	89	87	83	86	37	32	5	25	25	17	12	17	56	21	17	23
23	Eisenhower Ave at Elizabeth Ln	3	0	0	0	0	58	0	7	23	7	1	1	2	2	3	4	3
24	Eisenhower Ave at John Carlyle St	2					0		7	7	10	1		2		2	0	2
DUKE STREET																		
25	Duke St at New East St	10					0		7	7	55	4		12		6	6	6
26	Duke St at New Landmark St	19					32		42	40	70	16		22		9	9	9
27	Duke St at N Ripley St	15					58		59	58	56	3		8		17	11	17
28	Duke St at S Reynolds St	10	55	0	8	31	51	46	19	31	5	7	4	7	14	4	1	5
29	Duke St at N Paxton St	8	54	50	12	41	76	76	29	51	8	2	2	3	14	4	3	4
30	Duke St at S Pickett St	22	53		25	33						22	8	19	41	4		16
31	Duke St at Cameron Stn Blvd/N Pickett	23	53	54	47	54	76	101	99	88	22	14	12	14	25	13	9	13
32	Duke St at Somerville St	4			6	6			4	4		0	4	4		1	1	1
33	Duke St at Shops@Fox Chase	18	61	72	19	41	54	45	8	34	19	12	9	12	30	20	21	20
34	Duke St at Jordan St	27	55	55	5	43	56	57	11	41	70	9	8	18	38	27	13	25
35	Duke St at Ingram St	10	64	60	55	60	55	46	26	49	9	2	2	2	22	5	5	5
36	Duke St at N Gordon St	5					54		17	44	10	2		2		2	2	2
37	Duke St at S Gordon St	8	66	0	63	67	55	0	0	55	0	1	1	1	25	5	6	5
38	Duke St at Early St	37	65	68	346	193	80	83	27	54	26	40	17	40	19	7	6	7
39	Duke St at Wheeler Ave	127	63	0	11	23	57	0	0	57	183	223	200	222	23	5	4	9
40	Duke St at N Quaker Ln	44					188		166	185	30	34		34		13	4	9

= New intersections for 2040 Build scenario

Table 8.26 – Year 2040 Build with Multimodal Bridge and Mitigation – AM Peak Hour Intersection Delay (sec/veh) - Continued

DUKE STREET (Continued)																		
41	Duke St at S Quaker Ln	11	55		57	55						15	9	14	24	5	5	
42	Duke St at Alexandria Commons	13	53	51	23	43	68	56	35	54	35	8	3	9	51	15	14	16
43	Duke St at Sweeley St	20	61	47	57	56	60	50	17	39	52	13	8	14	21	25	32	25
44	Duke St at Roth St	14	68	35	54	53	55	55	25	47	8	9	0	9	32	15	16	15
45	Duke St at Witter St	6	52		13	32						4	4	4	18	4		5
46	Duke St at W Taylor Run Pkwy	25					45	45	12	42	102	12	15	15		22	18	22
47	Duke St at Dove St	20	27	0	35	35	53	0	51	52		28	31	28		3	5	3
EDSALL ROAD																		
48	Edsall Rd at Winterview Dr	9	25	0	3	20	31	33	6	20	8	9	9	9	13	6	2	6
49	Edsall Rd at Farrington Ave Extended	5	19		14	19						1	4	2	9	4		4
50	Edsall Rd at Yoakum Pkwy	11	15	17	13	14	17	14	2	9	9	6	5	6	11	5	1	5
51	Edsall Rd at S Whiting St/New High St	27	24	15	8	15	44	13	12	27	15	13	18	14	13	20	29	23
52	Edsall Rd at New Metro St	27	24		10	16						19	18	18	42	37		38
71	Edsall Rd at S Reynolds St	24					17		5	8	30	27		28		28	16	27
SOUTH PICKETT STREET																		
53	Farrington Ave Ext W at S Pickett St	20		6	5	6	5	4		5					13		9	9
54	Farrington Ave Ext E at S Pickett St	20	41	35	43	42	35	1	4	10	11	16	15	15	8	3	3	7
55	New High St at S Pickett St	21					31		26	27	11	12		12		15	4	11
56	S Pickett St at Multimodal Bridge	57	112	78	63	83	24	33	25	30	38	51	33	41	51	46	41	47
72	S Pickett St at New Main St	8	4	2	1	2	7	8	6	8	47	46	8	42	96	69	12	62
57	S Pickett St at Edsall Rd	34	19	26	19	23	20	27	21	22	27	14	3	12	33	65	49	58
58	S Pickett St at Trade Center Shopping	6	36		5	17						3	3	3	5	2		2
HIGH STREET (PROPOSED 2040)																		
59	New Landmark St at New High St	25	25		27	26						30	4	16	12	5		11
60	New High St at Stevenson Ave	21	15	14	15	16	34	17	16	20	23	21	5	19	7	18	14	15
61	New High St at Van Dorn Plaza	12		11	4	7	17	12		14				21		10		15
73	New High St at S Whiting St	19		20	7	12		11	12	12				18		7		16
62	New High St at New Main St	10		6	9	7	2	3		2				40		9		24
74	New High St at Courtney Ave Ext	21	0	44	49	46	29	18	6	20	18	26	29	23	14	16	6	12
75	New High St at New Metro Rd	16	24		12	12						10	14	10	16	6		15
76	New High St at New Warehouse St	13	8	12	8	11	11	10	6	10	24	21	8	22	22	32	17	18
77	Farrington Ave at New High St	22					17		7	17	16	16		16		20	14	17
MISCELLANEOUS INTERSECTIONS																		
63	New Landmark St at New East St	28	23		23	23						44	8	29	31	26		28
64	New Metro St at New Main St	21	19	12		13		9	7	9	53		57	55				
65	Farrington Ave at Farrington Ave Extended	10					3		1	3	43	35		36		45	1	20
78	Farrington Ave Ext at New Warehouse St	6		1	0	1	3			2				26		25		25
79	Farrington Ave Ext at New Metro Rd	7		2	2	2	2	1		1				40		43		41
80	Farrington Ave Ext at Courtney Ave Ext	10		7	11	9	6	5		5				22		28		27
81	New Metro Rd at Van Dorn St NB Off-Ramp	9	5		4	6						11		11		6		6
82	New Station Pkwy at Metro Bus Loop	46					41		3	30	39	7		22		77	106	87
83	New Presidential Pkwy at New Victory Dr	53	26		8	15						77	84	83	73	51		67
84	New Presidential Pkwy at New Bush Hill Dr	20	17		9	14						24	25	24	26	16		17
85	New Presidential Pkwy at Clermont Ave	20	9		5	7						40	13	20	6	35		23
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	12					5			5	10			10				

☐ = New intersections for 2040 Build scenario

Table 8.27 – Year 2040 Build with Multimodal Bridge and Mitigation – PM Peak Hour Intersection Delay (sec/veh)

Int. No.	Intersections	Intersection Overall	Northbound				Southbound				Eastbound				Westbound			
			L	T	R	Approach	L	T	R	Approach	L	T	R	Approach	L	T	R	Approach
VAN DORN STREET																		
1	N Van Dorn St at Holmes Run Pkwy	30		18	10	17	29	40		38				56		4		11
2	N Van Dorn St at New Landmark St	63	50	16	11	21	98	84	73	84	36	9	20	30	39	45	7	32
3	S Van Dorn St at EOS 21 Apartments	8		2	1	2	85	9		11				0		2		2
4	S Van Dorn St at Stevenson Ave	41	67	6	6	20	72	39	19	36	108	106	93	99	59	51	6	45
5	S Van Dorn St at Van Dorn Plaza	31	63	18		33		19	19	20	52		30	44				
6	S Van Dorn St at Edsall Rd	62	70	43	46	58	112	68	70	76	55	54	11	45	53	64	8	56
7	S Van Dorn St at New Main St	51	70	37	56	43	97	26	22	33	114	126	135	126	53	56	30	40
8	S Van Dorn St at S Pickett St	36	18	15	5	12	13	38	35	37	66	60	30	36	76	60	18	54
9	S Van Dorn St at Courtney Ave	15	22	7	8	8	0	14	8	14	74	66	22	0	0	0	0	58
10	S Van Dorn St at Eisenhower Ave	44	85	21	14	30	32	36	35	35	11	54	21	42	71	67	39	63
11	S Van Dorn St at I-495 Ramps	57	68	17		32		52	25	46	76		61	64				
12	S Van Dorn St at Oakwood Rd	10	70	7	0	9	76	5	6	6	71	0	9	72	67	0	75	73
EISENHOWER AVENUE																		
13	Eisenhower Ave at Old Metro Rd	31					15		13	14	36	33		34		28	22	28
67	Eisenhower Ave at New Metro Rd South	25					37		8	12	38	33		36		26	34	29
68	Eisenhower Ave at New Metro Rd North	23		9	14	13	12	8		10				48		23		35
14	Eisenhower Ave at Multimodal Bridge/Bus Loop	43	63	93	40	74	54	40	21	38	52	19	9	39	22	43	10	30
69	Eisenhower Ave at New Victory Dr	8	50	48	8	27	1	50	11	10	6	5	4	5	6	2	4	3
70	Eisenhower Ave at New Bush Hill Dr	9	56	0	3	32	33	31	5	16	8	7	5	7	6	6	6	6
15	Eisenhower Ave at Clermont Dr	32	21	27	4	16	25	32	25	27	42	33	22	32	35	37	14	34
16	Eisenhower Ave at Cameron Parke Pl	7					33		18	25	6	6		6		5	5	5
17	Eisenhower Ave at Bluestone Rd	6					33		6	28	4	3		3		5	5	5
18	Eisenhower Ave at Mill Rd W	24	33	32	14	19	40	35	11	24	10	9	7	9	18	27	54	36
19	Eisenhower Ave at Stovall St	28	52	49	14	23	73	69	7	50	74	26	21	35	73	19	11	18
20	Eisenhower Ave at Swamp Fox Road	9	56		10	40	58		9	26	11	7		7		5	4	5
21	Eisenhower Ave at Mill Race Ln	7	0	0	0	0	56	0	55	55	6	6	0	7	13	2	3	2
22	Eisenhower Ave at Mill Rd E	19	51	32	19	35	48	45	11	36	19	8	9	9	24	17	17	19
23	Eisenhower Ave at Elizabeth Ln	17	31	32	26	0	60	0	75	74	12	4	1	6	3	6	4	6
24	Eisenhower Ave at John Carlyle St	6					59		14	14	5	1		2		6	0	6
DUKE STREET																		
25	Duke St at New East St	7					0		4	4	54	2		9		4	4	4
26	Duke St at New Landmark St	21					28		34	33	68	13		18		20	12	19
27	Duke St at N Ripley St	16					56		57	57	57	7		12		14	8	14
28	Duke St at S Reynolds St	9	55	53	6	35	45	44	17	31	6	2	4	3	11	2	1	4
29	Duke St at N Paxton St	7	52	47	8	44	67	60	22	40	12	2	1	2	10	4	3	4
30	Duke St at S Pickett St	75	226		362	328							17	18	17	34	3	14
31	Duke St at Cameron Stn Blvd/N Pickett	17	55	48	49	53	67	68	72	69	24	9	7	10	23	10	7	10
32	Duke St at Somerville St	12			6	6			4	4		12	23	23		2	3	2
33	Duke St at Shops@Fox Chase	34	51	50	33	42	60	55	13	41	47	39	41	40	32	22	17	23
34	Duke St at Jordan St	35	58	57	8	44	60	51	16	37	73	38	34	42	28	20	11	19
35	Duke St at Ingram St	46	85	72	88	86	54	47	22	31	54	65	60	65	26	6	4	7
36	Duke St at N Gordon St	16					58		12	35	25	27		27		2	2	2
37	Duke St at S Gordon St	11	59	0	59	59	57	0	0	57	0	13	3	13	23	4	0	4
38	Duke St at Early St	100	65	56	43	57	210	195	132	165	140	149	123	147	24	13	12	14
39	Duke St at Wheeler Ave	120	61	0	6	19	89	0	0	89	193	223	181	221	48	1	2	9
40	Duke St at N Quaker Ln	74					270		206	259	30	66		62		12	2	8

= New intersections for 2040 Build scenario

Table 8.28 – Year 2040 Build with Multimodal Bridge and Mitigation – PM Peak Hour Intersection Delay (sec/veh) - Continued

DUKE STREET (continued)																		
41	Duke St at S Quaker Ln	16	61		69	63					33	27	32	12	2		2	
42	Duke St at Alexandria Commons	23	45	50	33	39	129	133	115	127	25	6	1	7	36	16	16	18
43	Duke St at Sweeley St	47	117	112	118	118	51	48	14	43	101	32	20	34	40	49	54	49
44	Duke St at Roth St	49	51	0	47	47	68	0	59	66	15	14	0	14	64	76	65	75
45	Duke St at Witter St	35	64		30	42						10	6	10	33	60		59
46	Duke St at W Taylor Run Pkwy	63					42	43	62	43	117	24	29	27		72	49	70
47	Duke St at Dove St	26	25	16	24	24	56	0	65	65		6	9	6		37	33	37
EDSALL ROAD																		
48	Edsall Rd at Winterview Dr	9	22	15	5	19	19	22	6	19	13	8	9	8	13	6	3	6
49	Edsall Rd at Farrington Ave Extended	11	27		27	29						3	11	6	16	5		5
50	Edsall Rd at Yoakum Pkwy	12	31	43	32	36	42	32	3	17	10	5	5	6	25	15	3	13
51	Edsall Rd at S Whiting St/New High St	40	24	22	9	21	43	44	24	37	11	26	42	26	56	29	33	36
52	Edsall Rd at New Metro St	17	32		13	22						13	10	11	0	14		14
71	Edsall Rd at S Reynolds St	20					25		4	10	31	23		26		18	10	16
SOUTH PICKETT STREET																		
53	Farrington Ave Ext W at S Pickett St	17		9	15	12	7	6		7				12		12		12
54	Farrington Ave Ext E at S Pickett St	27	34	32	11	27	36	1	4	10	12	23	23	23	8	4	8	7
55	New High St at S Pickett St	20					33		35	35	8	7		7		8	4	7
56	S Pickett St at Multimodal Bridge	32	33	45	19	34	31	35	35	34	31	39	18	26	29	32	25	29
72	S Pickett St at New Main St	4	2	2	1	2	2	2	2	2	44	67	6	45	114	71	12	65
57	S Pickett St at Edsall Rd	24	28	26	13	26	16	20	17	17	16	13	2	12	20	33	23	28
58	S Pickett St at Trade Center Shopping	37	46		27	39						60	51	59	14	5		6
HIGH STREET (PROPOSED 2040)																		
59	New Landmark St at New High St	18	26		27	27						23	10	12	12	4		11
60	New High St at Stevenson Ave	45	23	24	23	25	68	54	36	54	36	60	37	62	31	29	21	29
61	New High St at Van Dorn Plaza	20		12	7	10	25	23		24				31		23		28
73	New High St at S Whiting St	19		3	3	3			19	22				30		22		30
62	New High St at New Main St	33		20	39	30	41	32		38				41		9		25
74	New High St at Courtney Ave Ext	15	41	39	31	37	27	28	8	15	15	14	9	14	13	16	7	12
75	New High St at New Metro Rd	26	30		32	32						8	9	8	14	6		13
76	New High St at New Warehouse St	46	9	10	3	10	15	12	7	13	35	19	9	29	51	85	76	76
77	Farrington Ave at New High St	38					23		6	20	35	11		13		15	11	13
MISCELLANEOUS INTERSECTIONS																		
63	New Landmark St at New East St	32	17		16	16						51	4	36	37	35		36
64	New Metro St at New Main St	37	20	17		18		8	7	8	97		104	102				
65	Farrington Ave at Farrington Ave Extended	52					2		1	2	11	50		50		18	1	3
78	Farrington Ave Ext at New Warehouse St	5		1	2	1	5			3				22		24		24
79	Farrington Ave Ext at New Metro Rd	6		2	3	2	4	2		2				27		18		27
80	Farrington Ave Ext at Courtney Ave Ext	10		6	9	6	6	5		5				22		27		25
81	New Metro Rd at Van Dorn St NB Off-Ramp	8	4		5	5						9		9		7		7
82	New Station Pkwy at Metro Bus Loop	30					1		35	18	27	3		19		47	63	54
83	New Presidential Pkwy at New Victory Dr	7	25		5	11						5	7	7	6	3		5
84	New Presidential Pkwy at New Bush Hill Dr	19	22		11	17						23	23	23	18	5		9
85	New Presidential Pkwy at Clermont Ave	21	16		7	11						43	16	23	13	19		19
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	7					3			3	7			7				

☐ = New intersections for 2040 Build scenario

Figure 8.20 – Change in AM Peak Hour Delay (sec/veh) – 2040 Build with Bridge & Mitigation vs. 2040 Build with Bridge, No Mitigation

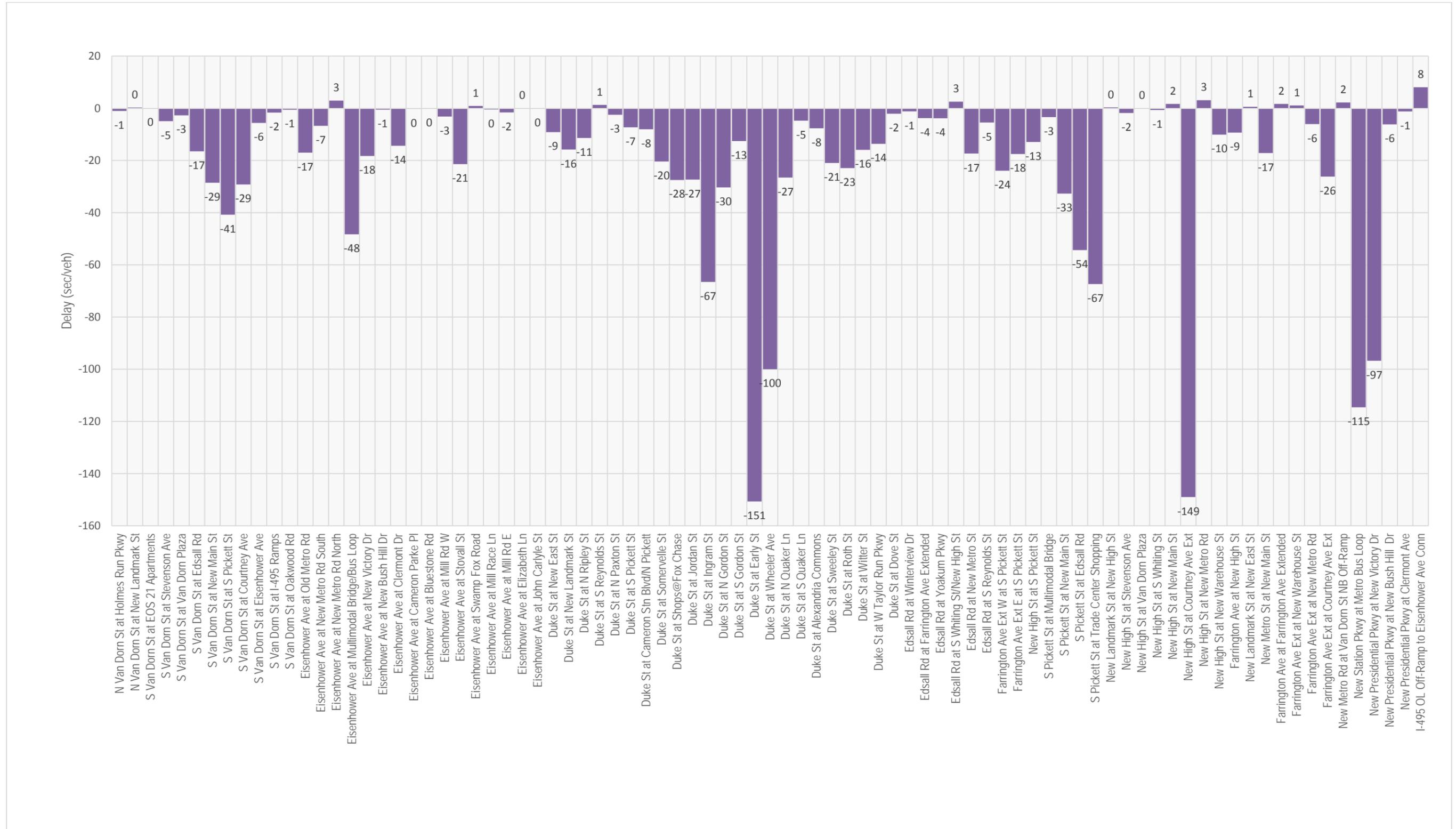


Figure 8.21 – Change in PM Peak Hour Delay (sec/veh) – 2040 Build with Bridge & Mitigation vs. 2040 Build with Bridge, No Mitigation

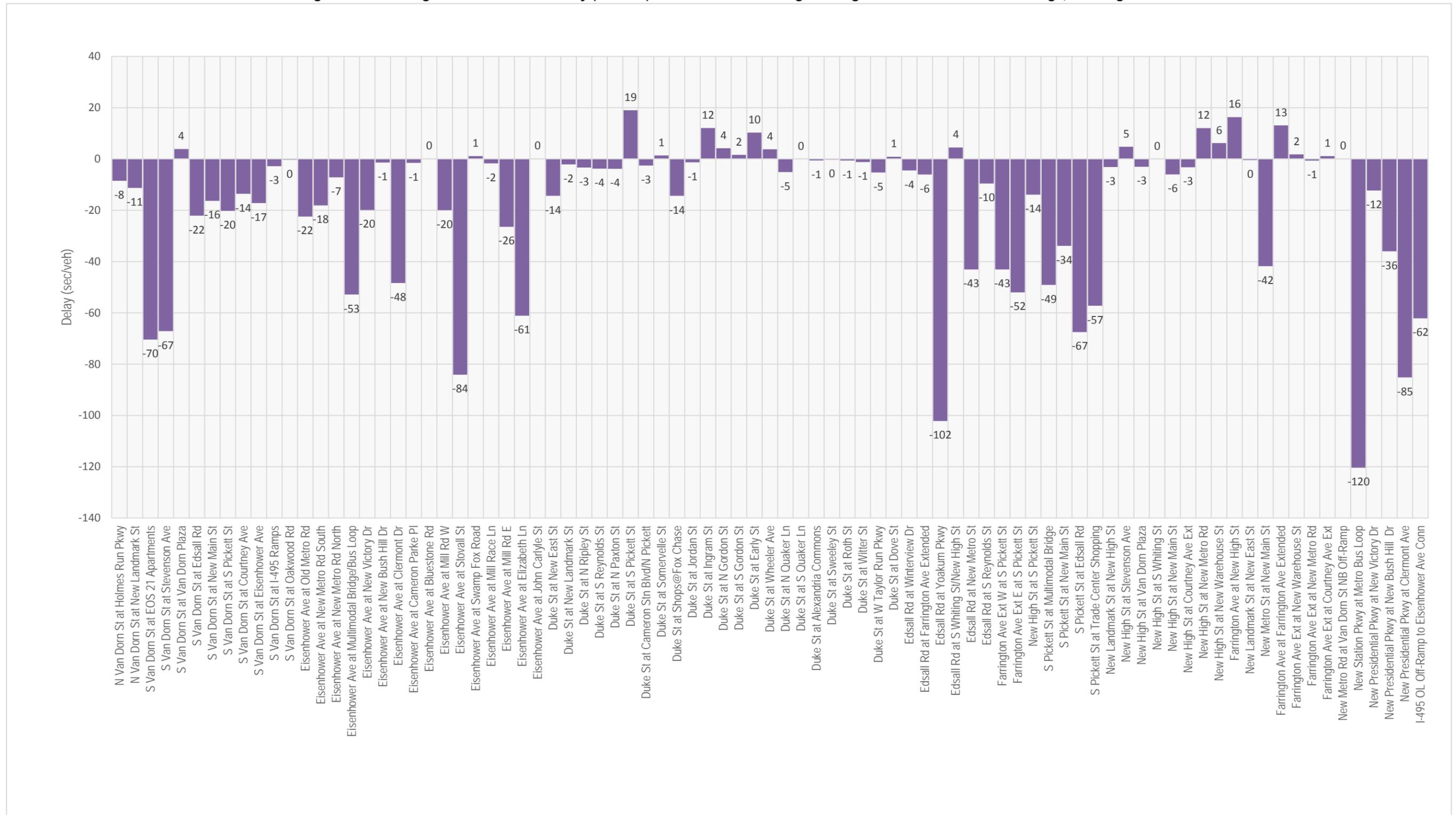


Table 8.29 – Year 2040 Build with No Multimodal Bridge and Mitigation – AM Peak Hour Levels of Service (LOS) and Max. Queues (ft)

Int. No.	Intersections	Intersection Overall	Northbound					Southbound					Eastbound					Westbound				
			L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue
VAN DORN STREET																						
1	N Van Dorn St at Holmes Run Pkwy	B		B	B	B	775	C	B		B	275						D		C	C	225
2	N Van Dorn St at New Landmark St	C	E	C	C	C	900	E	C	B	C	650	E	A	A	E	525	D	D	B	C	225
3	S Van Dorn St at EOS 21 Apartments	A		A	A	A	150	E	A		A	400						F		A	D	50
4	S Van Dorn St at Stevenson Ave	C	E	B	A	B	350	F	C	A	C	425	E	E	C	D	375	D	D	B	D	100
5	S Van Dorn St at Van Dorn Plaza	C	E	C		C	750		C	B	B	400	E		C	D	400					
6	S Van Dorn St at Edsall Rd	E	E	D	D	D	600	F	F	F	F	775	E	D	D	D	325	D	E	C	D	500
7	S Van Dorn St at New Main St	E	F	C	C	C	775	F	F	F	F	650	F	F	F	F	450	F	E	C	C	300
8	S Van Dorn St at S Pickett St	E	E	D	C	D	525	F	F	F	F	675	E	E	B	C	225	F	F	F	F	500
9	S Van Dorn St at Courtney Ave	F	F	F	F	F	1,425	F	B	B	B	550	F	F	F	A	450	F	F	F	F	150
10	S Van Dorn St at Eisenhower Ave	F	F	F	F	F	1,675	E	C	C	C	300	D	D	A	D	225	F	F	F	F	1,025
11	S Van Dorn St at I-495 Ramps	E	E	F		E	750		D	A	C	250	F		C	E	850					
12	S Van Dorn St at Oakwood Rd	E	F	F	F	F	1,675	F	A	A	A	325	F	A	E	F	200	F	A	F	F	50
EISENHOWER AVENUE																						
13	Eisenhower Ave at Old Metro Rd	D						D		E	D	150	D	B		B	275		E	D	E	375
67	Eisenhower Ave at New Metro Rd South	E						F		E	E	375	B	B		B	225		F	F	F	500
68	Eisenhower Ave at New Metro Rd North	D		C	A	B	150	E	D		E	400						E		B	D	425
14	Eisenhower Ave at Bus Loop	F	D		A	C	150							C	E	D	375	F	F		F	1,425
69	Eisenhower Ave at New Victory Dr	C	F	E	C	D	425	A	E	C	D	475	B	B	C	B	300	C	B	B	B	750
70	Eisenhower Ave at New Bush Hill Dr	A	D	D	A	C	50	D	A	A	B	100	B	A	A	A	150	A	A	A	A	175
15	Eisenhower Ave at Clermont Dr	D	F	D	B	D	375	E	D	C	D	250	F	D	D	D	475	F	C	C	D	325
16	Eisenhower Ave at Cameron Parke Pl	A						C		A	C	75	A	A		A	175		A	A	A	150
17	Eisenhower Ave at Bluestone Rd	A						D		A	C	100	A	A		A	125		A	A	A	200
18	Eisenhower Ave at Mill Rd W	B	C	C	A	B	100	C	C	B	C	250	B	B	B	B	300	B	B	B	B	400
19	Eisenhower Ave at Stovall St	F	F	F	F	F	1,675	F	F	A	D	175	C	C	B	C	400	F	C	B	C	325
20	Eisenhower Ave at Swamp Fox Road	C	F		F	F	150	F		B	E	75	B	D		D	600		B	B	B	275
21	Eisenhower Ave at Mill Race Ln	C	A	A	A	A	0	D	A	D	D	125	C	D	C	D	750	A	A	A	A	100
22	Eisenhower Ave at Mill Rd E	D	F	F	F	F	375	D	C	A	C	175	C	B	B	C	425	E	C	C	C	375
23	Eisenhower Ave at Elizabeth Ln	A	A	A	A	A	0	F	A	A	D	75	A	A	A	A	175	A	A	A	A	75
24	Eisenhower Ave at John Carlyle St	A						A		E	E	100	B	A		A	175		A	A	A	225
DUKE STREET																						
25	Duke St at New East St	B						A		A	A	200	E	B		B	625		A	A	A	200
26	Duke St at New Landmark St	C						D		D	D	325	F	C		D	725		B	B	B	425
27	Duke St at N Ripley St	C						E		E	E	300	E	B		C	200		B	B	B	450
28	Duke St at S Reynolds St	C	E	A	D	E	250	E	D	C	C	100	B	C	B	C	350	B	A	A	A	150
29	Duke St at N Paxton St	C	E	D	D	D	100	F	F	D	E	325	B	C	B	C	200	B	A	A	A	175
30	Duke St at S Pickett St	D	E		D	D	550							D	E	D	475	F	B		E	600
31	Duke St at Cameron Stn Blvd/N Pickett	D	F	F	F	F	350	F	F	F	F	225	C	B	B	B	550	F	E	D	E	375
32	Duke St at Somerville St	B			A	A	0			A	A	0		A	A	A	550		B	B	B	0
33	Duke St at Shops@Fox Chase	B	E	E	C	D	150	D	E	B	D	250	C	B	B	B	875	D	C	C	C	500
34	Duke St at Jordan St	C	E	E	A	D	225	E	E	B	D	225	E	B	B	C	700	D	C	B	C	325
35	Duke St at Ingram St	C	E	E	E	E	200	E	D	D	D	150	D	C	D	C	950	C	A	A	A	350
36	Duke St at N Gordon St	B						E		C	D	75	C	C		C	400		A	A	A	200
37	Duke St at S Gordon St	B	E	A	E	E	125	E	A	A	E	50	A	B	A	B	175	C	B	B	B	425
38	Duke St at Early St	F	F	F	F	F	375	F	F	C	E	225	F	F	F	F	1,625	C	B	B	B	375
39	Duke St at Wheeler Ave	F	E	A	B	C	350	E	A	A	E	50	F	F	F	F	1,675	C	A	A	B	425

= New intersections for 2040 Build scenario

Table 8.30 – Year 2040 Build with Multimodal Bridge and Mitigation – AM Peak Hour Levels of Service (LOS) and Max. Queues (ft) - Continued

DUKE STREET (Continued)																							
40	Duke St at N Quaker Ln	D								F	F	F	525	D	D		D	500	B	A	A	450	
41	Duke St at S Quaker Ln	B	E	A	E	E	150	A	A	A	A	0	A	B	B	B	450	C	A	A	A	350	
42	Duke St at Alexandria Commons	B	D	D	C	D	100	E	E	D	E	100	D	A	A	A	350	E	B	B	B	625	
43	Duke St at Sweeley St	C	E	D	E	E	100	E	D	C	D	75	E	B	A	B	650	C	C	D	C	825	
44	Duke St at Roth St	B	E	D	D	D	150	E	D	D	D	150	B	A	A	A	775	D	C	C	C	725	
45	Duke St at Witter St	A	E		C	D	100							A	A	A	375	B	A		A	500	
46	Duke St at W Taylor Run Pkwy	C						D	D	B	D	350	F	C	C	C	750		C	C	C	1,000	
47	Duke St at Dove St	C	D	A	D	D	125	E	A	E	E	100		D	D	D	500		A	A	A	100	
EDSALL ROAD																							
48	Edsall Rd at Winterview Dr	B	C	A	C	C	100	C	D	D	C	100	B	B	B	B	425	B	A	A	A	200	
49	Edsall Rd at Farrington Ave Extended	A	C		C	C	225							A	A	A	400	B	A		A	150	
50	Edsall Rd at Yoakum Pkwy	B	D	D	D	D	150	D	C	A	B	175	A	A	A	A	175	B	A	A	A	125	
51	Edsall Rd at S Whiting St	D	D	D	B	D	275	D	E	D	E	500	C	C	C	C	275	C	C	D	D	425	
52	Edsall Rd at New Metro St	C	B		A	B	275							B	A	B	175	D	D		D	450	
71	Edsall Rd at S Reynolds St	C						B		A	A	200	C	C		C	350		C	B	C	350	
SOUTH PICKETT STREET																							
53	Farrington Ave Ext W at S Pickett St	C		A	A	A	75	C	B		C	650						C		C	C	275	
54	Farrington Ave Ext at S Pickett St	D	D	D	D	D	250	F	A	A	F	75	C	C	C	C	600	B	A	A	B	325	
55	New High St at S Pickett St	C	D	D	A	D	125	C	C	C	C	375	C	C	D	C	325	C	B	A	B	400	
56	S Pickett St at New Metro St	E						C		F	D	0	B	B		B	125		F	F	F	200	
72	S Pickett St at New Main St	D	A	A	A	A	175	F	F	F	F	250	D	E	F	E	75	F	E	B	E	50	
57	S Pickett St at Edsall Rd	F	E	C	B	C	325	C	C	E	C	225	D	C	A	C	250	F	F	F	F	1,250	
58	S Pickett St at Trade Center Shopping	F	F		A	D	50							B	B	B	225	F	F		F	900	
NEW HIGH STREET (PROPOSED)																							
59	New Landmark St at New High St	C	D		D	D	750							C	A	B	150	A	A		A	100	
60	New High St at Stevenson Ave	B	C	B	C	C	300	C	B	B	B	325	C	C	C	C	175	A	C	C	B	125	
61	New High St at Van Dorn Plaza	B		B	A	B	325	C	C		C	525						C		B	C	300	
73	New High St at S Whiting St	C		C	C	C	575		C	C	C	150								D	D	D	675
62	New High St at New Main St	C		B	C	C	325	D	D		D	425						D		B	C	150	
74	New High St at Courtney Ave Ext	F	A	F	F	F	50	F	F	E	F	325	E	F	E	F	375	B	B	B	B	150	
75	New High St at New Metro Rd	E	C		C	C	375							E	F	E	450	F	F		F	625	
76	New High St at New Warehouse St	E	C	C	B	C	200	E	E	D	E	400	D	C	B	C	100	F	F	E	F	775	
77	Farrington Ave at New High St	B						C		A	C	175	B	B		B	250		A	A	A	100	
MISCELLANEOUS INTERSECTIONS																							
63	New Landmark St at New East St	C	C		C	C	375							E	B	D	450	C	C		C	475	
64	New Metro St at New Main St	D	B	A		B	325		A	A	A	150	F	F	F	F	525	F	F	F	F		
65	Farrington Ave at Farrington Ave Extended	C						A		A	A	100	D	D		D	100		D	A	C	225	
78	Farrington Ave Ext at New Warehouse St	C		C	B	C	200	A			A	175							D		E	E	350
79	Farrington Ave Ext at New Metro Rd	B		B	C	B	200	B	A		B	200							D	D	D	175	
80	Farrington Ave Ext at Courtney Ave Ext	B		A	B	B	125	A	A		A	350							D	D	D	200	
81	New Metro Rd at Van Dorn St NB Off-Ramp	B	C		B	B	25							B		B	375		B		B	450	
82	New Station Pkwy at Metro Bus Loop	E						F	F	F	F	475	A	A		A	50		F	F	F	1,400	
83	New Presidential Pkwy at New Victory Dr	C	C		A	B	150							C	D	D	375	C	B		C	700	
84	New Presidential Pkwy at New Bush Hill Dr	C	C		A	B	100							C	D	D	625	C	B		B	350	
85	New Presidential Pkwy at Clermont Ave	C	B		B	B	250							D	B	C	325	A	D		C	400	
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	C						B			B	400	C			C	225						

☐ = New intersections for 2040 Build scenario

Table 8.31 – Year 2040 Build with No Multimodal Bridge and Mitigation – PM Peak Hour Levels of Service (LOS) and Max. Queues (ft)

Int. No.	Intersections	Intersection Overall	Northbound					Southbound					Eastbound					Westbound					
			L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue	L	T	R	Approach	Max. Queue	
VAN DORN STREET																							
1	N Van Dorn St at Holmes Run Pkwy	D		B	A	B	200	D	F		F	675						F		A	B	75	
2	N Van Dorn St at New Landmark St	F	E	B	B	C	325	F	F	F	F	1,425	D	B	C	D	275	E	D	A	C	375	
3	S Van Dorn St at EOS 21 Apartments	D		A	A	A	50	E	F		F	1,025						A		A	A	0	
4	S Van Dorn St at Stevenson Ave	F	F	B	B	C	325	F	F	F	F	850	F	F	F	F	325	E	D	A	D	100	
5	S Van Dorn St at Van Dorn Plaza	D	F	C		D	625		C	C	C	425	F		D	E	375						
6	S Van Dorn St at Edsall Rd	F	F	D	E	F	625	F	F	F	F	975	F	E	D	E	475	D	F	C	E	425	
7	S Van Dorn St at New Main St	E	F	E	F	E	775	F	D	C	D	675	F	F	F	F	500	F	E	C	E	325	
8	S Van Dorn St at S Pickett St	E	F	E	D	E	525	F	E	E	E	675	F	E	C	D	375	F	F	F	F	875	
9	S Van Dorn St at Courtney Ave	C	F	C	C	C	1,025	A	A	B	A	525	E	E	A	A	75	D	E	F	E	175	
10	S Van Dorn St at Eisenhower Ave	E	F	C	B	C	950	F	C	B	C	975	E	D	C	D	175	F	F	F	F	950	
11	S Van Dorn St at I-495 Ramps	F	F	D		F	325		E	B	D	500	F		F	F	1,675						
12	S Van Dorn St at Oakwood Rd	C	F	E	A	E	275	E	A	B	A	650	F	A	E	F	100	E	A	F	E	50	
EISENHOWER AVENUE																							
13	Eisenhower Ave at Old Metro Rd	D						D		E	D	50	C	B		B	175		E	D	E	425	
67	Eisenhower Ave at New Metro Rd South	E						D		D	D	250	C	C		C	125		F	F	F	350	
68	Eisenhower Ave at New Metro Rd North	C		A	A	A	50	A	B		B	100						D		A	C	200	
14	Eisenhower Ave at Bus Loop	E	D		A	C	100						A	F	B	50	F	F		F	100		
69	Eisenhower Ave at New Victory Dr	B	D	D	B	C	125	A	E	C	C	150	A	A	A	A	150	B	B	A	B	100	
70	Eisenhower Ave at New Bush Hill Dr	A	E	A	A	C	25	D	D	A	B	100	A	A	A	A	75	A	A	A	A	200	
15	Eisenhower Ave at Clermont Dr	D	D	D	A	C	225	D	D	C	D	325	E	C	B	C	225	D	D	B	D	250	
16	Eisenhower Ave at Cameron Parke Pl	A						D		C	C	200	A	A		A	225		A	A	A	250	
17	Eisenhower Ave at Bluestone Rd	A						C		A	C	125	A	A		A	175		A	A	A	200	
18	Eisenhower Ave at Mill Rd W	C	D	D	B	C	150	D	D	B	C	275	B	A	A	A	225	B	C	D	C	575	
19	Eisenhower Ave at Stovall St	E	D	D	B	C	250	F	F	F	F	725	E	C	C	C	200	F	C	B	C	250	
20	Eisenhower Ave at Swamp Fox Road	A	E	A	B	D	100	F	E	B	D	100	B	A		A	250		A	A	A	125	
21	Eisenhower Ave at Mill Race Ln	A	A	A	A	A	0	E	A	E	E	200	B	B	A	B	300	B	A	A	A	125	
22	Eisenhower Ave at Mill Rd E	D	E	C	B	D	225	D	D	B	D	425	C	C	C	C	400	F	C	B	F	500	
23	Eisenhower Ave at Elizabeth Ln	F	F	F	E	A	100	F	A	F	F	350	F	B	A	B	200	F	F	C	F	1,000	
24	Eisenhower Ave at John Carlyle St	D						F		F	F	300	A	B		B	200		D	A	D	325	
DUKE STREET																							
25	Duke St at New East St	B						A		A	A	75	E	B		C	600		A	A	A	100	
26	Duke St at New Landmark St	D						E		D	D	275	F	D		D	800		B	B	B	400	
27	Duke St at N Ripley St	C						F		F	F	350	E	C		D	400		B	A	B	300	
28	Duke St at S Reynolds St	C	E	E	F	E	375	F	D	B	D	125	B	D	C	D	475	B	A	A	A	250	
29	Duke St at N Paxton St	C	D	D	E	D	100	F	F	E	F	300	B	D	C	C	375	B	A	A	A	175	
30	Duke St at S Pickett St	F	F		F	F	1,675								D	F	D	650	F	B		D	625
31	Duke St at Cameron Stn Blvd/N Pickett	D	F	F	E	E	325	E	F	F	F	400	C	B	A	B	500	F	F	D	E	1,150	
32	Duke St at Somerville St	C			A	A	100			A	A	0		B	C	C	925		C	C	C	675	
33	Duke St at Shops@Fox Chase	C	E	E	C	D	150	E	E	C	D	325	D	C	D	C	1,000	D	C	C	C	675	
34	Duke St at Jordan St	C	E	E	C	E	275	E	E	C	D	400	E	C	C	C	575	C	C	B	C	525	
35	Duke St at Ingram St	D	F	F	F	F	225	F	E	E	E	175	E	E	E	E	1,200	C	A	A	A	325	
36	Duke St at N Gordon St	C						E		B	D	75	E	D		D	450		A	A	A	150	
37	Duke St at S Gordon St	B	E	A	E	E	175	E	A	A	E	25	A	B	A	B	150	C	B	A	B	425	
38	Duke St at Early St	F	F	F	F	F	350	F	F	F	F	475	F	F	F	F	1,400	C	B	B	B	325	
39	Duke St at Wheeler Ave	F	E	A	B	C	250	F	A	A	F	25	F	F	F	F	1,675	E	A	A	A	225	

= New intersections for 2040 Build scenario

Table 8.32 – Year 2040 Build with No Multimodal Bridge and Mitigation – PM Peak Hour Levels of Service (LOS) and Max. Queues (ft) - Continued

DUKE STREET (Continued)																							
40	Duke St at N Quaker Ln	E																					
41	Duke St at S Quaker Ln	C	E	A	E	E	200	A	A	A	A	0	A	D	C	D	450	B	A	A	A	200	
42	Duke St at Alexandria Commons	E	E	E	E	E	175	F	F	F	F	275	D	C	B	C	350	F	E	E	E	675	
43	Duke St at Sweeley St	F	F	F	F	F	250	E	E	D	E	275	F	E	D	E	650	E	F	F	F	825	
44	Duke St at Roth St	F	F	A	E	E	350	F	A	F	F	175	D	D	A	D	825	F	F	F	F	775	
45	Duke St at Witter St	F	F		F	F	225																825
46	Duke St at W Taylor Run Pkwy	F						D	D	F	D	400	F	D	E	E	800		F	F	F	1,675	
47	Duke St at Dove St	E	C	C	C	C	125	E	A	E	E	100		C	B	C	150		F	F	F	1,300	
EDSALL ROAD																							
48	Edsall Rd at Winterview Dr	A	B	B	B	B	100	B	B	B	B	50	B	A	B	A	225	B	A	A	A	250	
49	Edsall Rd at Farrington Ave Extended	B	B		B	B	225							A	B	A	200	C	C		C	225	
50	Edsall Rd at Yoakum Pkwy	B	C	D	D	D	75	D	C	A	B	150	A	A	A	A	125	C	B	A	B	175	
51	Edsall Rd at S Whiting St	E	C	A	A	A	150	D	C	B	C	500	F	E	D	E	800	E	F	F	F	525	
52	Edsall Rd at New Metro St	C	E		D	D	575							D	B	D	575	B	C		B	200	
71	Edsall Rd at S Reynolds St	D						F		C	D	500	D	E		E	500		B	A	B	200	
SOUTH PICKETT STREET																							
53	Farrington Ave Ext W at S Pickett St	C		A	B	A	25	B	B		B	350							B		C	C	275
54	Farrington Ave Ext at S Pickett St	E	B	B	B	B	125	B	A	A	A	25	D	D	D	D	575	D	C	B	C	125	
55	New High St at S Pickett St	C	D	D	D	D	150	C	C	C	C	225	B	B	B	B	325	A	B	B	B	125	
56	S Pickett St at New Metro St	F					0	E		F	F	450	D	D		D	900		F	F	F	525	
72	S Pickett St at New Main St	E	A	C	A	C	425	D	F	F	F	600	F	F	F	F	75	F	F	F	F	50	
57	S Pickett St at Edsall Rd	F	F	E	E	F	500	E	E	F	F	300	E	E	D	E	500	F	F	F	F	1,300	
58	S Pickett St at Trade Center Shopping	F	F		E	F	375							F	F	F	1,350	F	F		F	1,675	
NEW HIGH STREET (PROPOSED)																							
59	New Landmark St at New High St	B	C		C	C	350							C	A	B	100	B	A		B	100	
60	New High St at Stevenson Ave	D	D	D	D	D	525	F	D	D	D	550	D	E	D	D	275	B	C	C	B	250	
61	New High St at Van Dorn Plaza	C		C	B	C	575	D	C		C	600							C	C	C	400	
73	New High St at S Whiting St	B		A	A	A	0		D	D	D	225							B		A	B	550
62	New High St at New Main St	C		B	C	B	175	D	C		C	475							D		A	C	150
74	New High St at Courtney Ave Ext	B	F	F	F	F	50	C	C	A	B	75	B	A	B	A	125	B	B	A	B	125	
75	New High St at New Metro Rd	C	C		C	C	425							B	B	B	75	B	B		B	125	
76	New High St at New Warehouse St	C	C	C	C	C	225	C	C	B	C	225	D	D	C	C	175	D	E	C	C	225	
77	Farrington Ave at New High St	B						C		C	C	225	C	B		B	125		A	A	A	150	
MISCELLANEOUS INTERSECTIONS																							
63	New Landmark St at New East St	C	C		C	C	375							E	A	D	300	C	C		C	550	
64	New Metro St at New Main St	E	B	C		C	450		B	B	B	150	F	F	F	F	700	F	F	D	F		
65	Farrington Ave at Farrington Ave Extended	C						B		A	B	125	B	B		B	75		B	A	A	50	
78	Farrington Ave Ext at New Warehouse St	A		A	A	A	125	A	A		A	75							C		C	C	75
79	Farrington Ave Ext at New Metro Rd	A		A	A	A	100	A	A		A	100							B		B	B	75
80	Farrington Ave Ext at Courtney Ave Ext	B		A	A	A	200	A	A		A	175							D		D	D	125
81	New Metro Rd at Van Dorn St NB Off-Ramp	A	B		A	A	25							A		A	175		A		A	175	
82	New Station Pkwy at Metro Bus Loop	F						F	F	F	F	200	A	B		B	125		F	F	F	550	
83	New Presidential Pkwy at New Victory Dr	B	C		A	B	75							B	B	B	125	B	A		B	75	
84	New Presidential Pkwy at New Bush Hill Dr	C	C		B	B	100							D	D	D	850	C	A		B	125	
85	New Presidential Pkwy at Clermont Ave	C	B		A	B	175							D	B	C	350	C	C		C	275	
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	A						A			A	225	A			A	100						

☐ = New intersections for 2040 Build scenario

Table 8.33 – Year 2040 Build with No Multimodal Bridge and Mitigation – AM Peak Hour Intersection Delay (sec/veh)

Int. No.	Intersections	Intersection Overall	Northbound				Southbound				Eastbound				Westbound			
			L	T	R	Approach	L	T	R	Approach	L	T	R	Approach	L	T	R	Approach
VAN DORN STREET																		
1	N Van Dorn St at Holmes Run Pkwy	16		14	13	14	32	11		14				55		29	30	
2	N Van Dorn St at New Landmark St	34	73	26	25	31	76	31	13	28	65	2	5	55	48	55	15	27
3	S Van Dorn St at EOS 21 Apartments	5		4	3	4	58	2		2				435		10	54	
4	S Van Dorn St at Stevenson Ave	21	77	13	9	17	84	25	3	24	68	60	21	49	50	52	13	38
5	S Van Dorn St at Van Dorn Plaza	28	75	27		34		21	16	20	65		23	43				
6	S Van Dorn St at Edsall Rd	59	67	40	37	43	99	114	119	112	61	47	48	49	52	58	28	43
7	S Van Dorn St at New Main St	55	91	22	24	27	105	91	98	93	103	142	151	142	89	60	22	34
8	S Van Dorn St at S Pickett St	59	75	36	32	37	83	113	137	113	72	66	14	28	269	254	235	258
9	S Van Dorn St at Courtney Ave	81	189	109	91	110	788	13	11	14	219	197	111	0	149	85	85	92
10	S Van Dorn St at Eisenhower Ave	134	259	199	170	199	73	25	29	33	50	51	8	48	174	164	186	184
11	S Van Dorn St at I-495 Ramps	62	73	80		78		38	10	29	98		35	61				
12	S Van Dorn St at Oakwood Rd	80	149	130	100	129	98	6	5	7	85	0	76	84	103	0	97	98
EISENHOWER AVENUE																		
13	Eisenhower Ave at Old Metro Rd	45					36		63	51	39	17		17		61	54	61
67	Eisenhower Ave at New Metro Rd South	67					80		69	61	15	16		16		132	117	130
68	Eisenhower Ave at New Metro Rd North	35		21	9	11	77	36		56				68		14	45	
14	Eisenhower Ave at Bus Loop	82	55		8	22						34	59	37	157	113		124
69	Eisenhower Ave at New Victory Dr	24	85	61	28	38	6	67	25	36	18	20	22	20	25	14	15	17
70	Eisenhower Ave at New Bush Hill Dr	8	42	45	3	28	37	0	6	15	11	7	5	7	9	9	7	7
15	Eisenhower Ave at Clermont Dr	45	104	46	19	53	79	37	32	44	83	38	40	38	113	29	29	38
16	Eisenhower Ave at Cameron Parke Pl	4					25		6	23	9	4		4		3	5	3
17	Eisenhower Ave at Bluestone Rd	4					54		6	31	3	3		3		4	5	4
18	Eisenhower Ave at Mill Rd W	16	30	30	9	17	35	27	11	22	11	14	13	13	13	16	19	17
19	Eisenhower Ave at Stovall St	88	187	195	227	216	114	140	7	54	34	24	19	25	108	25	15	21
20	Eisenhower Ave at Swamp Fox Road	32	112		358	212	127		13	66	15	38		37		12	10	12
21	Eisenhower Ave at Mill Race Ln	31	0	0	0	0	52	0	52	52	31	49	32	48	0	2	2	2
22	Eisenhower Ave at Mill Rd E	39	93	91	88	90	42	33	6	27	30	20	18	20	66	29	25	31
23	Eisenhower Ave at Elizabeth Ln	3	0	0	0	0	158	0	8	51	7	1	1	2	4	4	5	4
24	Eisenhower Ave at John Carlyle St	6					0		66	66	11	2		4		5	0	5
DUKE STREET																		
25	Duke St at New East St	14					0		8	8	58	12		19		9	7	9
26	Duke St at New Landmark St	29					39		52	47	82	34		38		11	10	11
27	Duke St at N Ripley St	23					72		63	67	75	16		20		18	12	18
28	Duke St at S Reynolds St	21	67	0	51	59	60	49	22	34	15	24	15	23	14	5	2	6
29	Duke St at N Paxton St	21	55	53	37	48	104	113	39	66	12	23	16	22	17	5	3	5
30	Duke St at S Pickett St	50	55		35	41						39	71	45	170	16		63
31	Duke St at Cameron Stn Blvd/N Pickett	45	130	107	82	113	88	123	122	98	31	14	11	15	92	74	38	72
32	Duke St at Somerville St	10			6	6			6	6		0	7	7		19	12	19
33	Duke St at Shops@Fox Chase	19	79	65	20	42	54	57	14	37	23	13	11	15	39	24	24	24
34	Duke St at Jordan St	30	61	56	7	45	60	60	12	43	70	17	15	25	46	33	17	31
35	Duke St at Ingram St	24	74	69	77	75	58	53	53	54	50	31	37	31	29	6	5	6
36	Duke St at N Gordon St	15					64		20	51	26	20		20		5	6	5
37	Duke St at S Gordon St	14	72	0	71	71	61	0	0	61	0	11	2	10	28	15	12	15
38	Duke St at Early St	108	154	117	686	334	123	117	35	78	149	157	119	157	31	13	17	13
39	Duke St at Wheeler Ave	164	68	0	14	26	58	0	0	58	208	284	273	283	29	7	10	11
40	Duke St at N Quaker Ln	46					195		172	191	36	38		38		15	4	10

= New intersections for 2040 Build scenario

Table 8.34 – Year 2040 Build with No Multimodal Bridge and Mitigation – AM Peak Hour Intersection Delay (sec/veh) - Continued

DUKE STREET (continued)																			
41	Duke St at S Quaker Ln	12	55		58	55						15	11	15	31	6	6		
42	Duke St at Alexandria Commons	14	55	52	26	44	70	70	41	58	44	8	3	9	63	17	17	18	
43	Duke St at Sweeley St	22	66	48	63	59	62	54	23	44	56	14	10	15	24	28	37	28	
44	Duke St at Roth St	18	72	38	54	54	60	55	46	55	11	10	0	10	36	22	22	22	
45	Duke St at Witter St	7	59		21	38						6	4	6	19	8		8	
46	Duke St at W Taylor Run Pkwy	26					45	46	15	42	106	23	28	26		26	20	26	
47	Duke St at Dove St	25	36	0	35	36	56	0	58	57		36	37	36		3	5	3	
EDSALL ROAD																			
48	Edsall Rd at Winterview Dr	11	28	0	22	27	32	38	35	34		12	11	13	11	14	7	5	7
49	Edsall Rd at Farrington Ave Extended	8	27		26	27						2	8	4	10	7		7	
50	Edsall Rd at Yoakum Pkwy	10	36	41	36	36	40	33	3	19	9	5	4	6	13	5	2	5	
51	Edsall Rd at S Whiting St/New High St	39	44	39	15	38	51	67	53	57	26	20	33	23	23	30	54	40	
52	Edsall Rd at New Metro St	26	18		5	12						15	9	13	42	42		42	
71	Edsall Rd at S Reynolds St	25					20		4	7	33	30		30		32	18	30	
SOUTH PICKETT STREET																			
53	Farrington Ave Ext W at S Pickett St	26		6	8	7	21	18		21					24		32	32	
54	Farrington Ave Ext E at S Pickett St	35	38	41	43	40	337	1	5	94	21	33	29	31	12	6	5	11	
55	New High St at S Pickett St	25	47	53	0	51	28	33	30	30	21	27	43	26	22	12	5	14	
56	S Pickett St at New Metro St	64					24		92	48	15	13		14		223	148	207	
72	S Pickett St at New Main St	55	4	2	2	2	84	164	108	160	46	61	176	63	143	72	13	74	
57	S Pickett St at Edsall Rd	136	66	27	19	31	22	28	75	28	42	27	6	22	489	550	470	516	
58	S Pickett St at Trade Center Shopping	191	114		6	46						15	15	15	338	480		472	
HIGH STREET (PROPOSED 2040)																			
59	New Landmark St at New High St	27	36		45	42						30	4	16	8	5		8	
60	New High St at Stevenson Ave	19	24	15	24	20	23	15	16	16	22	20	23	22	8	20	25	19	
61	New High St at Van Dorn Plaza	20		14	8	11	30	27		28					34		17	25	
73	New High St at S Whiting St	34		32	26	28		22	24	23					51		39	50	
62	New High St at New Main St	30		20	35	26	49	36		42					41		10	25	
74	New High St at Courtney Ave Ext	85	0	137	246	164	149	80	60	111	57	139	74	97	18	19	11	15	
75	New High St at New Metro Rd	60	28		32	31						58	145	60	121	87		115	
76	New High St at New Warehouse St	65	24	25	19	24	57	57	52	57	45	27	14	32	89	86	77	81	
77	Farrington Ave at New High St	15					34		6	28	16	16		16		1	4	2	
MISCELLANEOUS INTERSECTIONS																			
63	New Landmark St at New East St	31	25		24	24						56	11	36	35	26		29	
64	New Metro St at New Main St	35	12	10		11		6	6	6	93		85	93					
65	Farrington Ave at Farrington Ave Extended	30					3		1	3	53	48		49		51	6	22	
78	Farrington Ave Ext at New Warehouse St	28		24	11	23	9			7					41		61	60	
79	Farrington Ave Ext at New Metro Rd	17		16	21	19	20	5		11					39		37	37	
80	Farrington Ave Ext at Courtney Ave Ext	14		9	12	10	8	8		8					36		37	37	
81	New Metro Rd at Van Dorn St NB Off-Ramp	14	32		11	13						11		11		19		19	
82	New Station Pkwy at Metro Bus Loop	74					250		128	162	2	2		2		134	96	123	
83	New Presidential Pkwy at New Victory Dr	25	26		7	15						32	43	41	27	17		24	
84	New Presidential Pkwy at New Bush Hill Dr	25	22		9	15						35	36	35	26	15		17	
85	New Presidential Pkwy at Clermont Ave	20	19		13	16						40	13	20	6	41		27	
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	20					20			20	20			20					

■ = New intersections for 2040 Build scenario

Table 8.35 – Year 2040 Build with No Multimodal Bridge and Mitigation – PM Peak Hour Intersection Delay (sec/veh)

Int. No.	Intersections	Intersection Overall	Northbound				Southbound				Eastbound				Westbound			
			L	T	R	Approach	L	T	R	Approach	L	T	R	Approach	L	T	R	Approach
VAN DORN STREET																		
1	N Van Dorn St at Holmes Run Pkwy	53		15	8	15	55	91		83				93		4		16
2	N Van Dorn St at New Landmark St	82	58	18	15	25	183	145	130	144	48	19	26	40	56	45	6	33
3	S Van Dorn St at EOS 21 Apartments	55		2	1	2	66	89		88				0		6		6
4	S Van Dorn St at Stevenson Ave	86	82	14	14	29	154	159	102	150	151	158	138	144	79	52	6	51
5	S Van Dorn St at Van Dorn Plaza	39	96	33		51		27	22	26	85		41	57				
6	S Van Dorn St at Edsall Rd	91	189	54	60	81	130	123	148	126	128	61	49	80	51	91	31	68
7	S Van Dorn St at New Main St	59	110	55	81	65	122	44	33	47	131	150	101	118	113	65	33	63
8	S Van Dorn St at S Pickett St	69	93	73	42	57	106	60	57	61	99	57	31	43	267	269	266	266
9	S Van Dorn St at Courtney Ave	22	104	34	26	34	0	10	10	10	80	69	4	0	55	70	87	73
10	S Van Dorn St at Eisenhower Ave	65	101	29	16	32	81	25	14	32	76	52	26	40	191	141	157	157
11	S Van Dorn St at I-495 Ramps	86	370	40		135		64	20	55	156		103	115				
12	S Van Dorn St at Oakwood Rd	34	116	67	0	68	78	9	11	10	84	0	73	83	67	0	83	80
EISENHOWER AVENUE																		
13	Eisenhower Ave at Old Metro Rd	47					41		58	51	20	12		12		60	50	60
67	Eisenhower Ave at New Metro Rd South	79					51		52	52	21	23		23		170	138	168
68	Eisenhower Ave at New Metro Rd North	22		9	3	4	9	14		11				53		7		34
14	Eisenhower Ave at Bus Loop	79	45		10	24						4	89	15	170	97		116
69	Eisenhower Ave at New Victory Dr	16	53	54	15	21	3	67	28	24	10	7	8	8	12	12	10	12
70	Eisenhower Ave at New Bush Hill Dr	9	63	0	3	34	37	46	5	17	10	8	6	8	6	6	6	6
15	Eisenhower Ave at Clermont Dr	38	43	42	5	28	53	39	32	45	80	35	16	32	52	37	15	42
16	Eisenhower Ave at Cameron Parke Pl	9					35		22	28	7	7		7		7	8	7
17	Eisenhower Ave at Bluestone Rd	6					34		6	30	4	4		4		6	6	6
18	Eisenhower Ave at Mill Rd W	23	41	45	16	24	40	40	12	25	10	9	7	10	17	25	50	33
19	Eisenhower Ave at Stovall St	61	54	51	15	24	839	1036	401	656	61	28	24	33	85	23	12	22
20	Eisenhower Ave at Swamp Fox Road	9	61		13	40	90		18	42	15	8		8		5	4	5
21	Eisenhower Ave at Mill Race Ln	9	0	0	0	0	59	0	57	56	16	10	4	10	13	3	3	3
22	Eisenhower Ave at Mill Rd E	54	60	34	19	39	52	50	20	42	22	26	23	25	274	29	19	86
23	Eisenhower Ave at Elizabeth Ln	109	173	86	78	0	157	0	192	189	92	10	2	15	345	179	30	174
24	Eisenhower Ave at John Carlyle St	39					123		151	150	5	11		10		38	0	38
DUKE STREET																		
25	Duke St at New East St	16					0		4	4	58	18		24		4	4	4
26	Duke St at New Landmark St	38					75		44	49	89	49		51		17	15	16
27	Duke St at N Ripley St	33					123		89	106	61	34		36		16	10	16
28	Duke St at S Reynolds St	32	73	61	81	75	92	44	17	38	19	46	21	42	18	3	1	5
29	Duke St at N Paxton St	29	55	43	61	52	144	83	55	89	19	36	22	34	13	6	3	6
30	Duke St at S Pickett St	109	226		361	328						38	91	49	146	10		53
31	Duke St at Cameron Stn Blvd/N Pickett	49	135	93	56	110	76	93	123	94	33	11	8	12	89	81	41	79
32	Duke St at Somerville St	26			6	6			9	9		12	33	33		24	25	23
33	Duke St at Shops@Fox Chase	35	68	58	30	45	69	67	33	54	47	32	36	35	38	29	22	29
34	Duke St at Jordan St	34	73	61	25	55	75	61	22	48	73	28	31	33	32	27	10	24
35	Duke St at Ingram St	46	130	109	140	134	81	69	73	75	74	65	64	65	27	7	5	8
36	Duke St at N Gordon St	20					60		16	35	75	36		37		4	6	4
37	Duke St at S Gordon St	15	65	0	73	66	68	0	0	68	0	11	2	10	33	18	0	18
38	Duke St at Early St	122	97	95	476	195	250	235	177	208	158	177	135	174	27	14	15	15
39	Duke St at Wheeler Ave	192	65	0	20	31	94	0	0	94	392	388	372	388	57	3	5	9
40	Duke St at N Quaker Ln	76					263		201	251	32	84		78		16	2	10

= New intersections for 2040 Build scenario

Table 8.36 – Year 2040 Build with No Multimodal Bridge and Mitigation – PM Peak Hour Intersection Delay (sec/veh) - Continued

DUKE STREET (continued)																		
41	Duke St at S Quaker Ln	26	62		71	64					45	27	43	17	4		4	
42	Duke St at Alexandria Commons	57	63	61	79	72	178	151	134	168	50	33	14	33	134	56	56	61
43	Duke St at Sweeley St	90	148	144	150	149	78	73	39	69	100	60	39	60	78	111	158	114
44	Duke St at Roth St	92	81	0	66	66	111	0	218	130	46	49	0	49	83	135	139	134
45	Duke St at Witter St	98	104		96	99					81	70		81	57	123		122
46	Duke St at W Taylor Run Pkwy	140					42	42	93	44	141	54	61	58		276	222	271
47	Duke St at Dove St	70	34	21	24	30	56	0	75	65		20	16	20		105	80	105
EDSALL ROAD																		
48	Edsall Rd at Winterview Dr	9	14	11	13	14	11	15	15	13	11	9	12	9	16	7	5	7
49	Edsall Rd at Farrington Ave Extended	12	13		14	13						2	12	6	25	25		25
50	Edsall Rd at Yoakum Pkwy	12	35	41	36	37	42	33	3	18	10	5	4	6	29	16	3	14
51	Edsall Rd at S Whiting St/New High St	56	20	4	7	8	51	30	18	35	88	72	39	73	71	94	81	86
52	Edsall Rd at New Metro St	32	55		45	46						48	14	42	16	22		20
71	Edsall Rd at S Reynolds St	43					113		20	44	53	71		65		15	7	13
SOUTH PICKETT STREET																		
53	Farrington Ave Ext W at S Pickett St	32		8	11	9	17	19		17				17		26		25
54	Farrington Ave Ext E at S Pickett St	69	16	15	16	16	13	1	3	4	44	50	48	49	45	24	19	34
55	New High St at S Pickett St	23	36	51	50	49	32	32	33	32	11	18	17	17	8	10	11	10
56	S Pickett St at New Metro St	95					72		138	101	45	53		50		214	139	198
72	S Pickett St at New Main St	79	4	27	2	27	54	147	117	145	96	103	302	121	195	102	83	113
57	S Pickett St at Edsall Rd	190	239	73	61	137	64	65	175	83	58	73	39	67	339	586	443	495
58	S Pickett St at Trade Center Shopping	318	498		65	299					214	168		211	305	484		466
HIGH STREET (PROPOSED 2040)																		
59	New Landmark St at New High St	18	26		29	28						25	9	12	15	8		14
60	New High St at Stevenson Ave	44	47	36	47	42	93	39	36	46	36	61	49	53	15	22	22	20
61	New High St at Van Dorn Plaza	23		24	13	20	37	23		26					32		22	29
73	New High St at S Whiting St	12		0	2	2		40	38	39				14		10		14
62	New High St at New Main St	27		12	27	18	36	28		33				45		7		23
74	New High St at Courtney Ave Ext	18	192	122	117	140	28	27	9	17	12	9	12	9	19	18	9	14
75	New High St at New Metro Rd	22	32		30	30						16	20	18	16	12		14
76	New High St at New Warehouse St	27	26	29	29	29	22	23	14	22	46	42	20	29	44	56	29	29
77	Farrington Ave at New High St	15					29		29	29	21	12		12		2	3	2
MISCELLANEOUS INTERSECTIONS																		
63	New Landmark St at New East St	30	28		24	24						55	4	39	31	27		27
64	New Metro St at New Main St	69	19	26		23		20	12	18	154		148	150				
65	Farrington Ave at Farrington Ave Extended	27					13		2	12	11	15		15		15	2	3
78	Farrington Ave Ext at New Warehouse St	5		3	5	3	3	1		2					29		27	27
79	Farrington Ave Ext at New Metro Rd	7		4	4	4	4	3		3					18		18	18
80	Farrington Ave Ext at Courtney Ave Ext	12		9	8	8	3	3		3					47		46	46
81	New Metro Rd at Van Dorn St NB Off-Ramp	9	15		7	7						10		10		8		8
82	New Station Pkwy at Metro Bus Loop	108					112		121	118	10	11		11		203	198	202
83	New Presidential Pkwy at New Victory Dr	15	24		6	11						14	15	15	19	8		16
84	New Presidential Pkwy at New Bush Hill Dr	27	22		11	18						36	38	36	25	6		10
85	New Presidential Pkwy at Clermont Ave	22	16		7	12						44	17	24	32	29		30
66	I-495 OL Off-Ramp to Eisenhower Ave Conn	7					5			5	10			10				

■ = New intersections for 2040 Build scenario

Figure 8.22 – Change in AM Peak Hour Delay (sec/veh) – 2040 Build with No Bridge & Mitigation vs. 2040 Build with No Bridge, No Mitigation

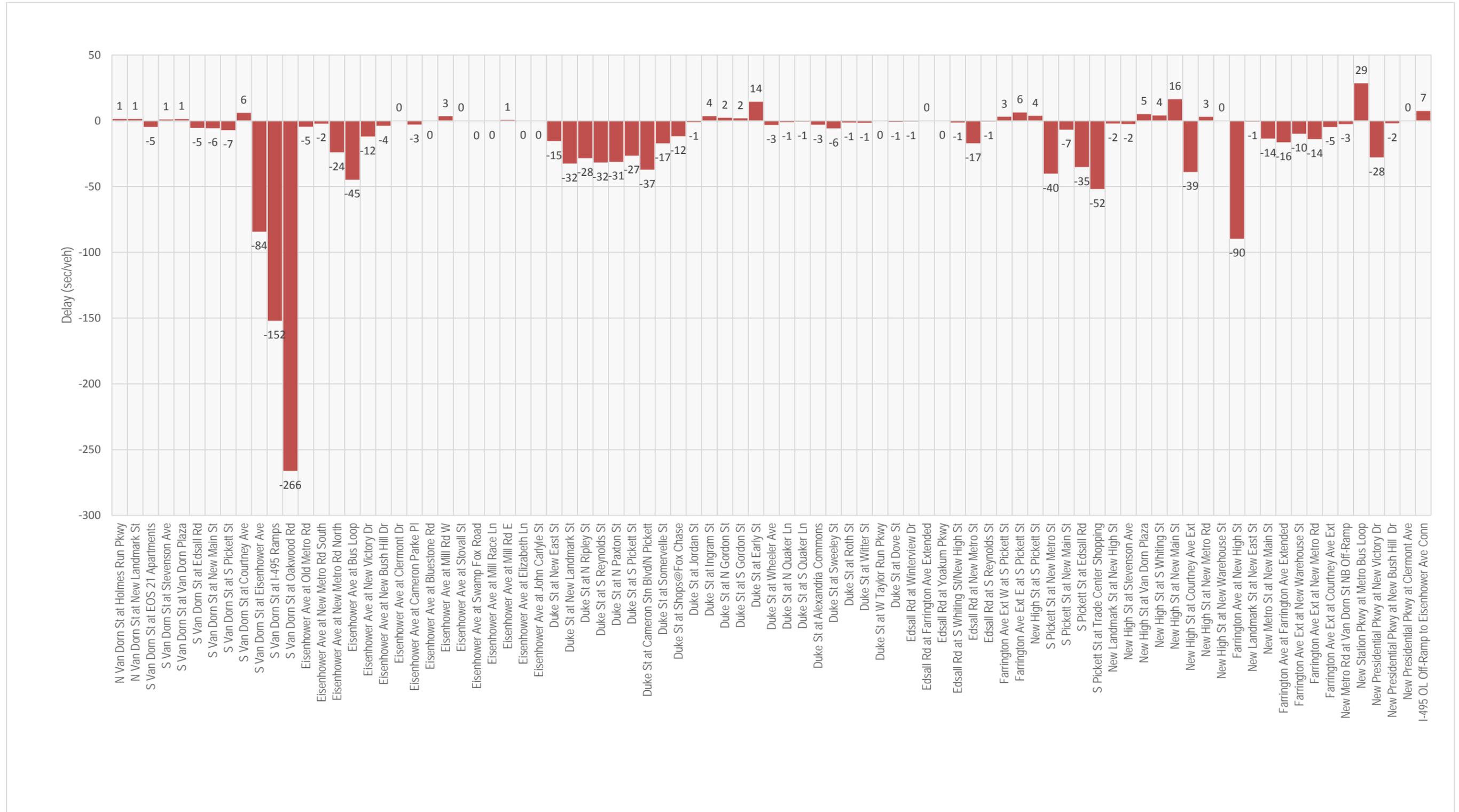
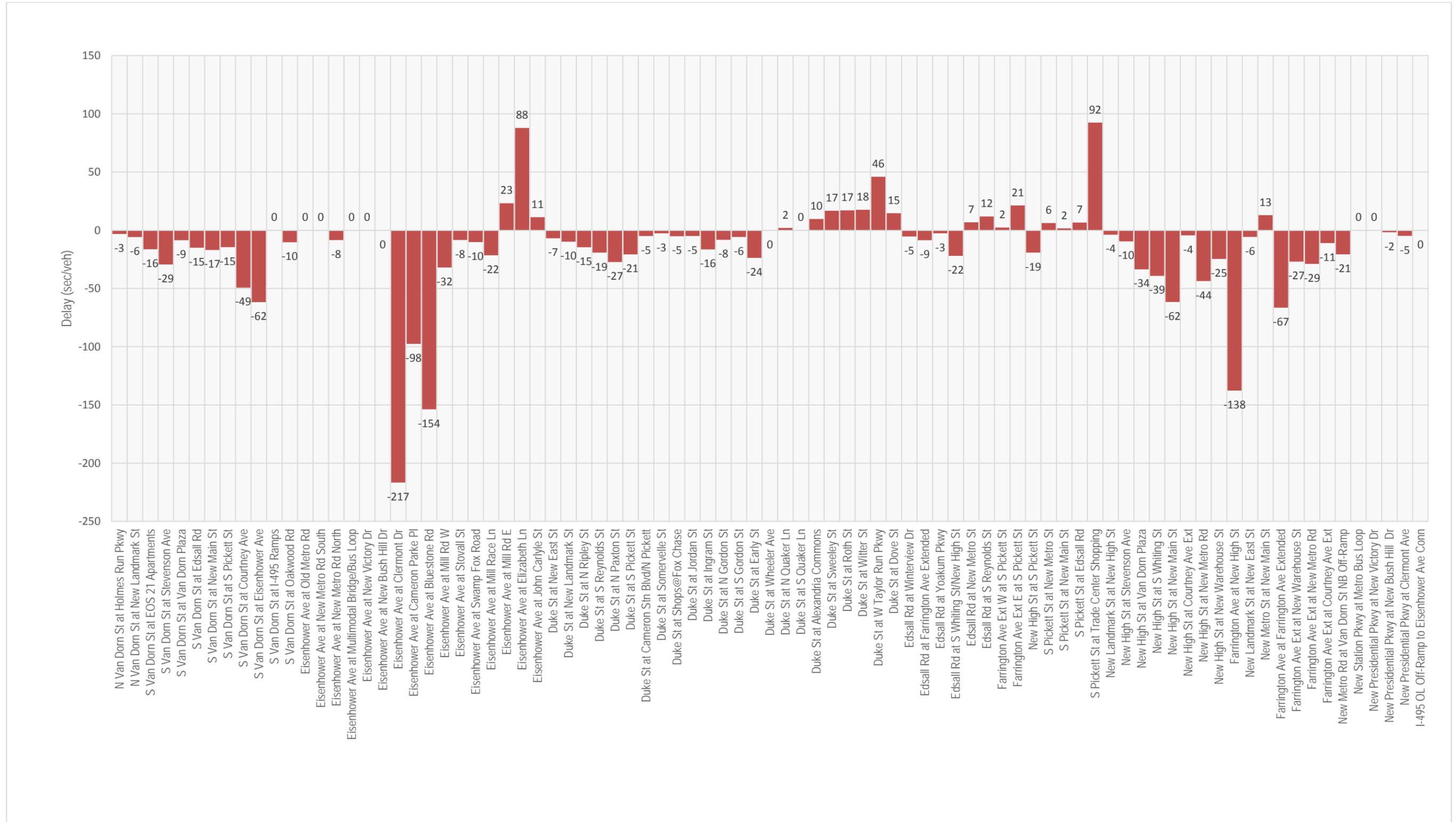


Figure 8.23 – Change in PM Peak Hour Delay (sec/veh) – 2040 Build with No Bridge & Mitigation vs. 2040 Build with No Bridge, No Mitigation



9 Conclusions

The evaluation of the Year 2040 Baseline Conditions for the Eisenhower West Transportation Study (EWTS) assumed several programmed transportation network and transit operations improvements would be implemented by 2040. Traffic volumes are projected to increase due to the completion of planned developments within and near the study area under current zoning. Based on these assumptions, there would be three (3) intersections operating at level of service (LOS) F only during the AM peak hour and one (1) intersection operating at LOS F during both the AM and PM peak hours under 2040 Baseline conditions. The analysis of I-495 traffic operations under Year 2040 Baseline conditions near the study area show the freeway segments as well as the segments within the ramp merge and diverge areas of influence would operate at LOS E or better during the AM and PM peak hours.

Under the 2040 Build scenario with the Multimodal Bridge, with its additional development beyond the levels approved under 2040 Baseline, there would be 10 intersections operating at LOS F during the AM peak hour and 13 at LOS F during the PM peak hour. If the planned Multimodal Bridge connecting to the Van Dorn Street Metrorail Station is not built, there would be 13 intersections operating at LOS F during the AM peak hour and 21 intersections at LOS F during the PM peak hour. Additionally, travel times along the Van Dorn Street and Eisenhower Avenue corridors would be significantly worse if the Multimodal Bridge is not built. **Table 9.1** shows a comparison of the number of intersections that would operate at LOS D, E or F during the AM or PM peak hours in 2040 under Baseline conditions as well as the various Build scenarios.

Since traffic operations under the 2040 Build scenario would be worse at several locations compared to the 2040 Baseline conditions, the implementation of some traffic impact mitigation options may be justified. These options include geometric improvements and signal timing optimization at a few select locations as determined by the traffic analysis. The results of the analysis with mitigation indicate these options would reduce delay and improve travel times at the specific improvement locations as well as elsewhere in the transportation network.

Table 9.1 – Summary of Intersections Operating at LOS D, E or F

	AM Peak Hour				PM Peak Hour			
	LOS D	LOS E	LOS F	Total	LOS D	LOS E	LOS F	Total
2040 Baseline with Multimodal Bridge	8	0	4	12	9	6	1	16
2040 Build with Multimodal Bridge	16	8	10	34	16	15	13	44
2040 Build with No Multimodal Bridge	15	11	13	39	17	19	21	57
2040 Build with Multimodal Bridge and Mitigation	7	2	5	14	16	6	2	24
2040 Build with No Multimodal Bridge and Mitigation	11	10	9	30	12	13	16	41

The following is a brief summary of the key trends exhibited by these traffic analysis results:

- The highest number of congested intersections would occur with No Multimodal Bridge and No Mitigation.
- The fewest number of congested intersections would occur by building the Multimodal Bridge and providing Mitigation at select locations
- Providing Mitigation at select locations without building the Multimodal Bridge would still result in a high number of congested intersections.