



I-95 Corridor Transit and TDM Plan

Technical Memorandum #1: Existing Service Characteristics

DRAFT

Prepared for:



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1.0 Introduction

Virginia is addressing critical transportation needs for the I-95 Corridor. Through a concurrent package of improvements, the Commonwealth will deliver congestion relief, enhance transit and provide new choices on I-95. These concurrent efforts related to the overall strategy to enhance travel and safety are listed below.

1. I-95 HOT/HOV Lanes
2. VDOT Seminary HOV/Transit ramp
3. Transit Improvements

The *I-95 Corridor Transit and TDM Plan* is being developed to provide the Commonwealth of Virginia with recommendations for transit and Transportation Demand Management (TDM), including both operations and capital investments, to complement the I-95 HOT/HOV Lanes improvements. It pivots off of the 2008 DRPT *I-95/I-395 Transit/TDM Study*. This plan is being developed with the intent of maximizing utilization of the HOT/HOV lanes network and responding to the demand for increased public transportation and ridesharing.

The *I-95 Transit and TDM Plan* is being developed in collaboration with the Secretary of Transportation and the Virginia PPTA (Public-Private Transportation Act) Office. A multi-jurisdictional Stakeholder Group was formed early in the study process to provide technical input into the study, with meetings at three key points during the course of the study.

This first Technical Memorandum presents an analysis of existing service characteristics and transit, parking and TDM program needs for the I-95 corridor. Specifically, it addresses:

- A description of the current I-95 HOT/HOV lane project;
- Demographic characteristics and trends in the corridor;
- Existing and future travel pattern characteristics;
- Descriptions of existing transit services in the I-95 corridor (Fairfax Connector, WMATA, PRTC, FRED, Quick's, Martz and VRE);
- Corridor park-and-ride lot locations and utilization;
- TDM programs provided in the corridor; and
- Anticipated transit, parking and TDM program needs.

2.0 I-95 HOT/HOV Lane Project Definition

The Virginia Department of Transportation (VDOT) is advancing a new I-95 High Occupancy Vehicle/High Occupancy Toll (HOT/HOV) Lanes project to provide additional HOV and HOT capacity in the corridor and to create a seamless network for travelers along I-95 and I-495. In 2005, VDOT entered into an agreement with Fluor-Transurban to develop a HOV/Bus/HOT lanes system along I-395 and I-95 from the Pentagon area in Arlington County to Spotsylvania County. The project was delayed and VDOT has since decided to move forward with a redefined project. The new I-95 HOT/HOV Lanes project will create continuous HOT/HOV lanes on I-95 from the vicinity of Edsall Road on I-395 in Fairfax County to just south of US 17 (Mills Drive, south of Fredericksburg) in Spotsylvania County.

The portion of the project that is to be completed by 2015 will include the following:

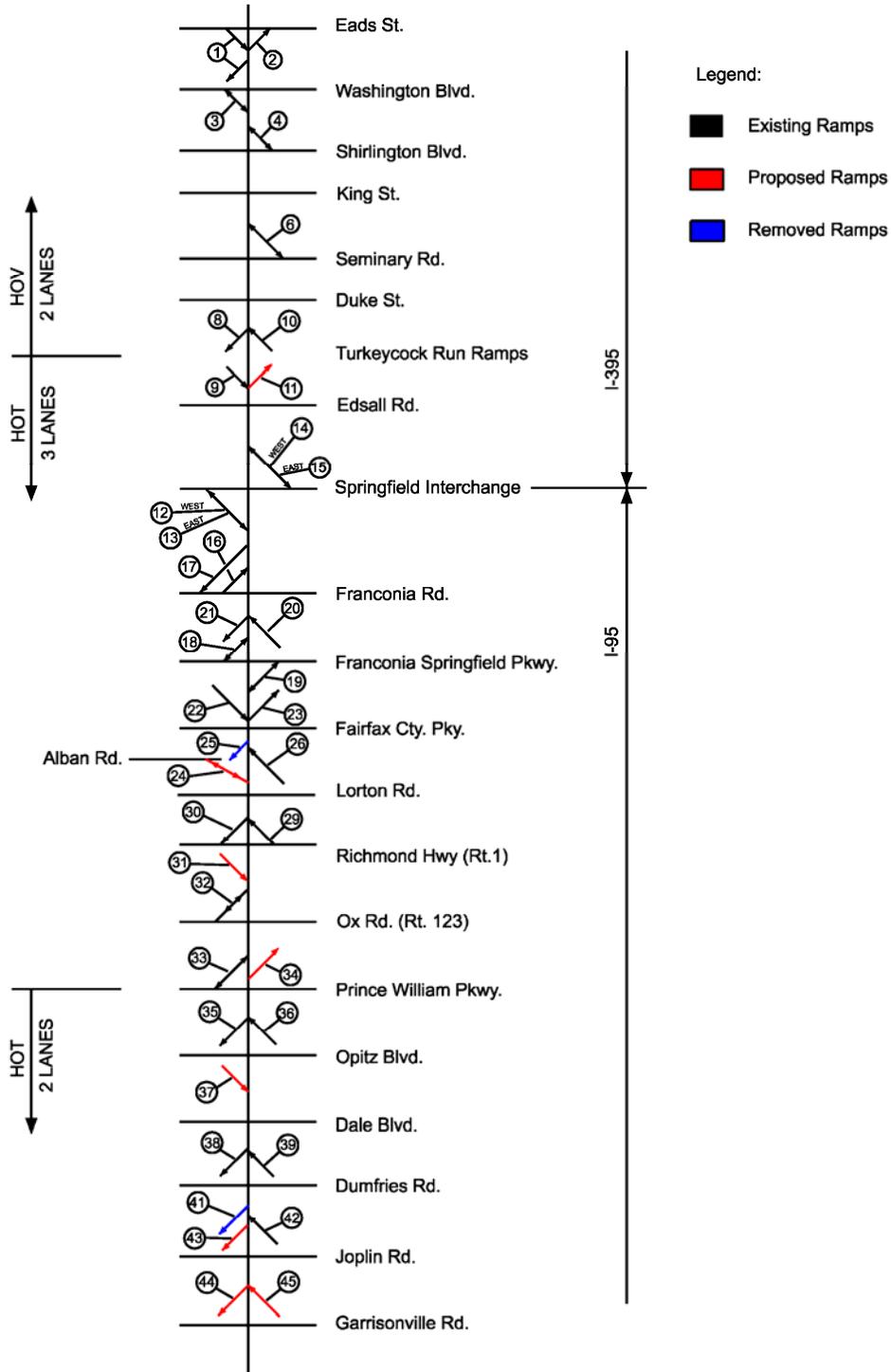
- Constructing two new reversible HOT/HOV lanes for nine miles from Route 610/Garrisonville in Stafford County to Route 234 in Dumfries, where the existing HOV lanes begin
- Widening of the existing HOV lanes from two to three lanes for 14 miles from Prince William Parkway to approximately two-miles north of the Springfield Interchange, in the vicinity of Edsall Road
- Improvements to the existing two HOV lanes for six miles from Route 234 to the Prince William Parkway
- New or improved access points between the HOT/HOV lanes and the general purpose lanes
- New access between the HOT/HOV lanes and Fairfax County Parkway (at Boudinot Road)

Access points between HOT/HOV lanes and general purpose lanes are illustrated in **Figure 2-1** (schematic provided by VDOT). This project will create the following new access points:

- For southbound traffic, new flyover ramp access from HOT/HOV lanes to general purpose (GP) lanes between Joplin Road and Garrisonville Road
- For northbound traffic, new access from GP lanes to HOT/HOV lanes between Garrisonville Road and Joplin Road
- Removal of existing southbound access from HOV lanes to general purpose lanes south of Dumfries Road, and constructing a new flyover access ramp further south
- For southbound traffic, new access from GP lanes to HOT/HOV lanes south of Opitz Blvd.
- For northbound traffic, access from HOT/HOV lanes to GP lanes north of Prince William Pkwy
- For southbound traffic, new ramp access from GP lanes to HOT/HOV lanes south of Richmond Hwy (Route 1)
- For northbound traffic, flyover ramp access from HOT/HOV lanes to Boudinot Drive in the a.m. In the p.m., traffic flows are reversed, providing access from Boudinot Drive to southbound HOT/HOV lanes
- For northbound traffic, new flyover ramp access from HOT/HOV lanes to GP lanes north of Edsall Road

**Figure 2-1
HOT/HOV Lane Access Schematic**

I-95 HOV / HOT Lane Ramps



Carpools with three or more people, vanpools and transit vehicles will have free access to the HOT/HOV Lanes network. The estimated cost of Phase 1 is \$1 billion, and is being financed, constructed and operated under Virginia's Public-Private Transportation Act.

The HOT/HOV lanes are to eventually be extended south to Spotsylvania County, with construction completed in 2018. Two new HOT/HOV lanes are to be constructed in the median of I-95 from Route 610/Garrisonville to US 17 (the Massaponax exit) in Spotsylvania County. Access ramps between HOT/HOV Lanes and general purpose lanes will generally be provided between each interchange.

Dynamic tolling will be used to adjust HOT lane tolls based on real time traffic conditions, video technology to identify accidents, a series of electronic signs to communicate with drivers and state troopers to ensure enforcement. These strategies are to maintain travel speeds, make travel times more predictable and significantly reduce violators.

VDOT is also proceeding with a separate project. A new HOV ramp is to be constructed at the Mark Center at I-395 and Seminary Road. This ramp will provide access to the third level of the I-395/Seminary Road interchange. Access to the third level will provide HOVs and buses with more direct access to the Mark Center via Seminary Road and Mark Center Drive. This project is to be completed by 2015 at an estimated cost of \$80 million. This project will complement other short and mid-term improvements to the arterial street network that are to be implemented in conjunction with the BRAC 133 project at the Mark Center.

3.0 Demographic Characteristics and Trends

The I-95 corridor is approximately 56-miles in length, from US 1 and I-95 near Massaponax in the south to the Potomac River in the north. The I-95 HOT/HOV lane project traverses Spotsylvania, Stafford, Prince William and Fairfax Counties. For purposes of documenting demographic trends, Arlington County and the City of Alexandria have been included. Demographic characteristics were determined for an area approximately 5-10 miles on either side of I-95 and I-395. For the purpose of this analysis, the study area is split into two sections:

- Northern Corridor, including Prince William, Fairfax, and Arlington Counties. The Northern Corridor is shown in **Figure 3-1**.
- Southern Corridor, including Spotsylvania and Stafford Counties. The Southern Corridor is shown in **Figure 3-2**.

3.1 Demographic Characteristics and Trends

The Metropolitan Washington Council of Governments (MWCOG) and Fredericksburg Area Metropolitan Planning Organization (FAMPO) regional travel demand forecast models were used for determining existing and future demographic characteristics. Population and employment characteristics were determined for the years 2011, 2015 and 2035. Demographic data for the northern portion of the corridor was obtained from the MWCOG, used in the approved 2010 Constrained Long Range Transportation Plan, Version 2.2, Round 8. Demographic data files were provided by MWCOG for the years 2011, 2020, 2030 and 2040. Estimates for 2015 and 2035 were developed through interpolation of the MWCOG databases. Demographic data for the southern portion of the corridor was obtained from the FAMPO data used in the FAMPO 2035 Long-Range Transportation Plan. Demographic data files were provided by FAMPO for the years 2006, 2009, 2015, 2025 and 2035. Estimates for 2011 were developed through interpolation of the 2009 and 2015 databases.

This section summarizes population and employment projections for the entire study area comprised of the Northern and Southern Corridors. Data on the figures included in this section are presented at the traffic analysis zone level (TAZs).

Figure 3-1: Northern Study Corridor

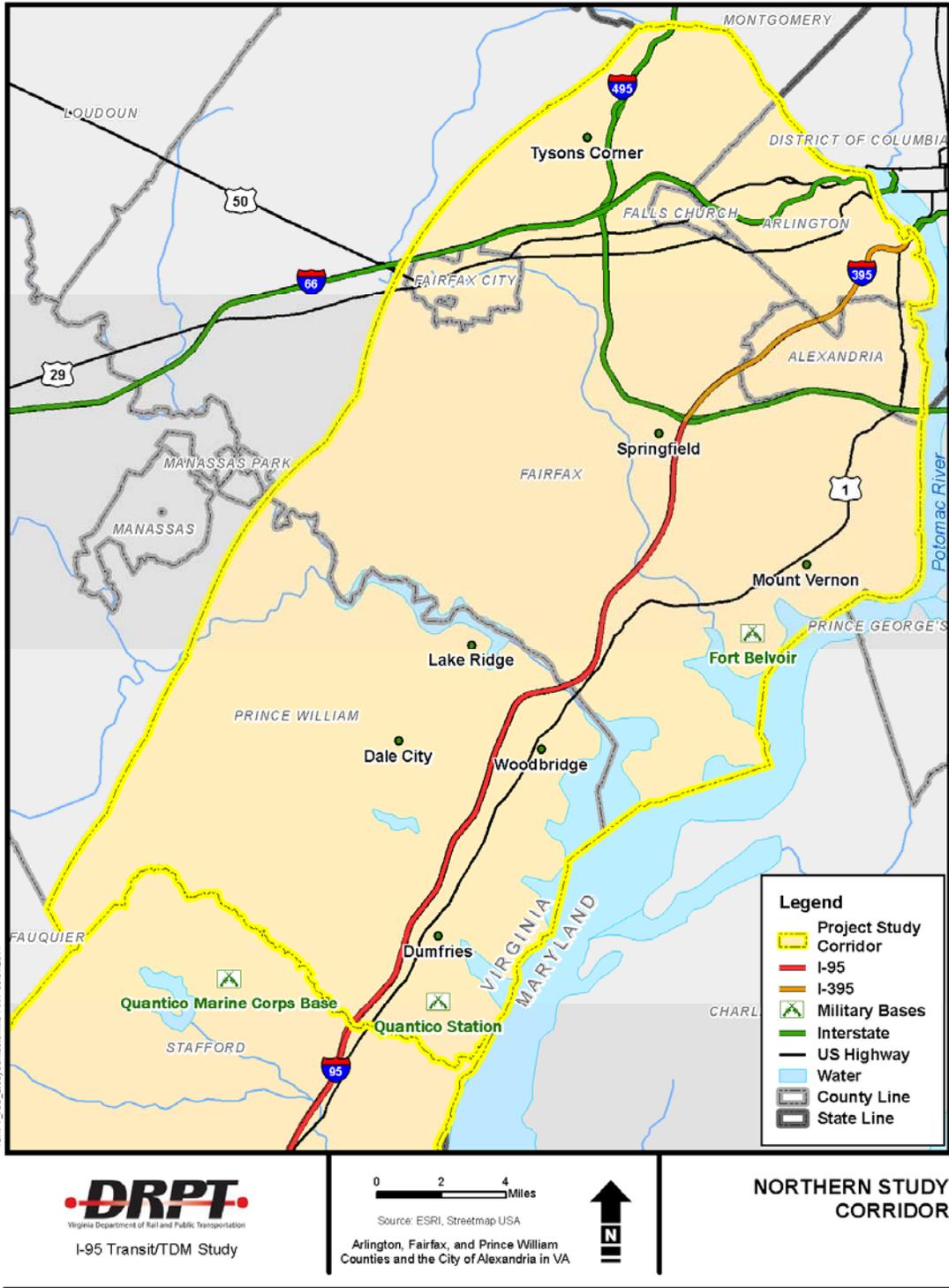
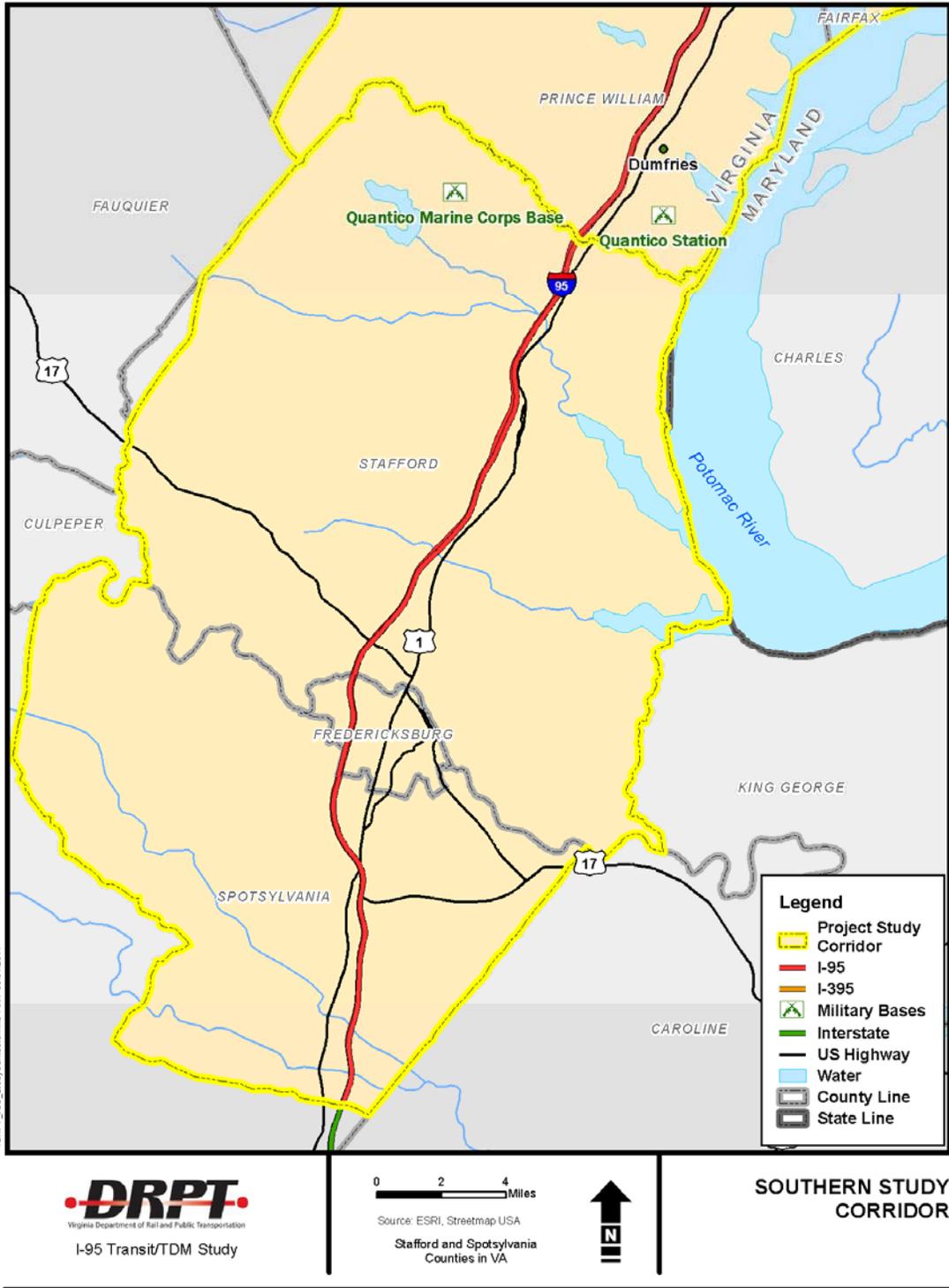


Figure 3-2: Southern Study Corridor



3.1.1 Study Area Population and Employment Forecast

As shown in **Table 3-1**, the estimated 2011 population in the study area is 1.7 million. Estimated employment is 1 million. By 2015, the projected population increases to 1.8 million and employment increases to 1.1 million. By 2035, the population will increase to 2.2 million and employment will increase to 1.3 million.

Table 3-1: Projected Population and Employment in the Study Area (2011, 2015, and 2035)

Population	2011	2015	2035
Northern Corridor	1,424,204	1,488,631	1,683,079
Southern Corridor	306,820	341,206	509,056
Total	1,731,024	1,829,837	2,192,135
% Change from 2011	n/a	5.71%	26.64%
Employment	2011	2015	2035
Northern Corridor	900,535	967,317	1,159,685
Southern Corridor	118,343	130,049	182,530
Total	1,018,877	1,097,366	1,342,215
% Change from 2011	n/a	7.70%	31.73%

Source: MWCOC, FAMPO

The majority of residents and employment will continue to be concentrated in the Northern Corridor, with a slight shift to Southern Corridor between today and 2035. As shown in **Table 3-2**, in 2011, the Northern Corridor accounts for 82.3 percent of population in the study area, but is expected to decrease to 76.8 by 2035. Northern Corridor employment accounts for 88.4 percent of all jobs, but is expected to decrease to 86.4 percent by 2035.

Table 3-2: Projected Population and Employment in the Study Area as Percentage of Total (2011, 2015, and 2035)

Population	2011	2015	2035
Northern Corridor	82%	81%	77%
Southern Corridor	18%	19%	23%
Total	100%	100%	100%
Employment	2011	2015	2035
Northern Corridor	88%	88%	86%
Southern Corridor	12%	12%	14%
Total	100%	100%	100%

Source: MWCOC, FAMPO

As noted above, corridor employment is anticipated to grow at a faster rate than corridor population. Depending on the location of employment, this may help reduce commuter trip distances. However,

the data presented in this Tech Memo suggests that long-distance commuter trips will continue to be predominant in the I-95 corridor for the foreseeable future, and that additional commuter transit services and facilities will be needed to accommodate these trips. A significant change in land use practices and policies would be needed to alter home-to-work trip characteristics in this corridor.

Population and employment characteristics of the Northern and Southern Corridors are described in more detail in the following sections.

3.2 Northern Corridor Characteristics (Fairfax and Prince William Counties)

3.2.1 Population Density

Figures 3-3 through **3-5** illustrate population density along the Northern Corridor in 2011, 2015, and 2035. Arlington County, the City of Alexandria, and areas near Washington, D.C. have the highest population density, with more than 10,000 residents per sq. mile. By 2035, population density in parts of Woodbridge, Dale City, and Lake Ridge in Prince William County is projected to increase dramatically. TAZs in close proximity to the I-95 corridor are among those showing the greatest increases in population density.

3.2.2 Annual Population Growth

Figures 3-6 and **3-7** show the projected annual population growth. **Figure 3-6** shows that the high growth areas between 2011 and 2015 will be located along I-95 in Prince William County, particularly in Woodbridge and Dale City, both with annual population growth of four percent or more. In Fairfax County, Lorton and Fort Belvoir are projected to experience the highest population growth. Tysons Corner, targeted for high density, mixed-use redevelopment, is another high population growth location in Fairfax County. Not all areas in the Northern Corridor will continue to experience a population boom. Parts of Arlington County, zones in the City of Alexandria, and some rural zones in Fairfax County will not experience significant population gains on par with the above mentioned areas in the 2011-2015 period (although the areas around U.S. 1 in Alexandria are projected to experience high population growth).

The annual population growth from 2015 to 2035, while still relatively high, is projected to level off in many areas projected to experience high population growth between 2011 and 2015. As shown in **Figure 3-7**, the areas expected to continue growing at a very high rate of annual population growth (four percent or more) include areas along I-95 in Fairfax and Prince William Counties (particularly Springfield, Lorton, and Fort Belvoir in Fairfax County and Woodbridge, Dale City, and Lake Ridge in Prince William County). In the I-495 Beltline area, Tysons Corner is projected to continue to attract new residents at an annual growth rate of four percent or more.

Figure 3-3: 2011 Population Density - Northern Corridor

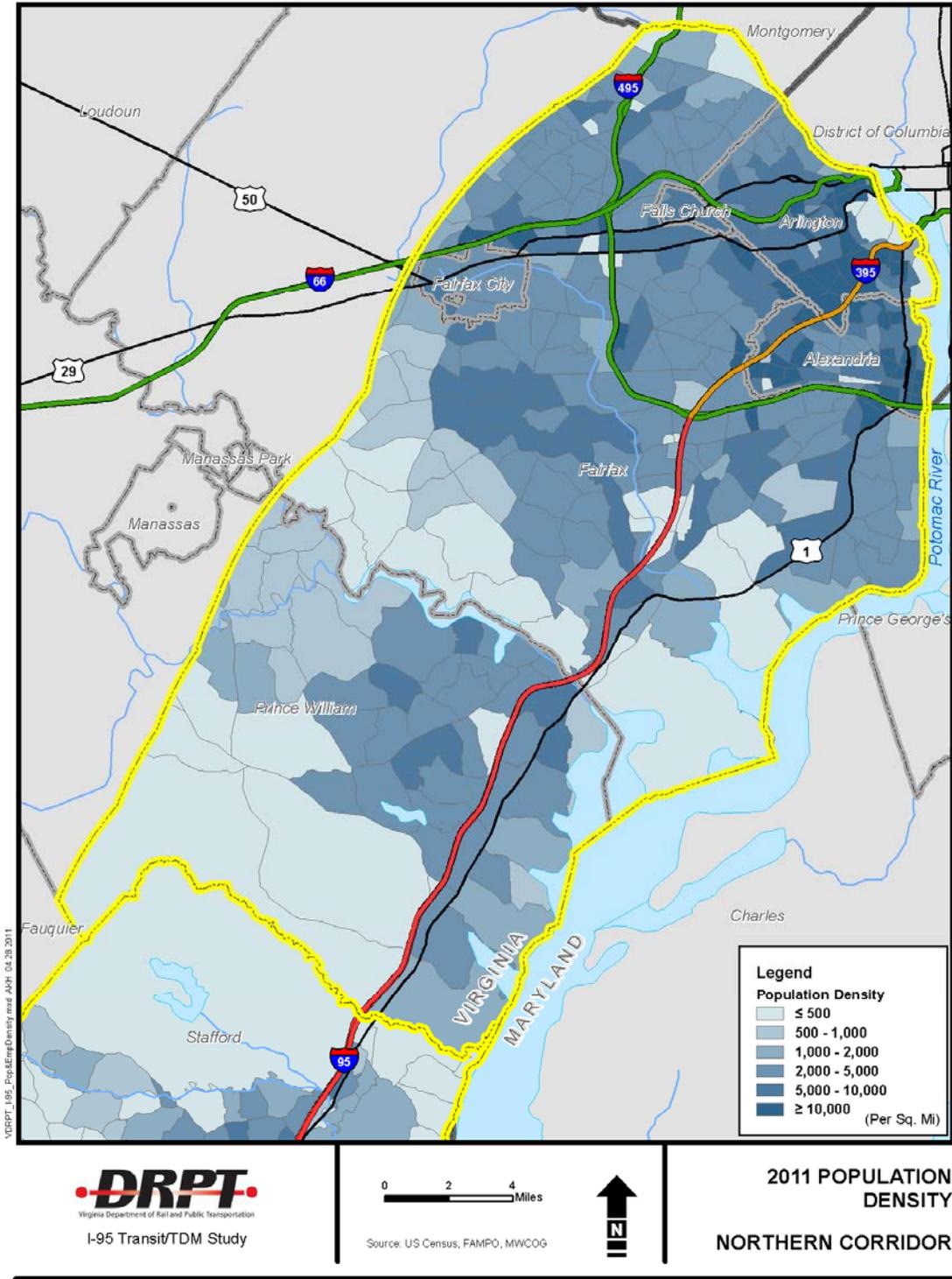


Figure 3-4: 2015 Population Density - Northern Corridor

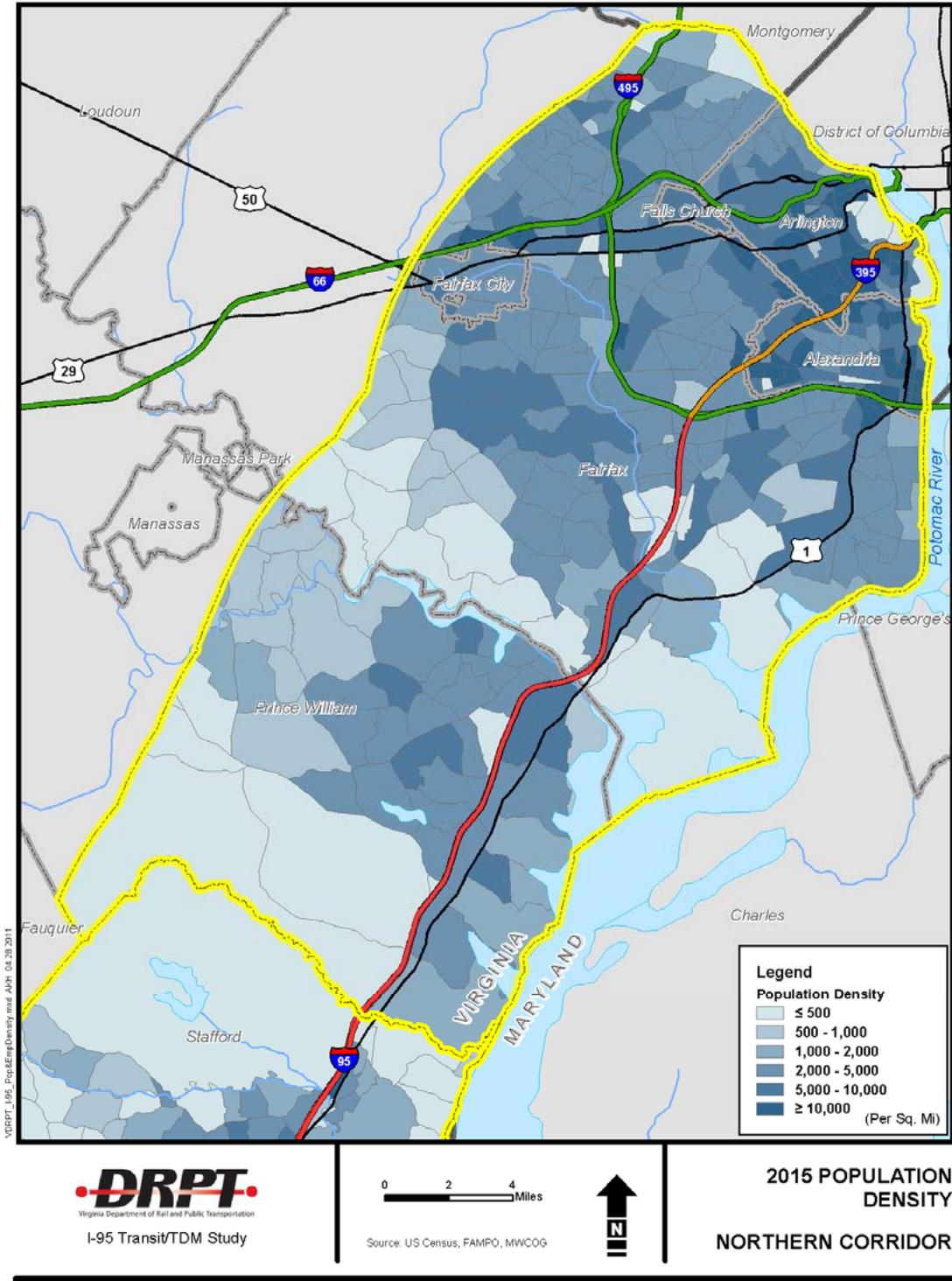


Figure 3-5: 2035 Population Density - Northern Corridor

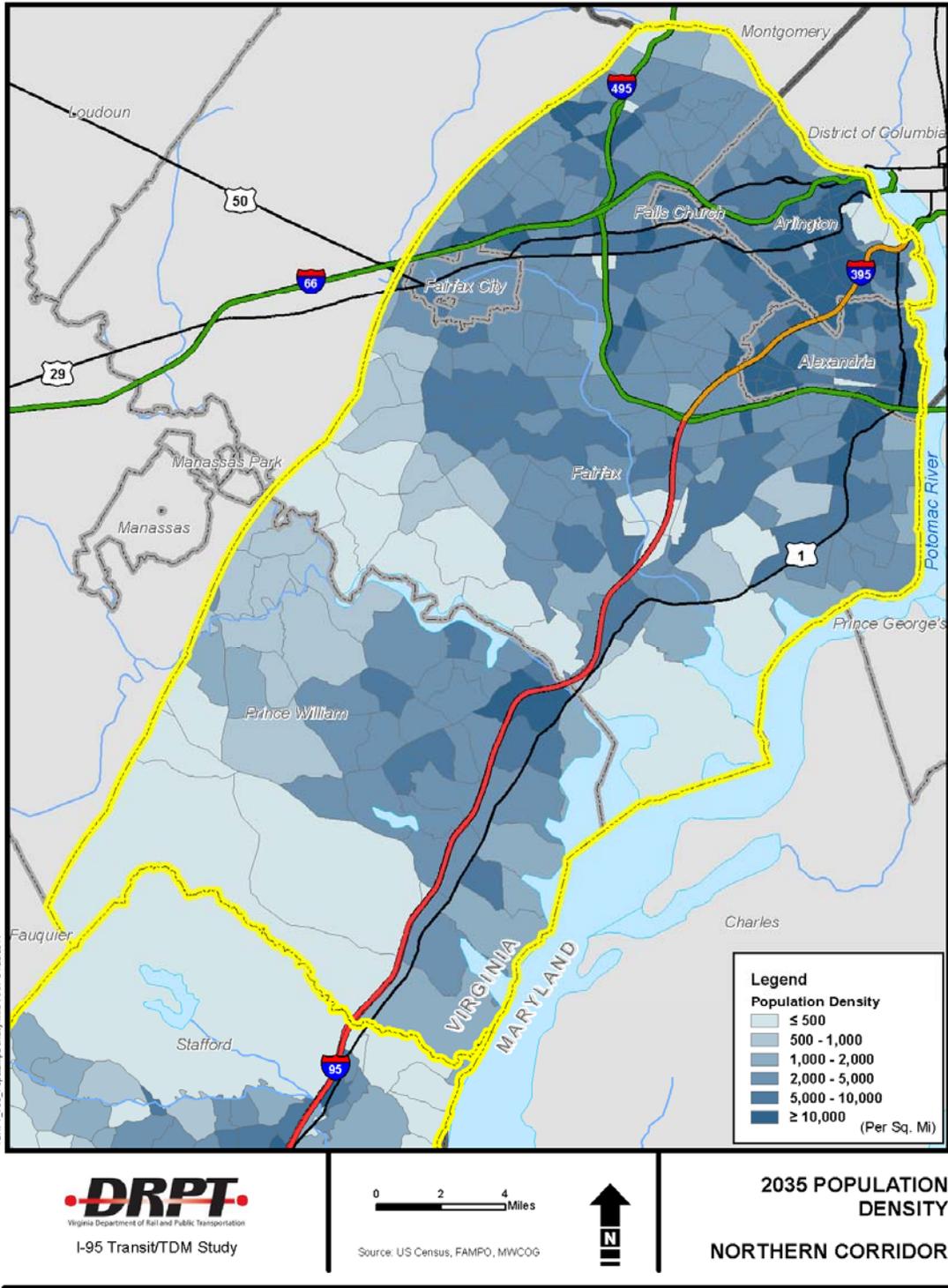


Figure 3-6: 2011-2015 Annual Population Growth - Northern Corridor

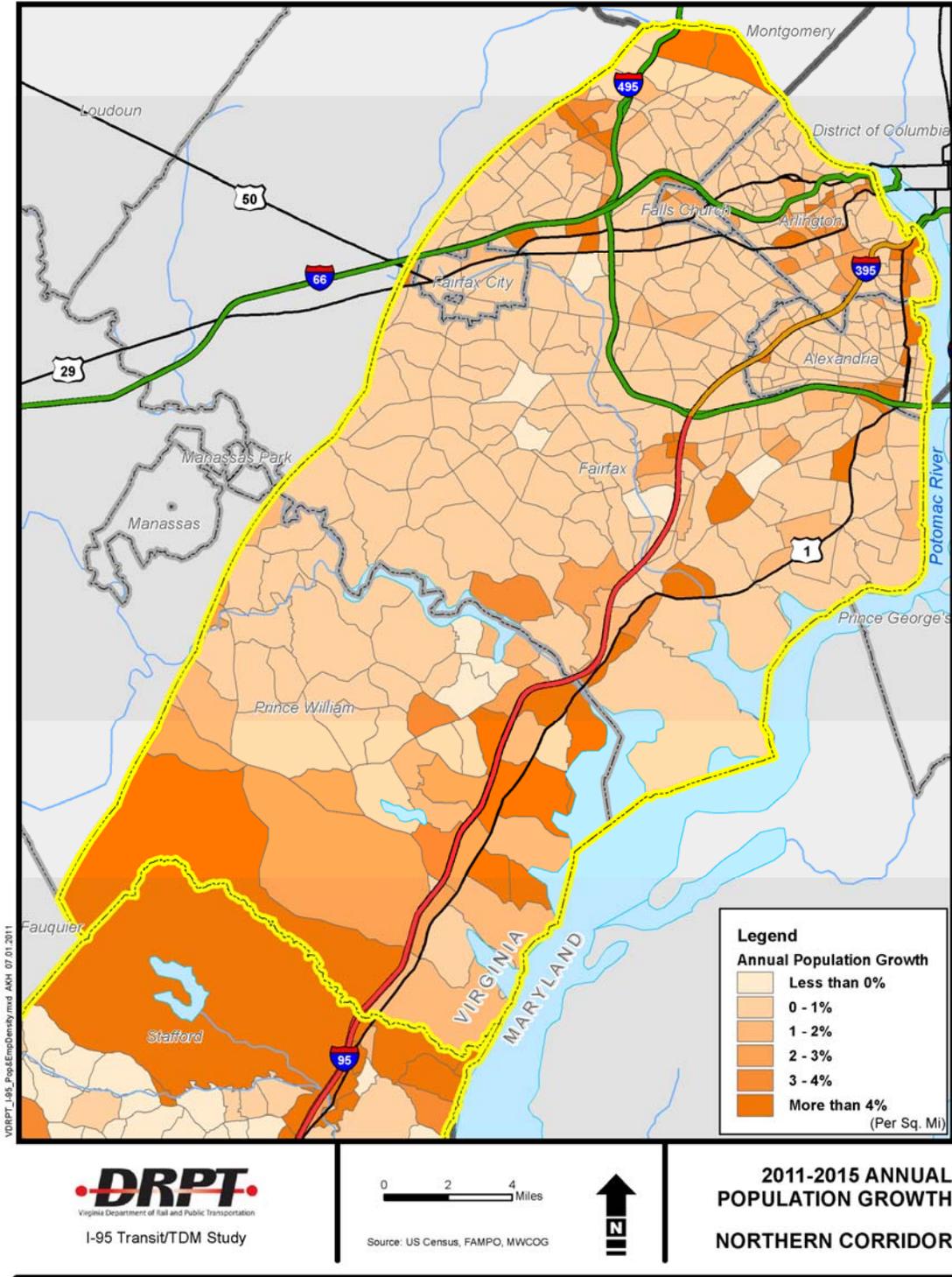
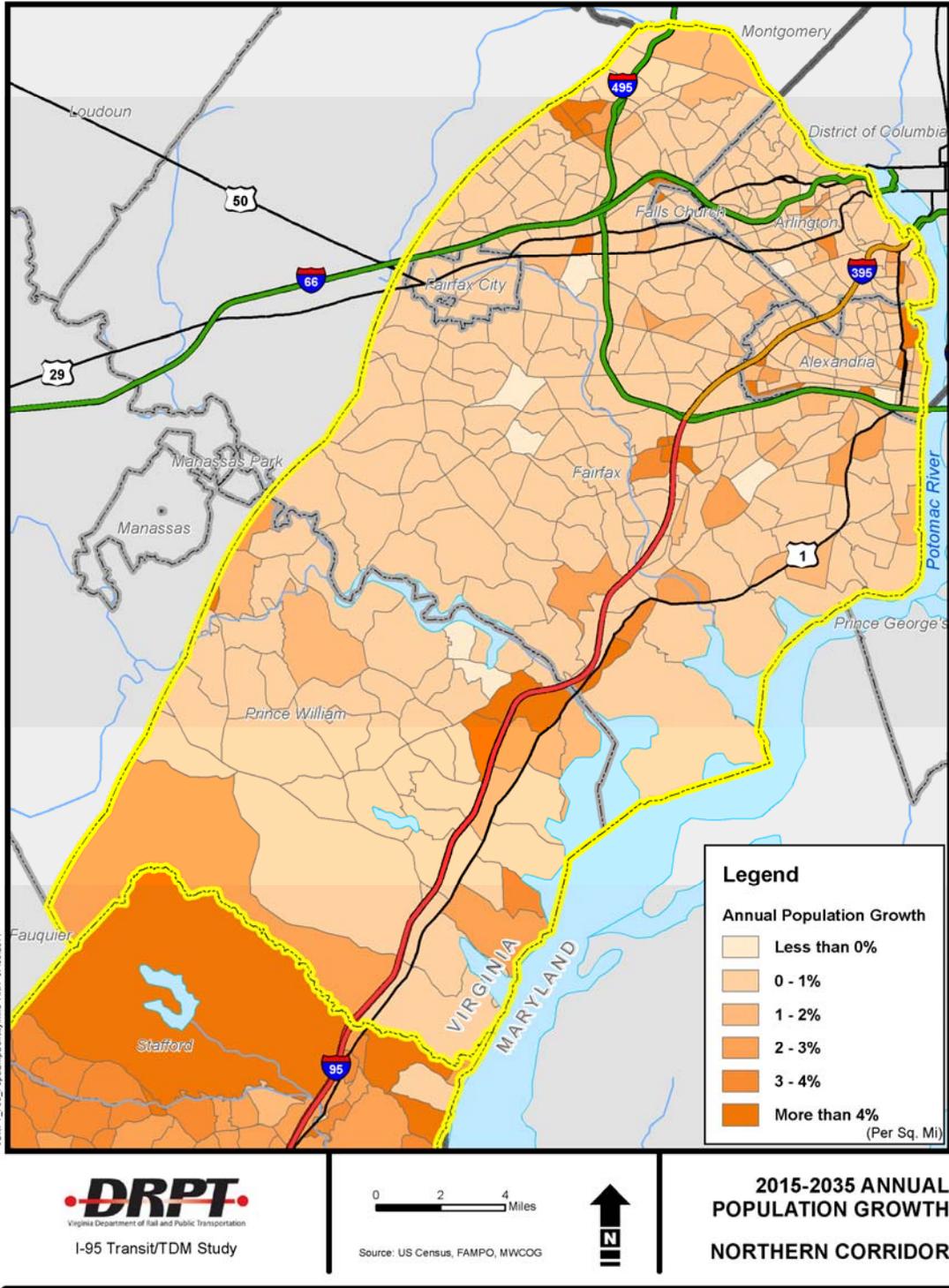


Figure 3-7: 2015-2035 Annual Population Growth - Northern Corridor



3.2.3 Employment Density

As shown in **Figures 3-8** through **3-10**, employment density in 2011, 2015, and 2035 generally follows population patterns. Zones in Arlington County, the City of Alexandria, Fairfax City, Tysons Corner, and Fort Belvoir are projected to have the highest employment density (more than 10,000 jobs per square mile). The highest concentration of employment in Prince William County in all forecast years is projected along the I-95 corridor. The lowest projected employment density is in the rural zones.

3.2.4 Annual Employment Growth

Figures 3-11 and **3-12** show the projected annual employment growth in the Northern Corridor. As shown in **Figure 3-11**, the highest 2011-2015 annual employment growth areas (annual growth of three percent or more) will be along I-95 in Prince William County, particularly in Woodbridge and Dale City. In Fairfax County, the Fort Belvoir area is projected to experience the highest employment growth. Notably, by September 2011, the U.S. Army plans to relocate about 8,500 jobs to Fort Belvoir North Area and 6,400 jobs to the Mark Center in Alexandria as part of the Base Realignment and Closure (BRAC). Once the BRAC relocation is complete, employment at Fort Belvoir, the Fort Belvoir North Area and the Mark Center will total more than 43,000. **Figure 3-12** shows that between 2015 and 2035, high employment growth is projected along the I-95 corridor in Prince William County, and U.S. 1 corridor from Fort Belvoir to the I-495 interchange.

3.2.5 Minority Populations

Figure 3-13 presents the percent of minority populations for the Northern Corridor at the census block group level. This 2005 - 2009 data was obtained from the American Community Survey (ACS).

3.2.6 Households Below Poverty Level

Figure 3-14 presents the percent of households below the poverty level for the Northern Corridor at the census block group level. This 2005 - 2009 data was obtained from the American Community Survey (ACS). Poverty level definitions vary depending on household size. For example, the Census-defined poverty level in 2009 for a four-person household was approximately \$22,000.

Figure 3-8: 2011 Employment Density - Northern Corridor

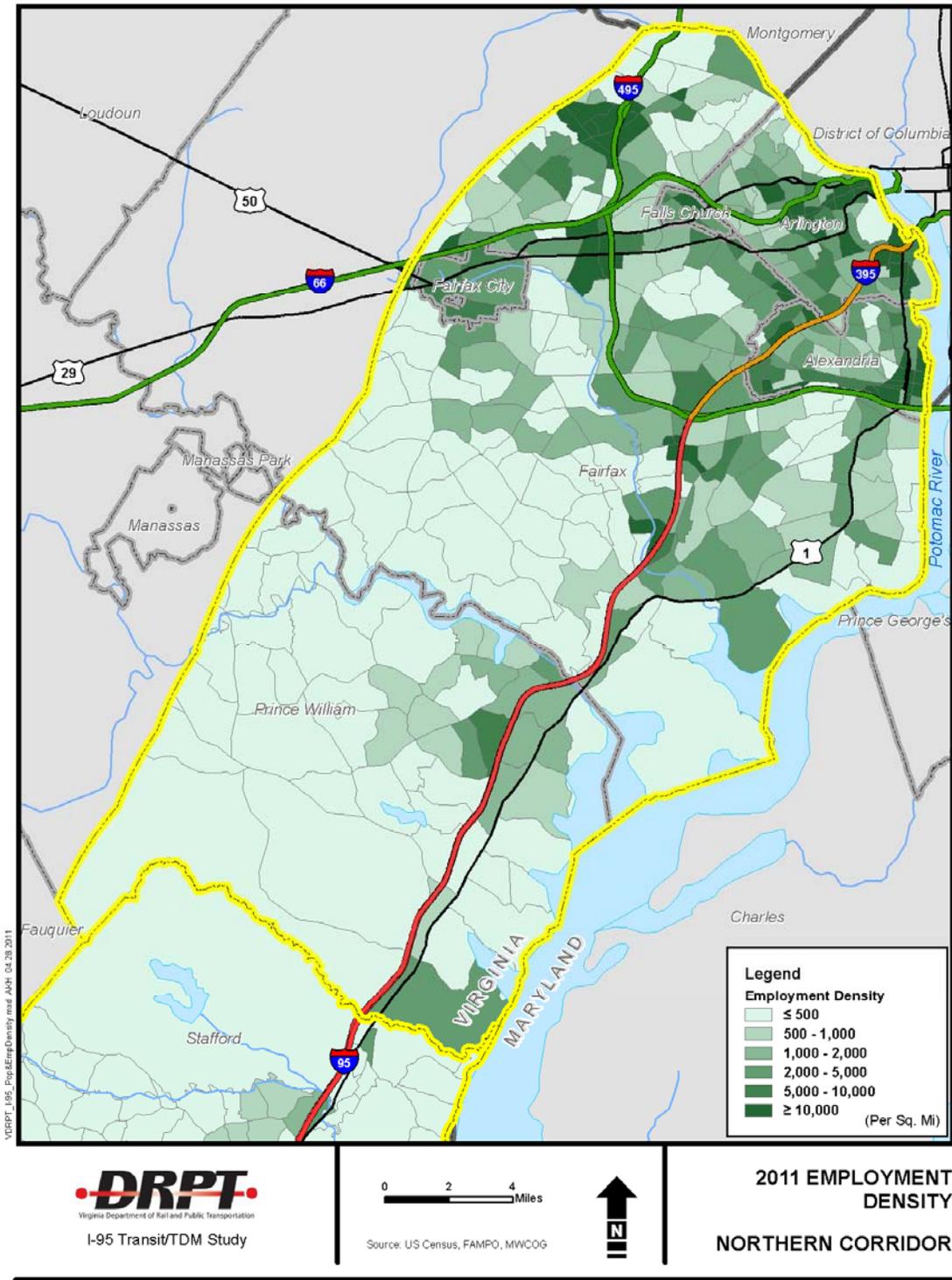


Figure 3-9: 2015 Employment Density - Northern Corridor

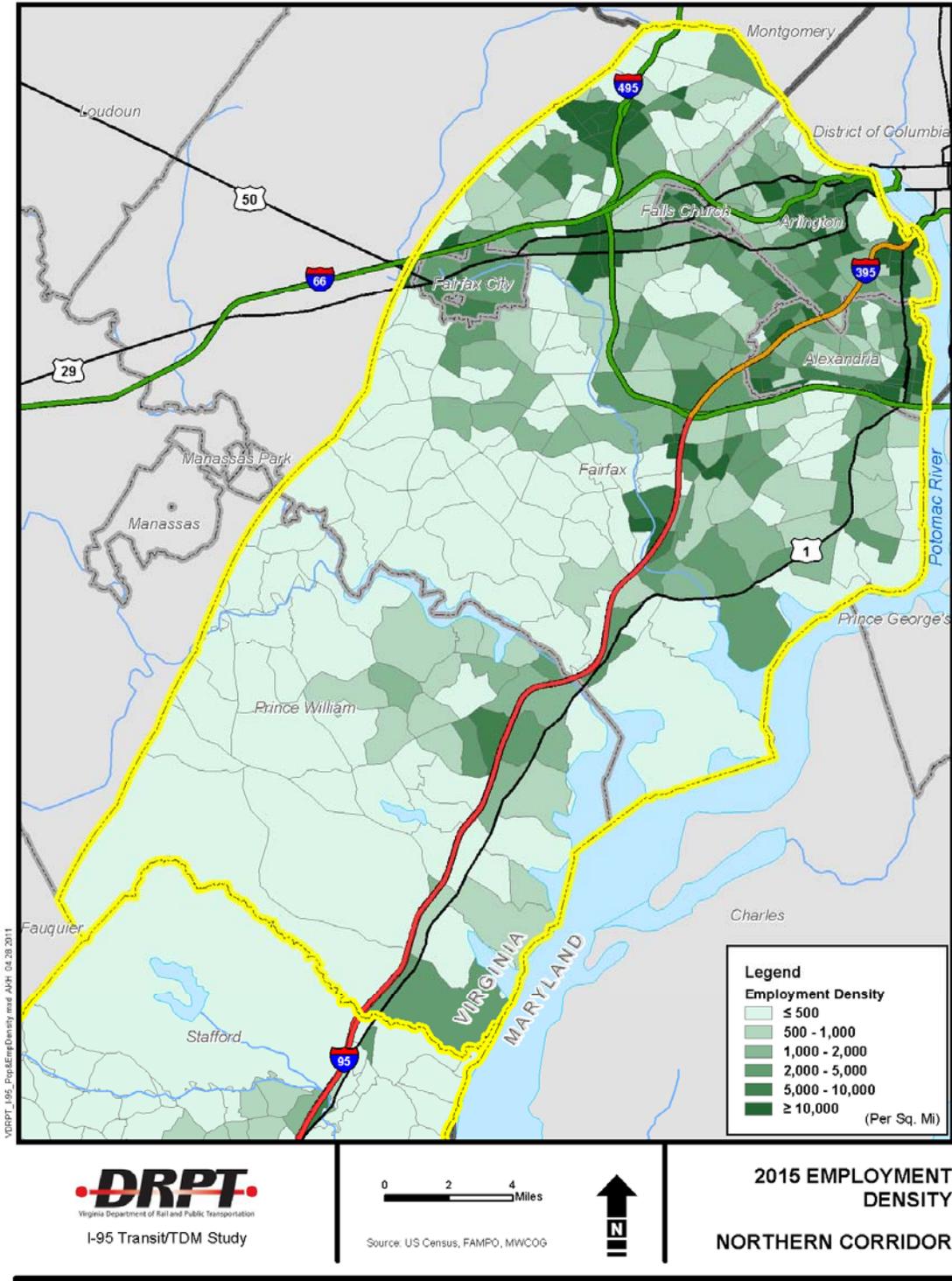


Figure 3-10: 2035 Employment Density - Northern Corridor

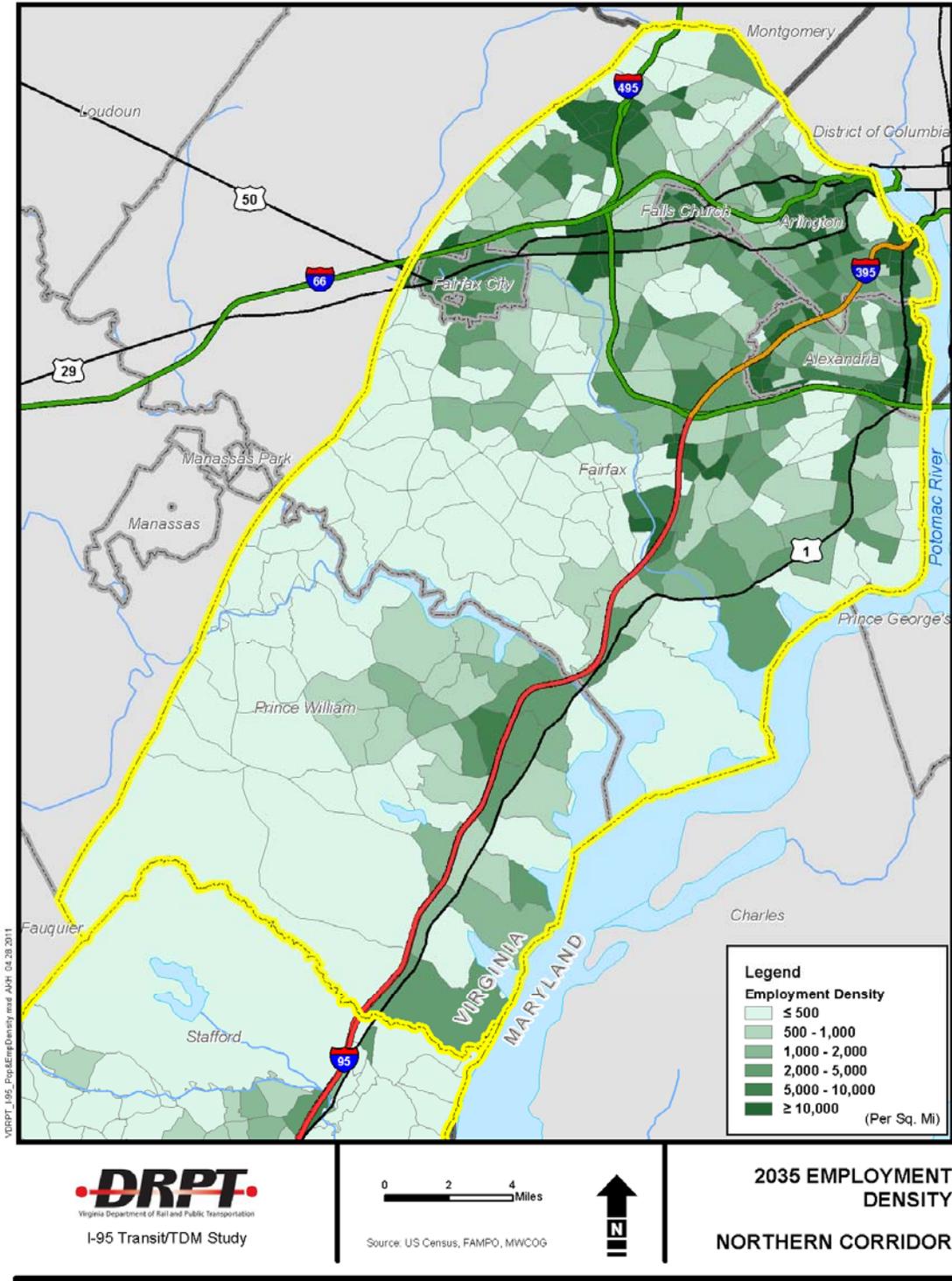


Figure 3-11: 2011-2015 Annual Employment Growth - Northern Corridor

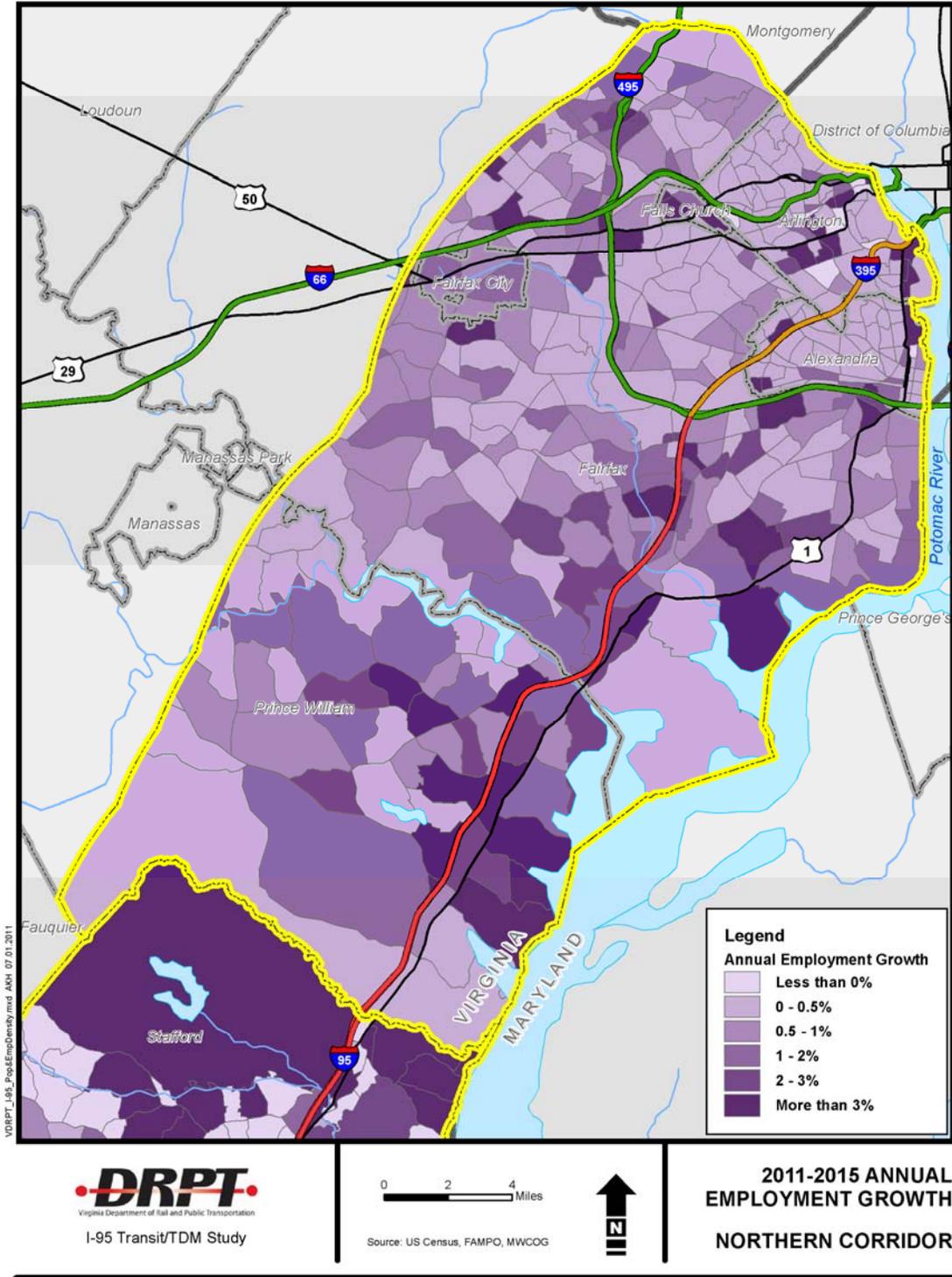


Figure 3-12: 2015-2035 Annual Employment Growth - Northern Corridor

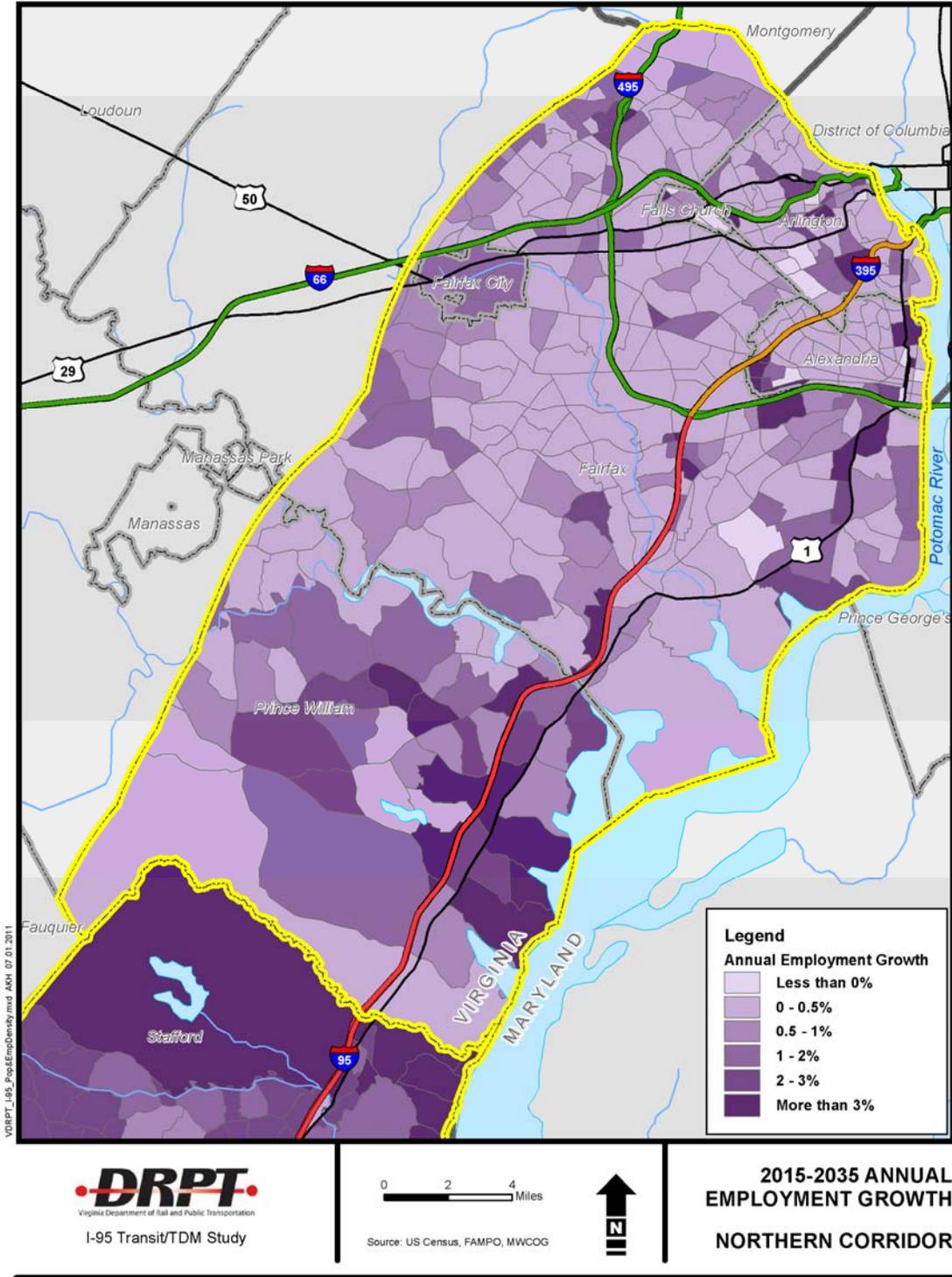


Figure 3-13: 2009 Minority Populations – Northern Corridor

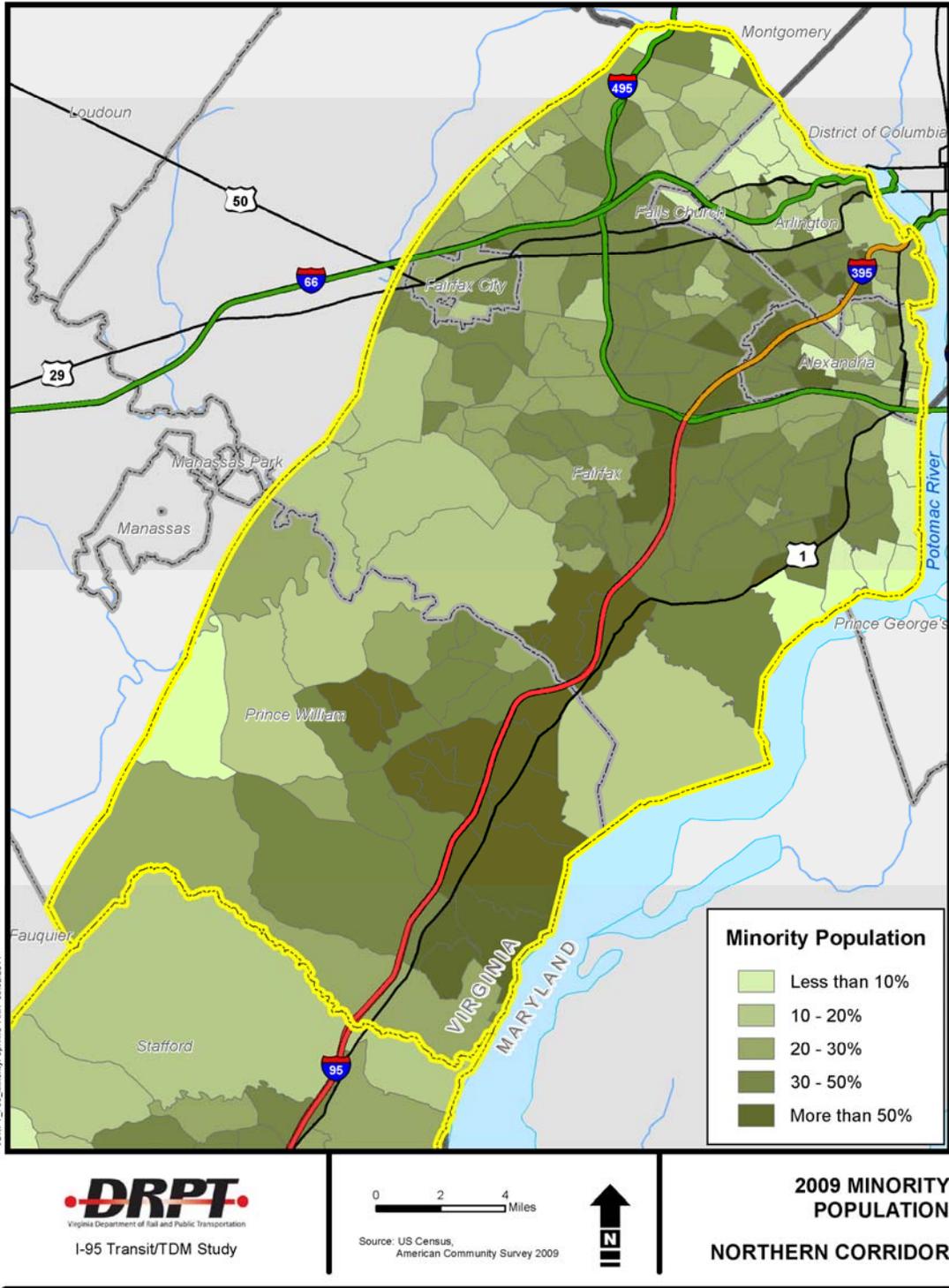
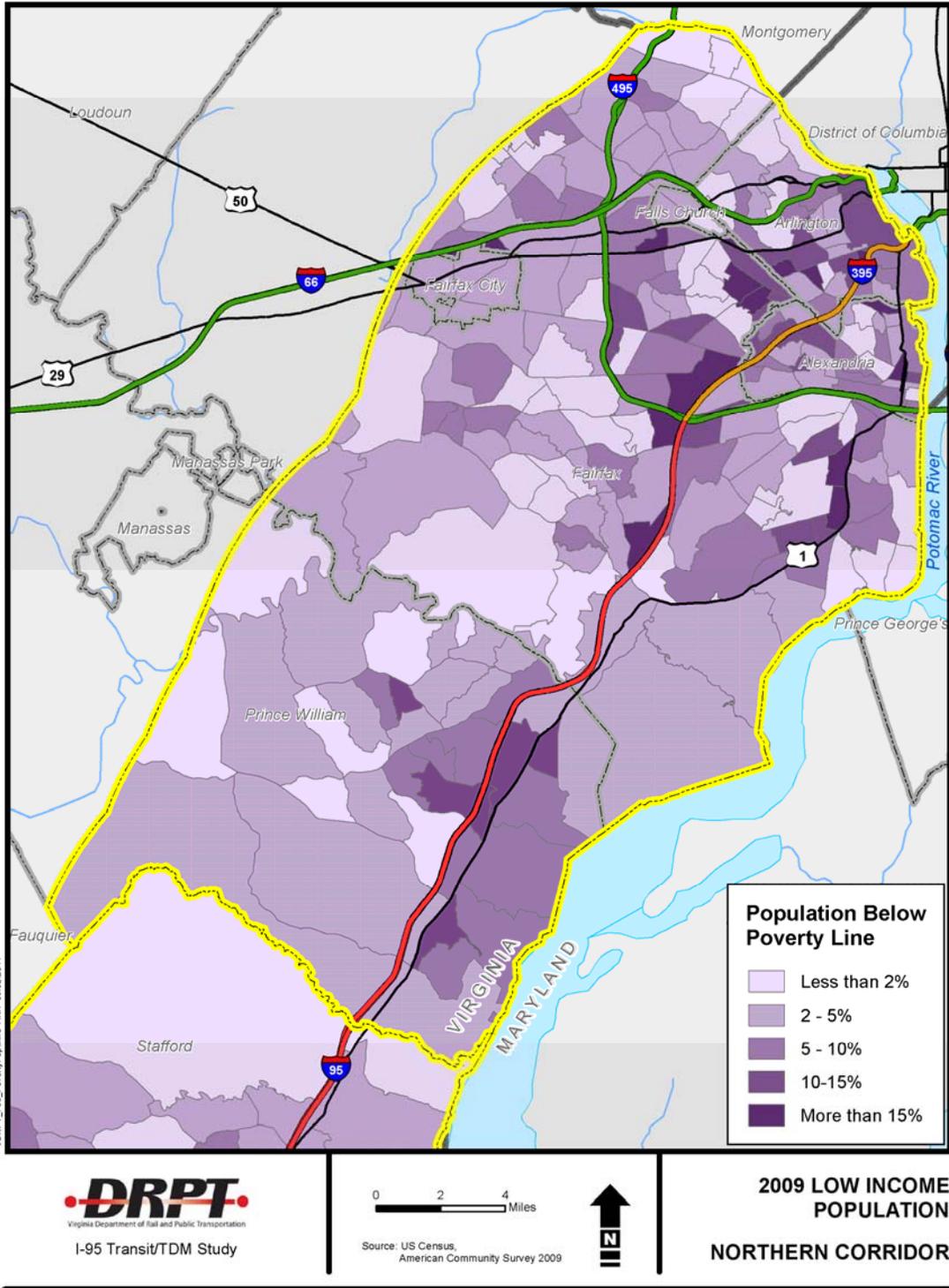


Figure 3-14: 2009 Households Below Poverty – Northern Corridor



3.3 Southern Corridor Characteristics (Stafford and Spotsylvania Counties)

3.3.1 Population Density

The projected population density in the study area is generally lower in the Southern Corridor than in Northern Corridor. As shown in **Figures 3-15** through **3-17**, the highest projected population density in the Southern Corridor will be located along the I-95 corridor, especially the Marine Corps Base Quantico zones in Stafford County and Fredericksburg in Spotsylvania County. Unlike in the Northern Corridor, only a small part of Fredericksburg is projected to have population density of 10,000 or more persons per sq. mile in 2011. By 2035, areas south and east of the Marine Corps Base Quantico will have population density of more than 10,000 persons per sq. mile, and portions of Spotsylvania County will have population density between 5,000 to 10,000 persons per sq. mile.

3.3.2 Annual Population Growth

Figures 3-18 and **3-19** show the projected annual population growth. Forecast data shows that virtually all areas in the Southern Corridor are projecting a substantial increase in population density (more than three percent annual growth), particularly between 2015 and 2035, with the western and northern zones of Stafford County, western zones of Spotsylvania County, and both counties' border areas with neighboring counties (King George and Caroline) attracting the majority of new residents.

Unlike in the Northern Corridor, virtually no areas are projected to decline in population between 2015 and 2035, although quite a few are forecast to do so between 2011 and 2015. As the study area's population shifts southward from the northern suburban areas of Washington, D.C., likely migration areas include the southern portion of the Northern Corridor between 2011 and 2015 (Prince William County), and Southern Corridor's Stafford and Spotsylvania Counties between 2015 and 2035.

Figure 3-15: 2011 Population Density – Southern Corridor

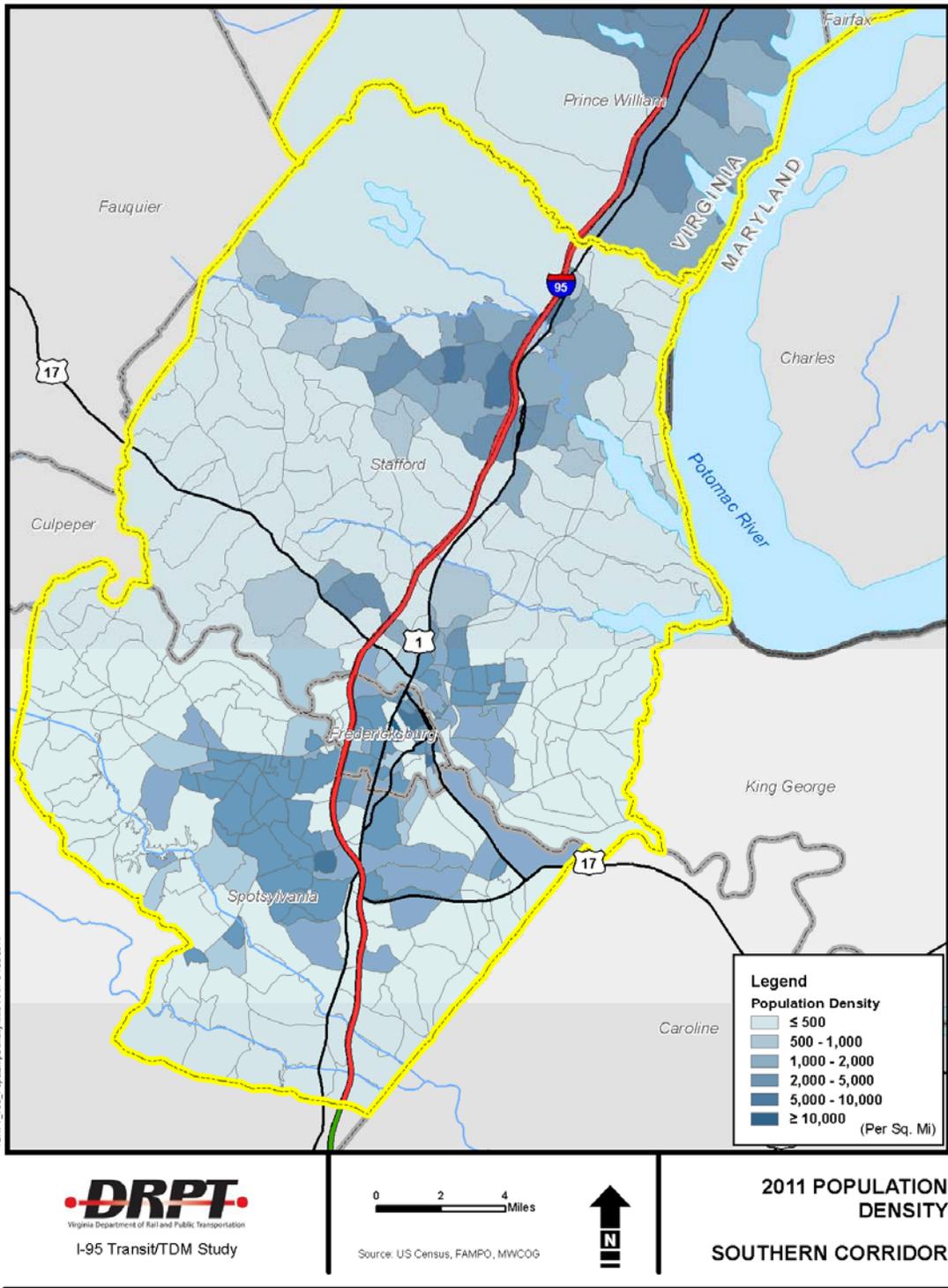


Figure 3-16: 2015 Population Density – Southern Corridor

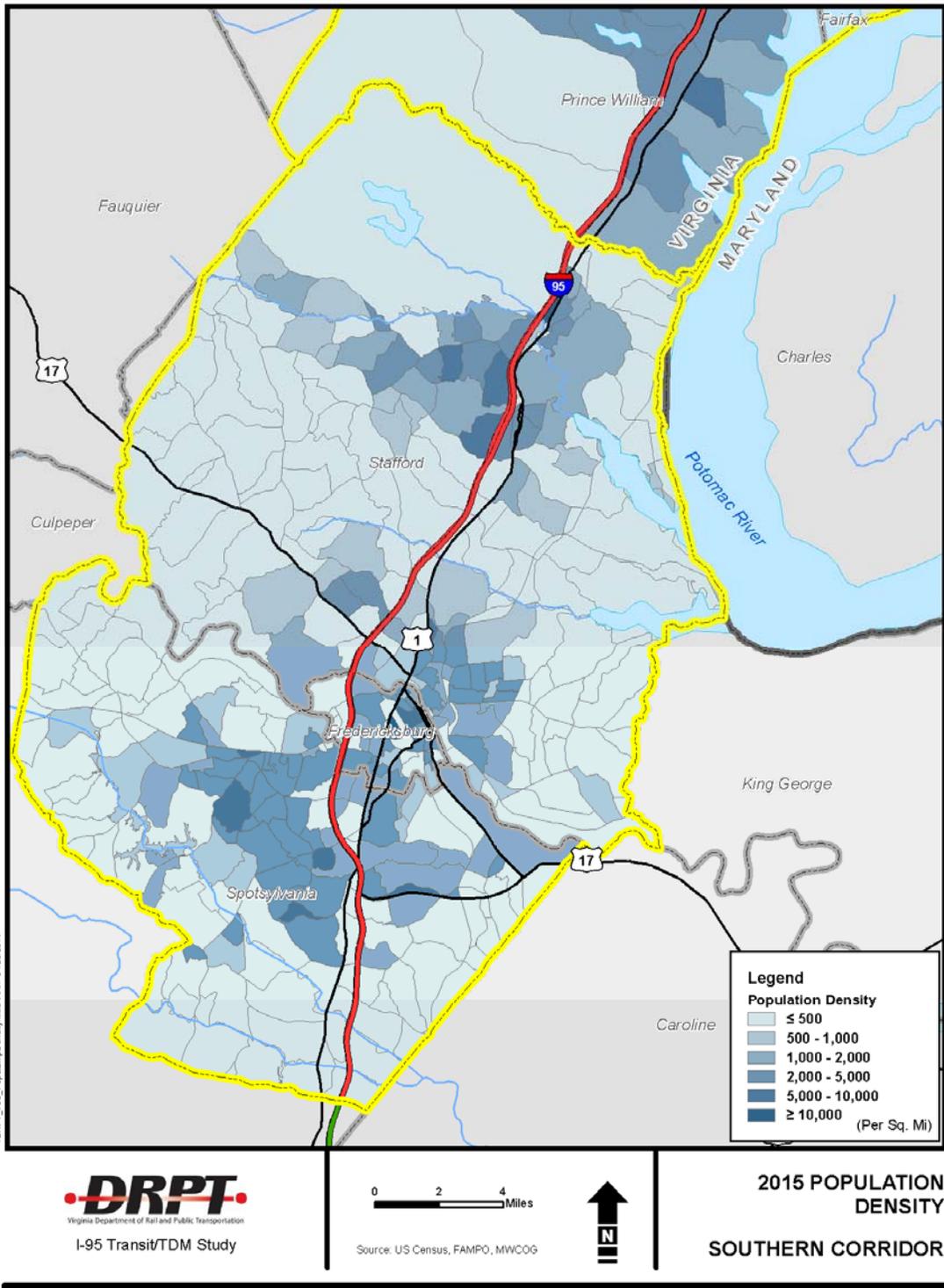


Figure 3-17: 2035 Population Density – Southern Corridor

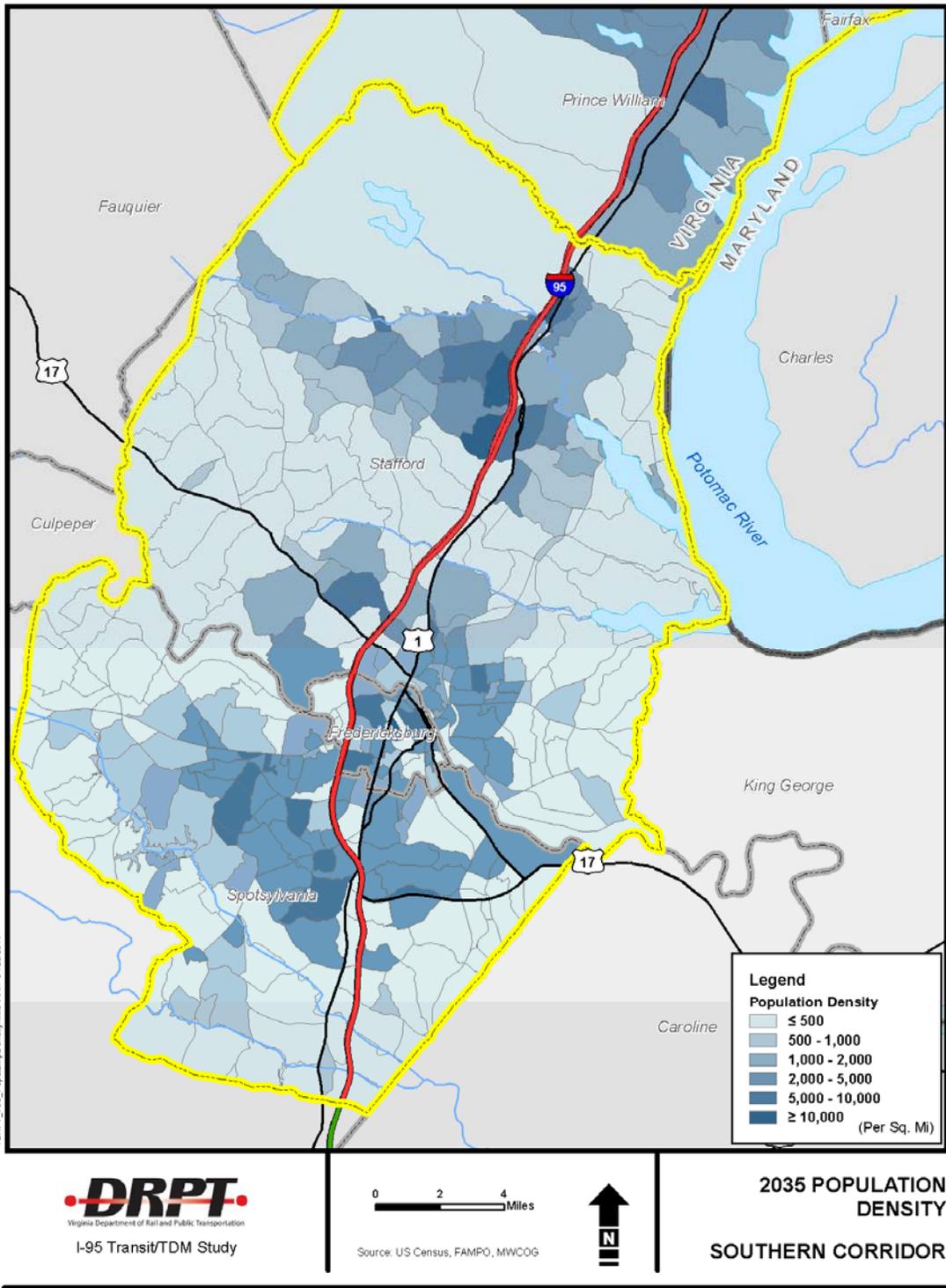
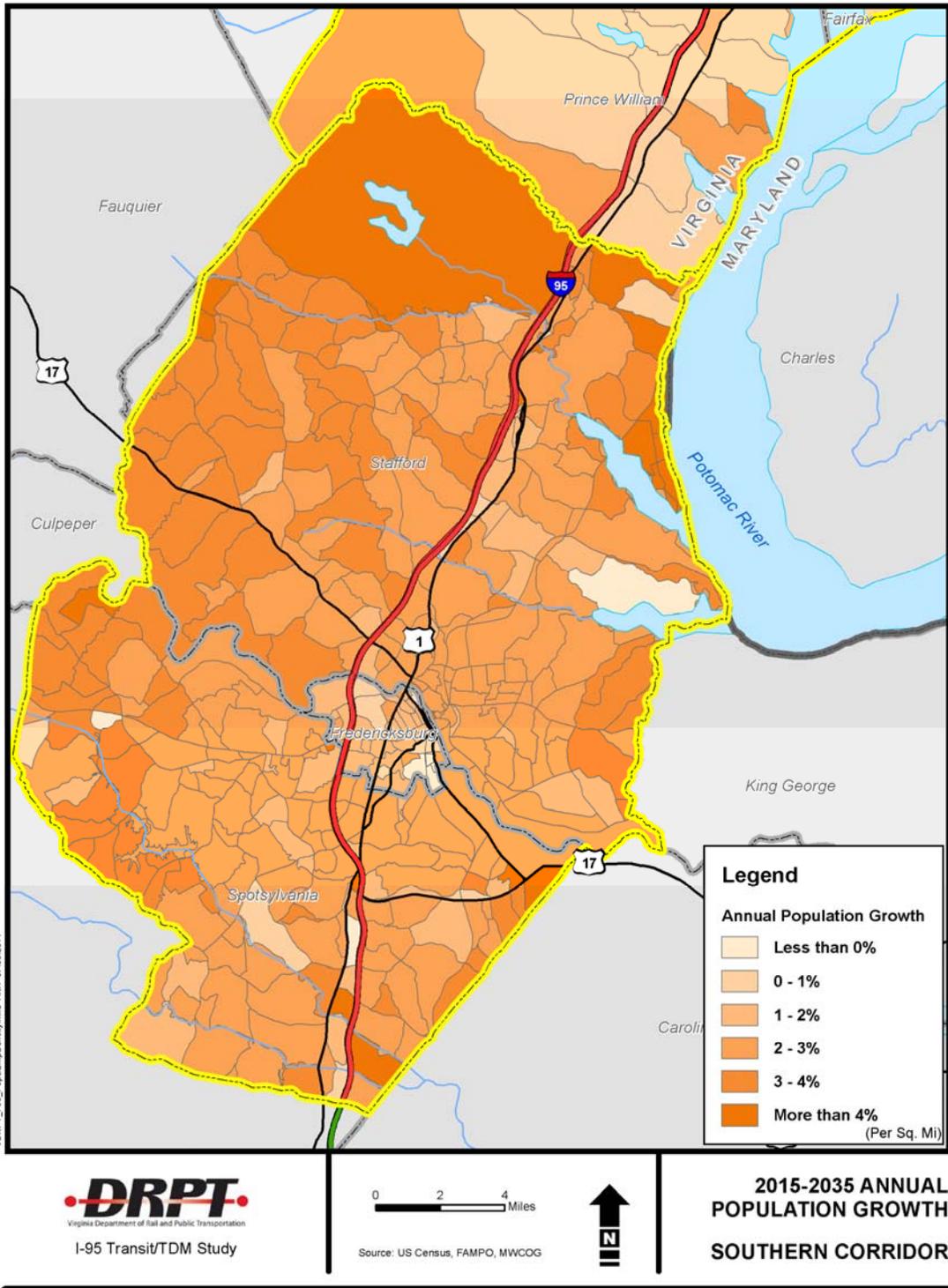


Figure 3-19: 2015-2035 Annual Population Growth - Southern Corridor



3.3.3 Employment Density

As shown in **Figures 3-20** through **3-22**, employment density in the Southern Corridor in 2011, 2015, and 2035 is projected to be concentrated in the Fredericksburg area and along the I-95 and U.S. 1 corridors. The U.S. 17 corridor southeast of Fredericksburg is projected to offer more employment per sq. mile after 2015 as well.

3.3.4 Annual Employment Growth

Figures 3-23 and **3-24** show the projected annual employment growth. **Figure 3-23** shows that from 2011 to 2015, the highest annual employment growth areas (annual growth of three percent or more) will be located along I-95 in northern Stafford County (the Marine Corps Base Quantico area) and the Fredericksburg area in Spotsylvania County.

Between 2015 and 2035, the projected pattern of widespread high population growth across nearly the entire Southern Corridor is similar for employment, with forecasts for most zones of two percent or more annual employment growth. As **Figure 3-24** shows, it is hard to point to specific areas projected to experience more employment growth than the others during that period – suggesting the strength of connection between high population and employment growth in the Southern Corridor.

3.3.5 Minority Populations

Figure 3-25 presents the percent of minority populations for the Southern Corridor at the census block group level. This 2005 - 2009 data was obtained from the American Community Survey (ACS).

3.3.6 Households Below Poverty Level

Figure 3-26 presents the percent of households below the poverty level for the Southern Corridor at the census block group level. This 2005 - 2009 data was obtained from the American Community Survey (ACS). Poverty level definitions vary depending on household size. For example, the Census-defined poverty level in 2009 for a four-person household was approximately \$22,000.

Figure 3-20: 2011 Employment Density - Southern Corridor

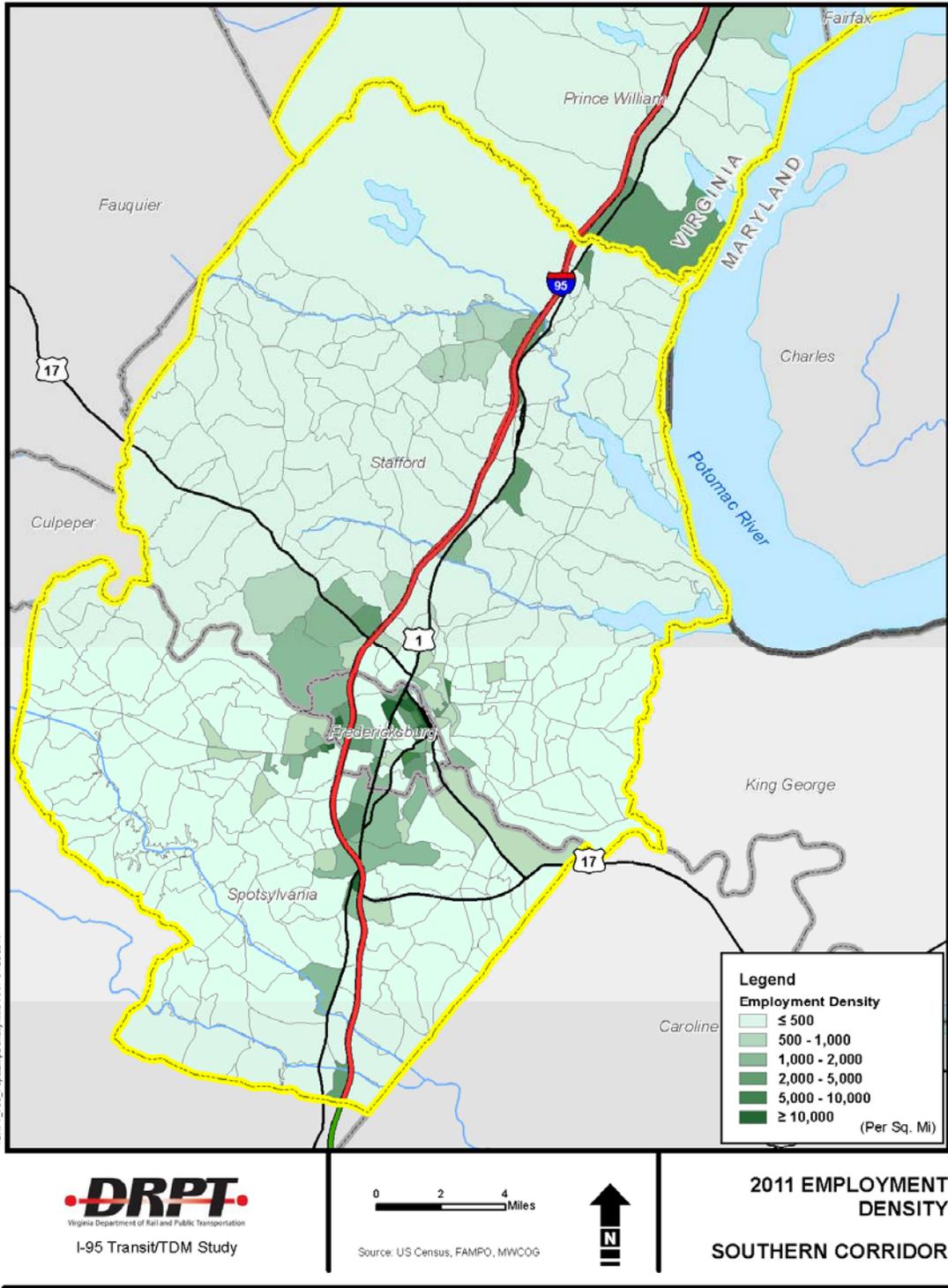


Figure 3-21: 2015 Employment Density - Southern Corridor

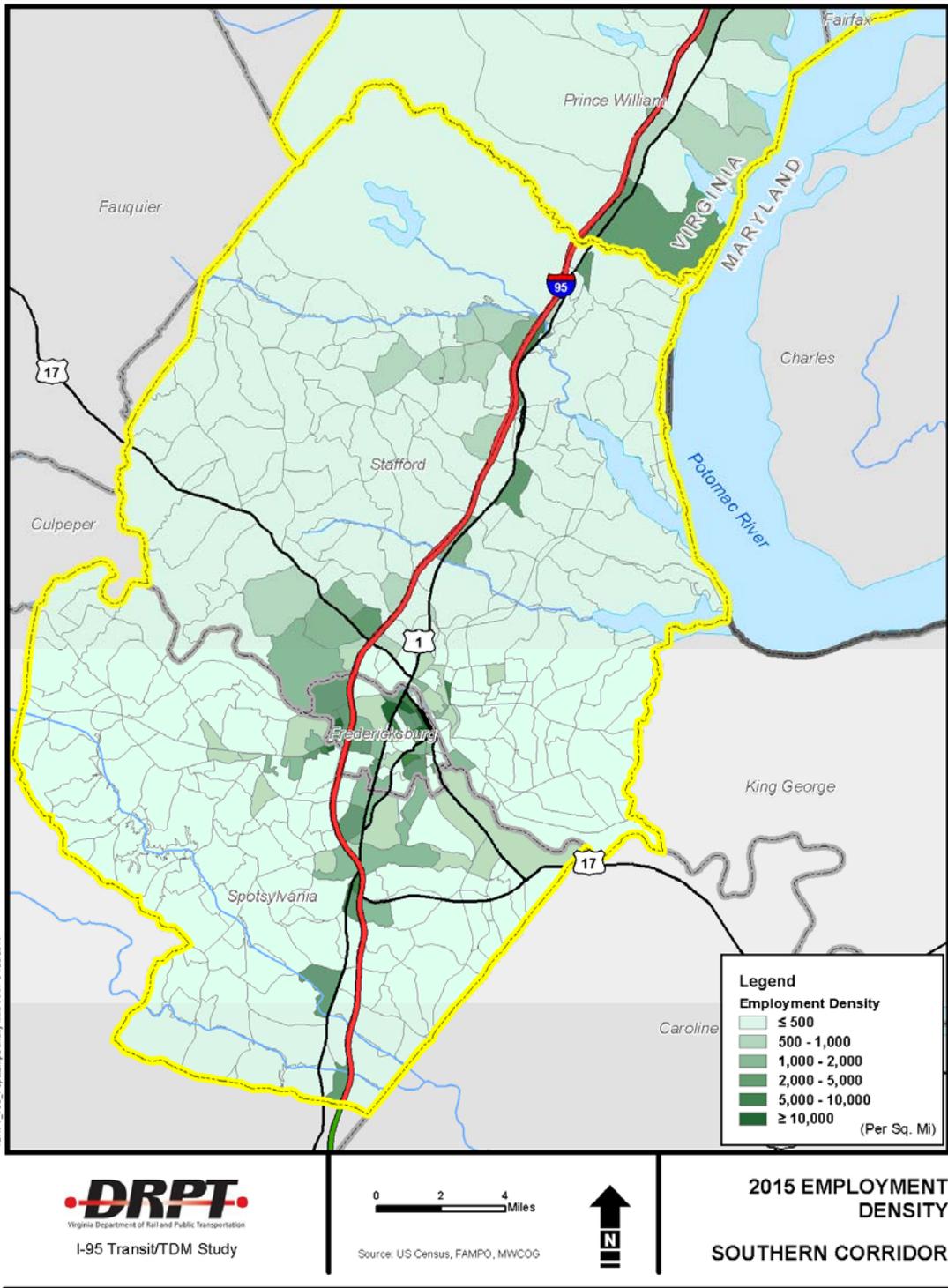


Figure 3-22: 2035 Employment Density - Southern Corridor

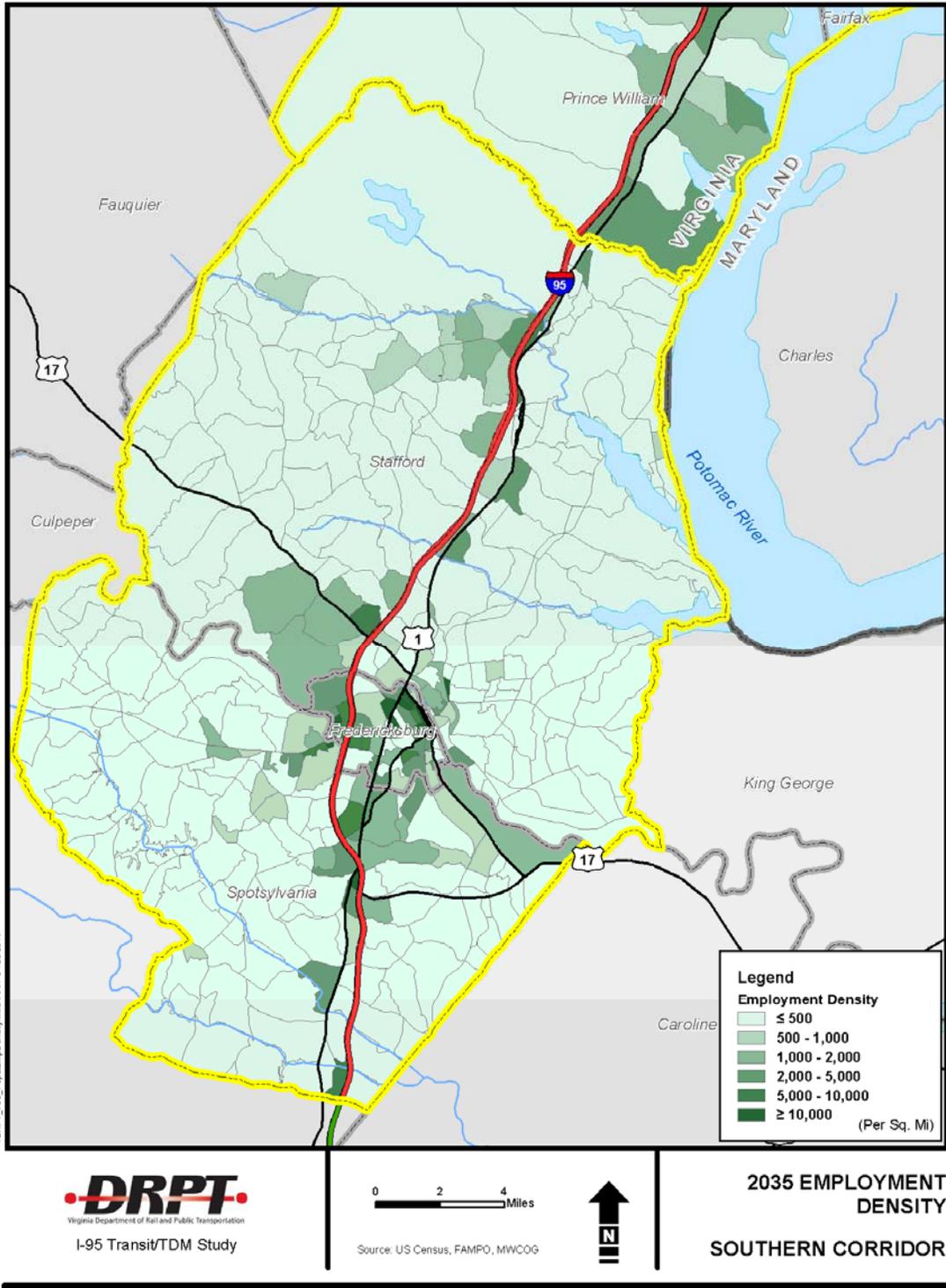


Figure 3-23: 2011-2015 Annual Employment Growth - Southern Corridor

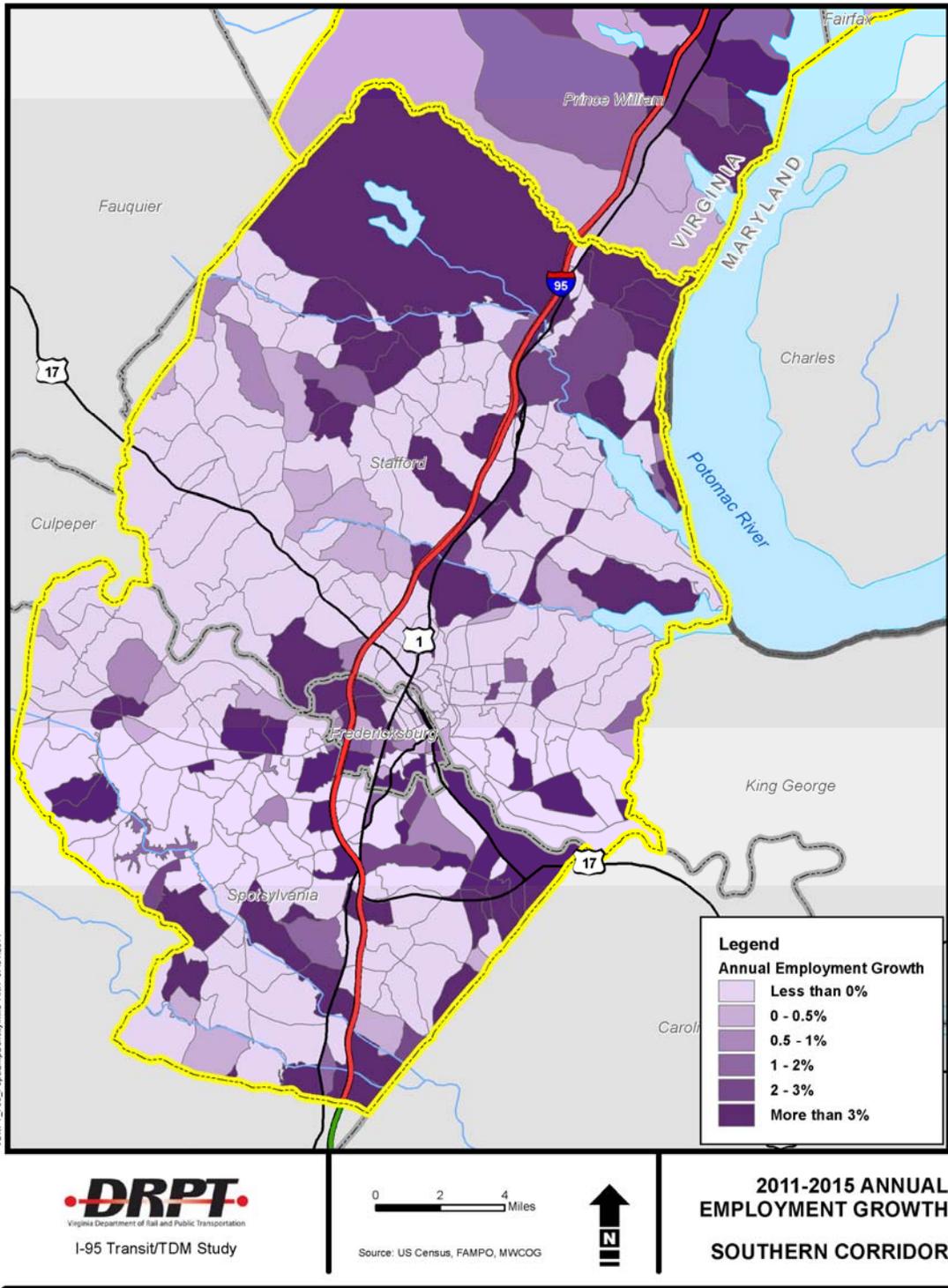


Figure 3-24: 2015-2035 Annual Employment Growth - Southern Corridor

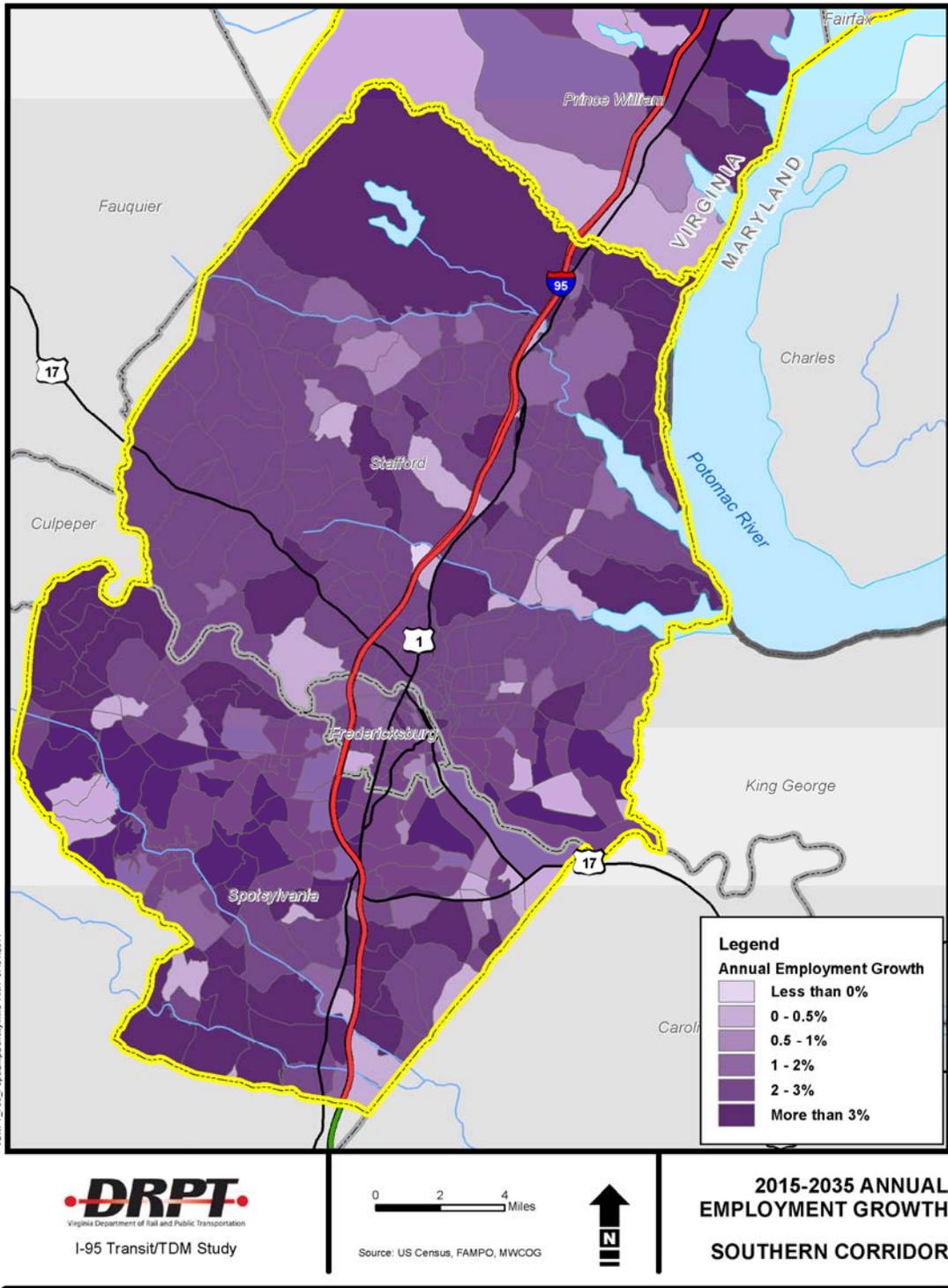


Figure 3-25: 2009 Minority Populations – Southern Corridor

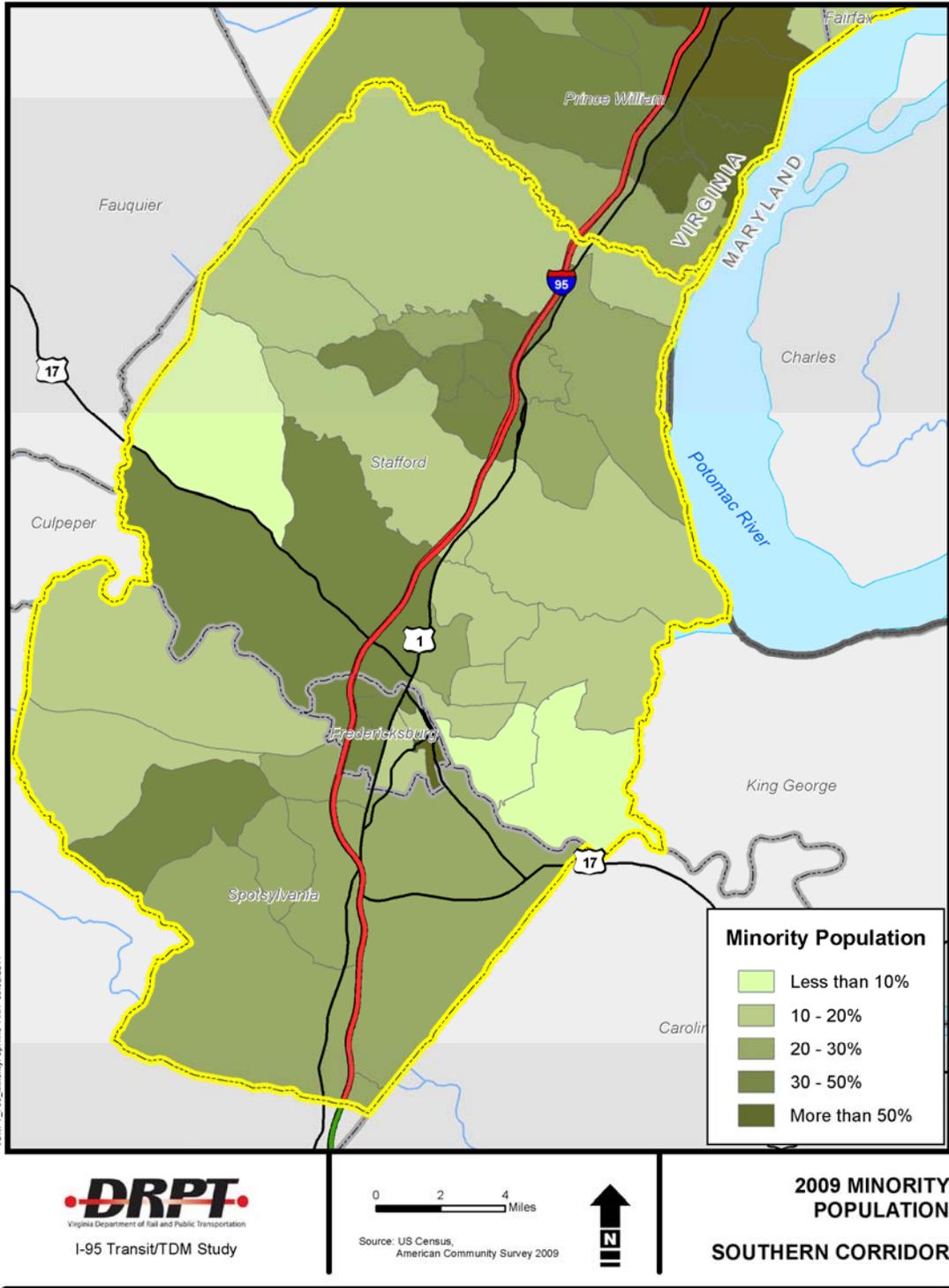
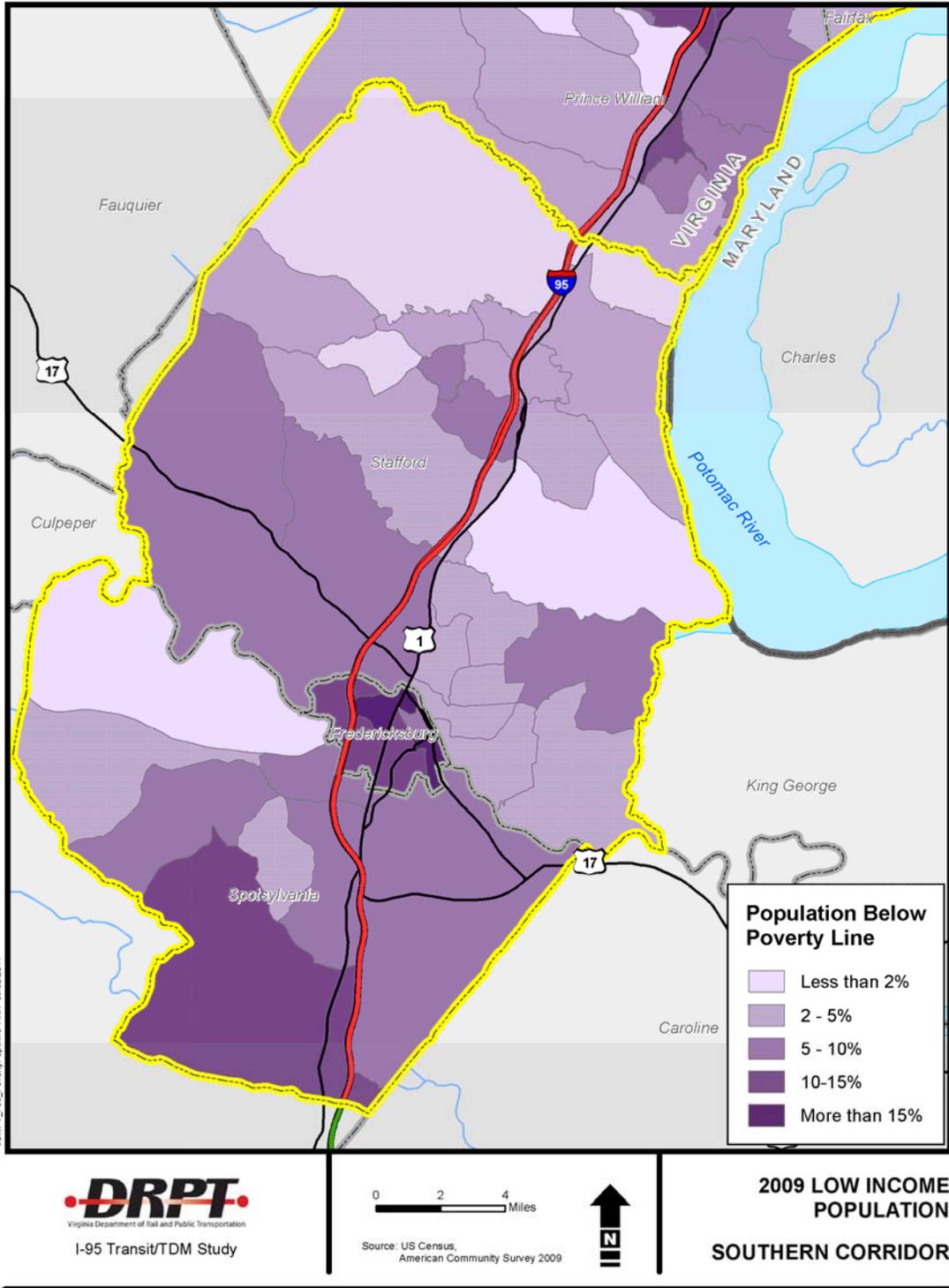


Figure 3-26: 2009 Households Below Poverty – Southern Corridor



4.0 Travel Pattern Characteristics

Demographic characteristics that were presented in the prior section have identified existing and projected concentrations of population and employment in the corridor. For purposes of transit service planning, it is also important to understand commuter travel flows (i.e., trip origins and destinations). This section of the Technical Memorandum presents current worker trip characteristics and projected growth in home-to-work flows and trips that originate along the redefined I-95 HOT/HOV Lanes project.

4.1 Existing Worker Travel Flows

Journey to work (i.e., home to work) travel flow information for the I-95 corridor was collected from the Census Transportation Planning Products (CTPP) program. The CTPP contains tabulated census demographic data that has been specially tabulated for transportation planners and other professionals who deal with the movement of people. The CTPP data used in this analysis is the most recently released and is based on the 2006-2008 Three-Year American Community Survey (ACS) data. Specifically, worker travel flow data was compiled from the CTPP.

4.1.1 Existing Northern Corridor Worker Travel Flows

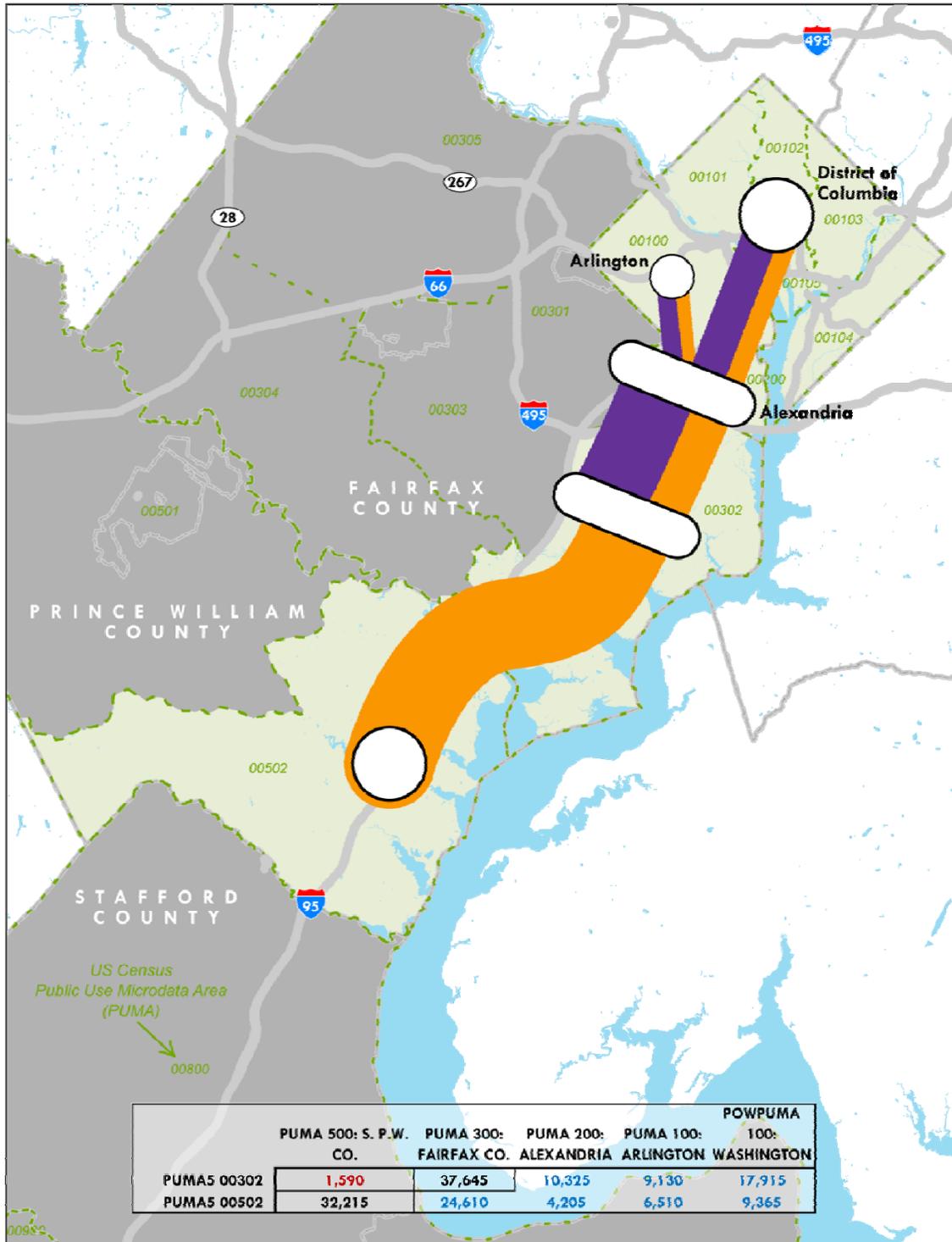
Worker travel flows for Prince William and Fairfax Counties were isolated at the Public Use Microdata Area (PUMA) level to isolate I-95 corridor worker trips. PUMAs are statistical geographic areas comprised of counties or census tracts and are used to relate and disseminate census data. Each PUMA area contains 100,000 or more persons and data within it is based on the 5-percent sample of the long-form decennial census. PUMA boundaries for this analysis come from 2000 Census definitions; however, data within the PUMAs are still based on the 2006-2008 ACS data from the CTPP. The Washington, D.C. area PUMA is defined as a Place of Work PUMA (POWPUMA), defined as the place of work on Census Data, and encompasses the four PUMAs within the District.

Figure 4-1 shows PUMA to PUMA worker flows for PUMA 502 (southeast Prince William County) and PUMA 302 (southeast Fairfax County) to Alexandria, Arlington, and Washington, D.C. Depicted worker flow data from South Prince William County is shown in orange, while South Fairfax County worker flow data is shown in purple. Worker flows are greatest where the flows are combined, as shown in the figure, between South Fairfax County and Alexandria. Over 57,000 workers are traveling north from the South Prince William County and South Fairfax County PUMAs to destinations within Alexandria, Arlington, and Washington, D.C. Over 14,500 are traveling to Arlington, 15,600 are traveling to Alexandria and 27,300 are traveling to Washington, D.C. Another 24,600 works are traveling from South Prince William County to South Fairfax County.

4.1.2 Existing Southern Corridor Worker Travel Flows

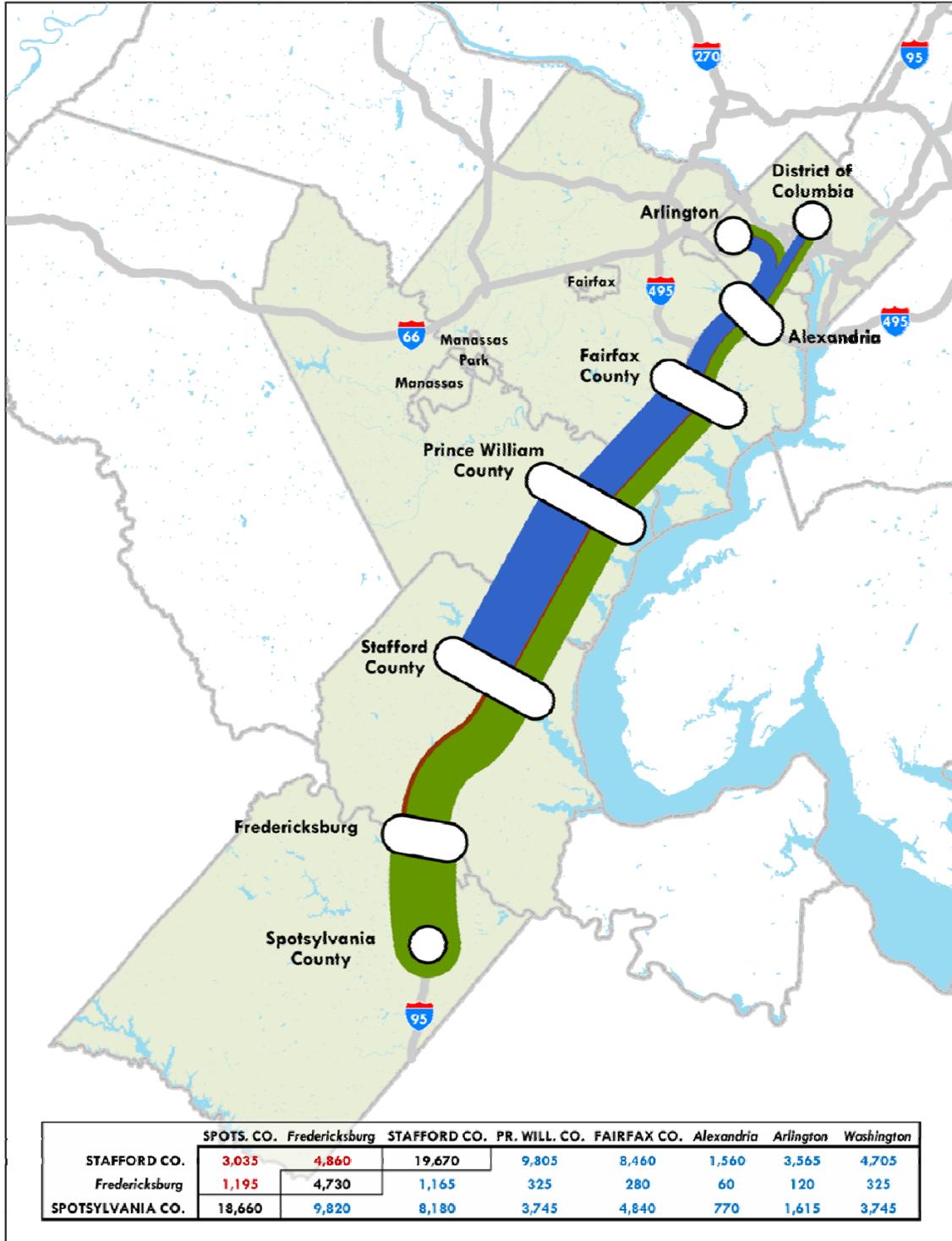
Figure 4-2 shows county and independent city worker flows from the southern portion of the I-95 corridor to major employment destinations in the north. Depicted worker flow data from Spotsylvania County is shown in green, Fredericksburg is shown in maroon and Stafford County is shown in blue. Worker flow data is shown to Prince William County, Fairfax County, Alexandria, Arlington and Washington, D.C. Nearly 16,500 work trips are flowing from Spotsylvania County, Fredericksburg and Stafford County to Alexandria, Arlington and Washington, D.C. Another 27,500 work trips from these three areas are traveling to Prince William County and Fairfax County.

Figure 4-1: Estimated Existing North I-95 Corridor Worker Travel Flows



Source: 2006-2008 American Community Survey Data
 Census Transportation Planning Products

Figure 4-1: Estimated Existing South I-95 Corridor Worker Travel Flows



Source: 2006-2008 American Community Survey Data
 Census Transportation Planning Products

4.2 Projected Home-Based Work Trips

The Metropolitan Area Washington Council of Governments (MWCOG) travel demand model was used to assess projected home-based work (HBW) trip growth for the project corridor. Person trip tables were provided by MWCOG for the following years: 2005 (calibration year), 2011, 2020, 2030 and 2040. The MWCOG travel demand model includes traffic analysis zones (TAZs) for the entire I-95 corridor, including Stafford and Spotsylvania Counties. Trip tables from the travel demand model were interpolated to obtain estimates for this project's study years (2015 and 2035). Findings are as follows:

4.2.1 Northern Corridor Home-Based Work Trip Projections

The portion of Fairfax County considered to be in the I-95 travel shed was defined as being east of Burke Lake Road and south of I-495. Total HBW trip generation estimated for this area from the MWCOG model is noted below in **Table 4-1**:

Table 4-1: Fairfax County (I-95 Corridor Only) Daily Home-Based Work Trip Projections

	2011 Trips	2015 Trips	2035 Trips
HBW Trips	197,900	204,300	231,500
Change from 2011	n/a	3.2%	17.0%

The MWCOG trip tables were reviewed more closely to determine major destinations for HBW trips from the I-95 portion of Fairfax County. Specifically, trip interaction with downtown Washington, D.C., Arlington, Alexandria and the Tysons Corner area were reviewed. HBW trips from the Fairfax County portion of the I-95 corridor to downtown D.C., Arlington and Alexandria are anticipated to grow by 14 percent between 2015 and 2035, with almost 120,000 HBW trips by 2035. HBW trips to/from Tysons Corner are anticipated to grow by 36 percent to almost 8,500 trips.

Total HBW trip generation estimated for the I-95 portion of the East Prince William County area from the MWCOG model is noted below in **Table 4-2**:

Table 4-2: Prince William County (I-95 Corridor Only) Daily Home-Based Work Trip Projections

	2011 Trips	2015 Trips	2035 Trips
HBW Trips	165,900	178,700	223,600
Change from 2011	n/a	7.7%	34.8%

The MWCOG trip tables were reviewed more closely to determine major destinations for HBW trips from East Prince William County. HBW trips from East Prince William County to downtown Washington, D.C., Arlington and Alexandria are anticipated to grow by 5 percent between 2015 and 2035 to over 36,000 trips by 2035. HBW trips to/from Tysons Corner are anticipated to grow by more than 80 percent to 4,500 trips by 2035.

4.2.2 Southern Corridor Home-Based Work Trip Projections

The MWCOG model includes traffic analysis zones in Stafford County, Spotsylvania County and the City of Fredericksburg. HBW trips that are generated in these three areas are anticipated to increase by more than 12 percent between 2011 and 2015, and are expected to grow by 68 percent between 2011 and 2035. Many of these new trips are expected to travel along I-95 to employment destinations at the

north end of the corridor. HBW trips from the south end of the corridor to downtown Washington, D.C., Arlington and Alexandria are anticipated to more than double between 2015 and 2035.

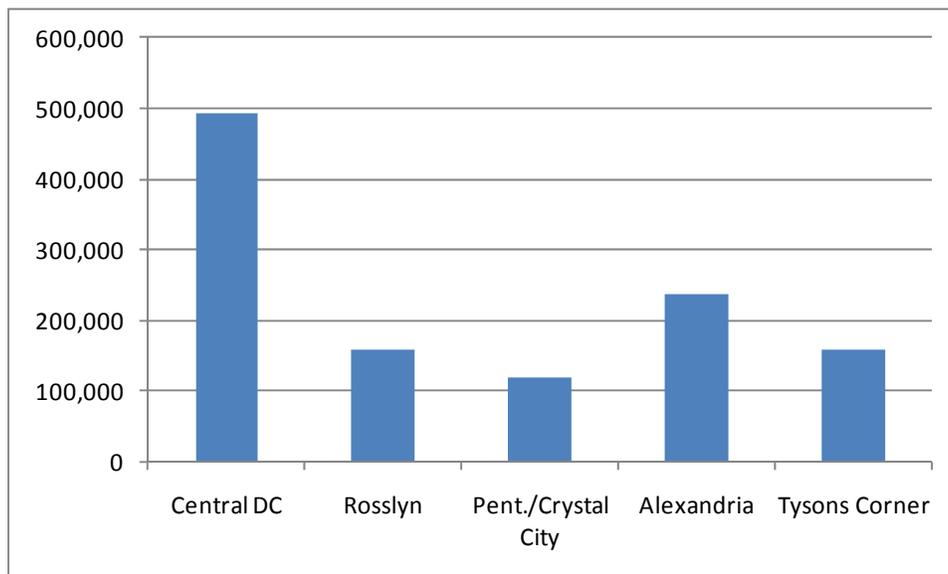
4.2.3 Home-Based Work Trip Destination Projections

The central area of Washington, D.C remains the highest attractor of HBW trips in the region, with about 500,000 daily HBW trips. Within Washington, D.C., the area south of the Mall (including the Navy Yard area) is anticipated to see an 11 percent growth in HBW trips between 2015 and 2035 (to over 200,000 daily HBW trips), while HBW trips in the downtown Washington, D.C. area is anticipated to remain relatively unchanged (almost 300,000 daily HBW trips).

The Arlington and Alexandria areas are anticipated to have higher percentage increases in HBW trip travel than the central area of Washington, D.C., but will remain well below in terms of total trips. Within Arlington, the Rosslyn/Wilson Blvd. corridor has the highest concentration and number of HBW trips. The total number of HBW person trips going to/from this area is anticipated to grow by 12 percent between 2015 and 2035 to 160,000 daily HBW trips. HBW trips to/from the Pentagon/Crystal City area are anticipated to grow at a higher rate (16%), but still remain lower than the Rosslyn area in terms of total trips (120,000 daily HBW trips). Within Alexandria, the Mark Center is anticipated to see a significant increase in HBW trips, due in part to the relocation of 6,400 Army personnel to this site as part of the Base Realignment and Closure Act (BRAC).

The Tysons Corner area is the other major employment center that attracts a large number of I-95 trips. The MWCOC model reflects a 28 percent increase in total HBW trips to/from the Tysons Corner area, to over 150,000 daily HBW person trips. Figure 4-3 illustrates overall HBW trips to and from these major employment centers.

Figure 4-3: HBW Trips at Major Employment Areas



5.0 Existing Transit Service Providers

This section documents the primary transit service providers operating in the corridor along the redefined I-95 HOT/HOV Lanes project. Transit service providers in the I-95 corridor consist of:

- Fairfax Connector
- Washington Metropolitan Area Transit Authority (WMATA)
- Potomac and Rappahannock Transportation Commission (PRTC)
- FREDericksburg Regional Transit (FRED)
- Quick's Bus Company
- Martz Group
- Virginia Railway Express (VRE)

Quick's and Martz are private bus companies; the other five are public transit providers. Following are descriptions of each transit service provider, including descriptions of the transit services each provider operates in the I-95 HOT/HOV Lanes corridor.

5.1 Fairfax Connector

The Fairfax Connector routes that operate in the I-95 HOT/HOV Lanes corridor serve the Franconia-Springfield Metro & VRE Station, with some routes operating all-day, and others operating as peak period "feeder routes" to and from the station. There are only two routes that operate on I-95 (Routes 171 and 380-D), with only one of those routes (380-D) providing service on I-395 to/from the Pentagon.

Base fares for Fairfax Connector routes are \$1.50 with a SmarTrip card, \$1.70 cash. Metrorail to bus transfers are \$1.00 with a SmarTrip card, \$1.70 cash. Fares for the 380-D are \$5.00 with a SmarTrip card and \$7.00 cash. Metrorail to bus transfers for Route 380-D are \$4.50 with a SmarTrip card and \$5.00 cash.

Following is a general description of each Fairfax Connector route that operates in the corridor.

Route 171: Richmond Highway Line - This route provides service generally along Hwy. 1, Fairfax County Parkway, Telegraph Road and Pohick Road to the Lorton VRE Station. This route then continues with service to the Lorton park-and-ride lot, and then operates as an express route along I-95 to the Franconia-Springfield Metro & VRE Station. Weekday and weekend service frequencies are generally 30-minutes all-day.

Routes 231/232: Kingstowne Circulator – This combination of routes provides clockwise and counter-clockwise service between the Franconia-Springfield Metro & VRE Station and the Van Dorn Metro Station. Routes 231/232 operate weekdays in the peak periods only at 30-minute service frequencies.

Route 301: Telegraph Road Line - This route provides service between the Franconia-Springfield VRE & Metro Station and the Huntington Station, primarily along Telegraph Road, The Parkway, S. Kings Highway and Hayfield Road. Route 301 operates on weekdays in the peak periods only (both directions) at 30-minute service frequencies.

Route 304: Saratoga Line - This route operates primarily along Rolling Road, Alban Road and Backlick Road to the Franconia-Springfield Metro & VRE Station. Route 304 operates weekdays only in the peak periods. Morning service is one-direction towards Franconia-Springfield Metro & VRE Station at 30-minute frequencies. Afternoon service is from Franconia-Springfield Metro & VRE Station at 30-minute frequencies.

Route 305: Newington Forest Line - This route provides service primarily along Fairfax County Parkway and Franconia-Springfield Parkway to the Franconia-Springfield Metro & VRE Stations. This route includes stops at the Sydenstricker and Gambrill Road park-and-ride lots. Route 305 operates peak periods only on weekdays, at 30-minute frequencies. Morning trips operate inbound only, afternoon trips operate outbound only.

Route 307: Laurel Hill/Lorton Line - This route provides feeder service to the Lorton VRE Station. This route includes a stop at the Lorton park-and-ride lot. Route 307 operates weekdays in the peak periods only at 30-minute service frequencies. Service is provided in both directions.

Route 310: Franconia Road/Rolling Valley Line - This route provides service primarily along Old Keene Mill Road and Franconia Road, from Rolling Valley park-and-ride to Huntington Metro Station, with a mid-route stop at the Franconia-Springfield Metro & VRE Station. Service frequencies are generally 30 minutes in the peak period, 60 minutes in the midday period, and 60 minutes on weekends.

Routes 321/322: Greater Springfield Circulator – This combination of routes provide clockwise and counter-clockwise service in the Springfield area. The southern end of this circular alignment is anchored at the Franconia-Springfield Metro & VRE Station. The northern end of this alignment goes as far north as Edsall Road and the Van Dorn Street Metro Station. Weekday service frequencies are 30-minute peak/60-minute midday, and weekend service frequencies are 60 minutes all-day.

Routes 331/332: I-95 Circulator – This combination of routes provide clockwise and counter-clockwise service along the I-95 corridor, primarily serving Loisdale Road (on the east side of I-95) and Backlick Road (on the west side of I-95). This route includes service to the Springfield Mall and the Backlick Road park-and-ride lot. The northern end of this route is anchored at the Franconia-Springfield Metro & VRE Station. Routes 331/332 operate at 30-minute peak and 60-minute midday service frequencies, weekdays only.

Route 380-D: Franconia-Springfield Pentagon Express Route - This route operated between Franconia-Springfield Metro and the Pentagon as Route 380 until November 23, 2009, at which time it was re-designated as the 380-D and the southern terminus was shifted due to the start of a major rehabilitation project on the parking structure at the Metro Station. The 380-D operates out of the Gambrill and Backlick North park-and-ride lots. This route operates in the peak periods only at 15-20-minute service frequencies (peak direction service only). Ridership data provided by the Fairfax Connector indicates that about 70 to 75 percent of total daily ridership uses the Gambrill Road park-and-ride lot, with remaining riders using the Backlick North park-and-ride lot. Ridecheck counts indicate that there are rarely more than 25 passengers on any particular bus trip.

Routes 401/402: Backlick/Gallows Road – This combination of routes provide northbound and southbound service between the Franconia-Springfield Metro & VRE Station and Tysons Corner. These routes operate as local route service, and do not operate on any freeways. Routes 401/402 operate at 15-20-minute frequencies in the peak periods, and 30 minutes in the midday and weekend periods.

Table 5-1 presents a summary of route service characteristics, and current average weekday ridership volumes. **Figure 5-1** illustrates Fairfax Connector route alignments.

**Table 5-1
Fairfax Connector – Corridor Routes**

Route	Route Name	Weekday Freq. (peak/midday)	Avg. Weekday Rev.-Hours	Avg. Weekday Ridership	Riders per Rev.-Hour
171	Richmond Highway	30 min./30 min.	134.5	3,099	23.0
304	Saratoga	30 min./--	13.23	170	12.9
305	Newington	30 min./--	14.4	127	8.8
307	Laurel Hill/Lorton	30 min./--	19.39	25	1.3
310	Franconia/Rolling Valley	30 min./60 min.	80.68	1,360	16.9
321/322	Springfield Circ.	30 min./60 min.	87.69	1,500	17.1
331/332	I-95 Circulator	30 min./60 min.	62.22	508	8.2
380-D	F-S/Pentagon Express	15-20 min./--	22.29	278	26.5
401/402	Backlick/Gallows Road	15-20 min./30 min.	186.64	3,700	19.8

Not included in table are figures for Routes 231/232 and 301.

5.2 WMATA

There is one Metrorail Station in the corridor – the Franconia-Springfield Station, located along Franconia-Springfield Parkway, just east of I-95 (south of the Springfield Mall). This station is the end-of-line station for the Blue Line. There are 5,069 parking spaces at this station, and the daily parking cost is \$4.50. Carsharing (through ZipCar) is also available at this station. Blue line weekday train frequencies are 6 minutes in the peak periods and 12 minutes in the midday.

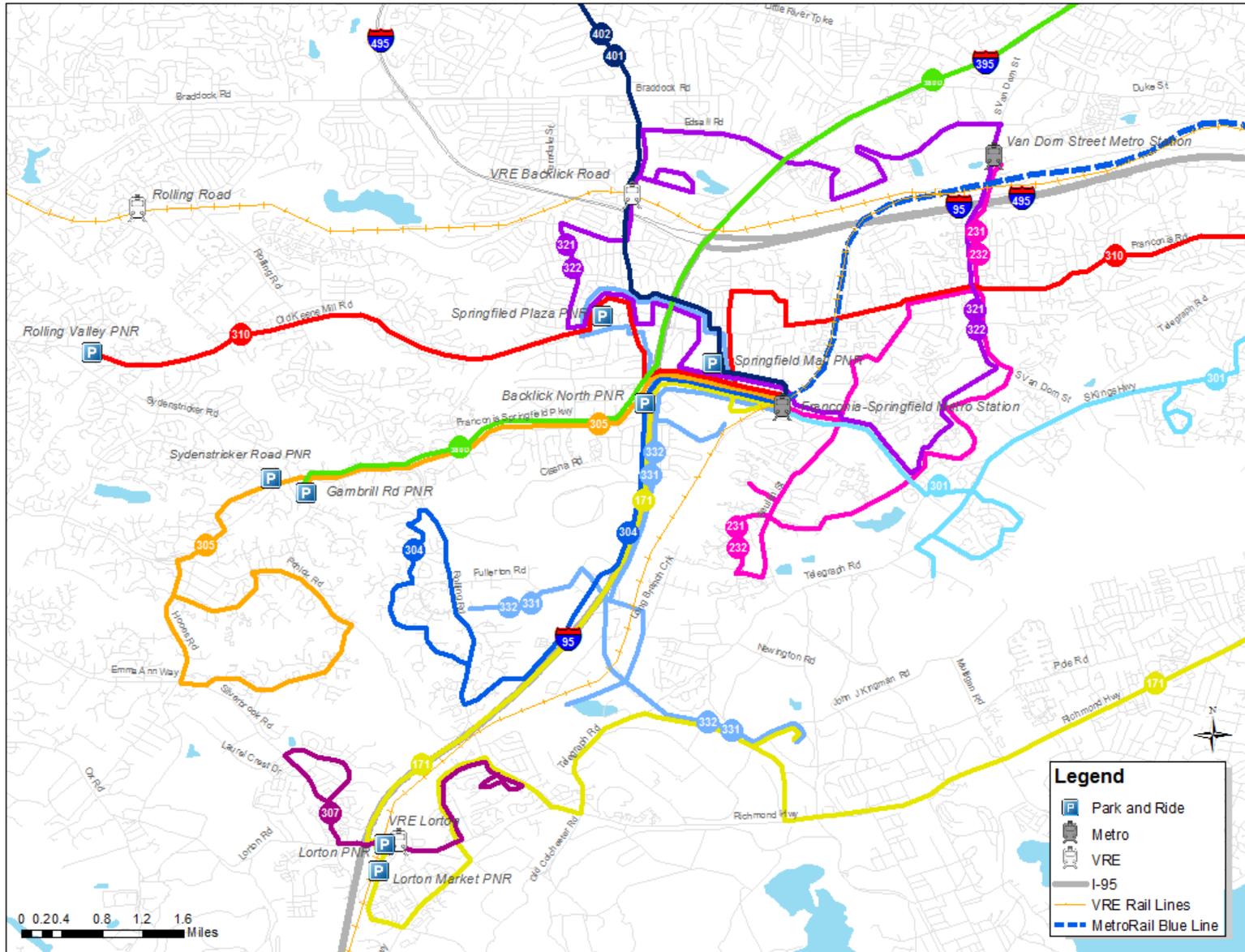
Route 18 is the primary Metrobus route that serves the I-95 corridor. Metrobus operates the following Route 18 lines:

Route 18E/F – These two lines operate primarily along Backlick Road to Edsall Road to the Pentagon via I-395, with 18E getting on I-395 at Edsall Road, and 18F getting on I-395 at Duke Street. Routes 18E/F operate in the peak periods at about 30-minute frequencies. Route 18E provides peak direction service (i.e., inbound in the a.m. and outbound in the p.m.). Route 18F provides reverse peak direction service (i.e., outbound in the a.m. and inbound in the p.m.). The combined daily ridership on 18E/F is approximately 280 passenger trips. Maximum passenger loads are typically in the teens.

Route 18G/H/J – These lines provide peak period service from the Old Keene Mill Road corridor to the Pentagon via I-95/I-395. Routes 18G/H provide peak direction service at 10-20-minute service frequencies. Route 18J provides reverse peak direction service at about 30-minute service frequencies. Maximum passenger loads on Routes G/H (the peak direction service) are typically around 30-35 passengers per trip.

Route 18P – This line provides peak period service from the Burke Centre area to the Pentagon via I-95/I-395. This route gets on/off I-395 at Old Keene Mill Road. This route pattern operates in the peak direction only at 15-30-minute service frequencies. Route 18P averages over 520 passenger trips a day, with maximum passenger loads averaging 18-20 passengers per trip.

**Figure 5-1:
Fairfax Connector Routes in I-95 Corridor**



Route 18R/S – This line provides peak period service from the Burke Centre area to the Franconia-Springfield Metrorail station via Franconia-Springfield Parkway. These route patterns operate at approximately 15-minute service frequencies in the peak periods only.

Routes S80 and S90 – In addition to the Route 18 lines, WMATA operates Routes S80 and S91 (Springfield Circulator) for the Transportation Association of Greater Springfield (TAGS). These circulator routes are anchored at the Franconia-Springfield Metrorail station, and provide frequent service in this area. Route S80 operates between Metro Park and the Hilton Springfield at 15-minute frequencies throughout the day. Route S91 provides supplemental service between the Metrorail station and Springfield Mall at 15-minute frequencies in the peak periods only. Small “body-on-chassis” buses are used on these routes.

Figure 5-2 illustrates WMATA Metrobus routes operating in the I-95 corridor.

In addition to bus services described above, it is important to note that the Franconia-Springfield Metrorail station is located in the I-95 corridor. This station is the end-of-line station for the Blue Line. Average weekday ridership has historically been around 9,500 a day. There are approximately 5,120 parking spaces at this station and eight bus bays. Bus bay activity and parking lot utilization at this station is described later in this Technical Memorandum.

5.3 Potomac and Rappahannock Transportation Commission (PRTC)

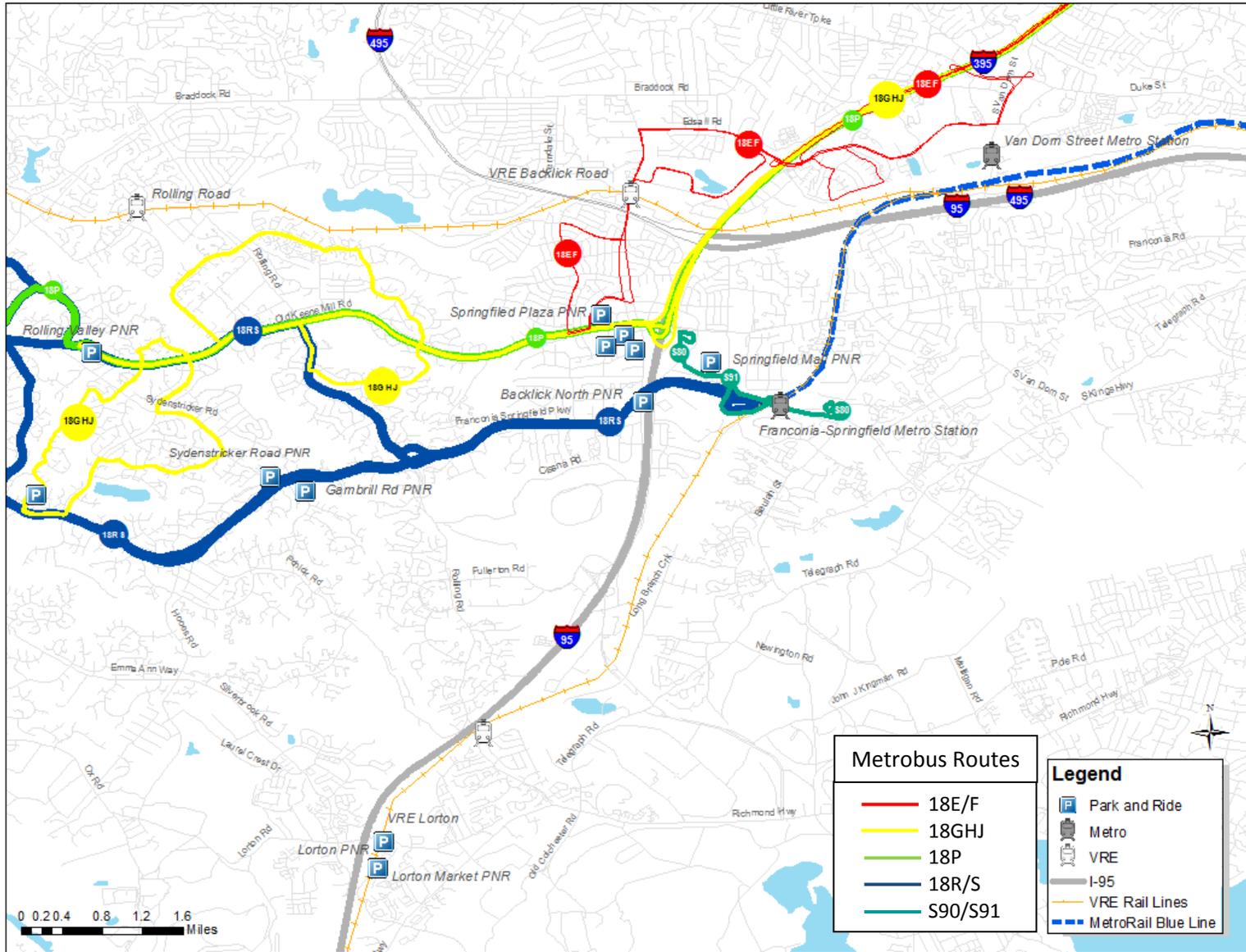
The Potomac and Rappahannock Transportation Commission (PRTC) offers a comprehensive network of commuter and local bus services in Prince William County and the Cities of Manassas and Manassas Park, as well as a free ridematching service. In addition, PRTC operates VRE in partnership with the Northern Virginia Transportation Commission (NVTC).

OmniRide is PRTC’s commuter bus service, providing comfortable and efficient commuter bus service between Prince William County and Washington, D.C. and Northern Virginia. OmniRide service is provided using principally 57-seat over-the-road coaches. The typical patron is a choice rider and has access to a private vehicle.

PRTC operates 10 commuter bus routes in the I-95 corridor from the Woodbridge, Dale City, Lake Ridge, Montclair, and Dumfries communities. Their destinations include downtown Washington, D.C., the Pentagon, Crystal City, Rosslyn/Ballston, Capitol Hill, the Navy Yard area and Tyson’s Corner. I-95 commuter bus route characteristics in FY 2010 are listed in **Table 5-2** and shown in **Figure 5-3**. Buses operate only on weekdays in the I-95 corridor with service inbound to Washington/Northern Virginia in the mornings and outbound in the evenings. In addition, over half of the routes have outbound midday service. Service frequency varies by route from one trip to eight trips per hour. The routes circulate through their origin communities, with stops at multiple commuter lots before entering I-95. Over 5,800 passenger trips are on I-95 corridor OmniRide routes.

Metro Direct is a commute and reverse-commute bus service that provides stops at Metrorail stations. As shown in **Table 5-2**, PRTC operates one Metro Direct route in the I-95 corridor from Lake Ridge to the Franconia-Springfield Metro station. This route operates all-day in both directions. Over 800 passenger trips are on this corridor’s Metro Direct route.

**Figure 5-2:
WMATA Bus Routes in I-95 Corridor**



The base one-way fares for OmniRide routes are \$5.25 with a SmarTrip card or \$7.00 cash. The base one-way fare for Metro Direct routes is \$2.65 with a SmarTrip card or \$3.30 cash. VRE monthly pass holders transfer free from VRE to PRTC bus routes, but must pay the PRTC bus fare when riding a bus to a VRE station. SmarTrip card holders transferring between an OmniRide or Metro Direct bus and another regional bus system receive transfer credit. However, no transfer credit is given when transferring between OmniRide or Metro Direct buses and Metrorail.

**Table 5-2
PRTC – Corridor Routes Characteristics in 2010**

Route Type	Route Name	Weekday Trips (AM/PM/off-peak)	Avg. Weekday Rev.-Hours	Avg. Weekday Ridership	Riders per Rev.-Hour
OmniRide	Dale City to Washington	21/22/3	66.8	1,704	25.5
OmniRide	Dale City to Pentagon and Crystal City	8/7/3	19.5	558	28.7
OmniRide	Dale City to Pentagon and Washington Navy Yard	5/6/4	15.9	448	28.1
OmniRide	Lake Ridge to Washington	9/14/5	40.6	864	21.3
OmniRide	Lake Ridge to Pentagon and Crystal City	6/8/4	18.5	502	27.1
OmniRide	Capitol Hill	1/1/--	2.9	67	23.5
OmniRide	Montclair	11/11/3	37.0	953	25.8
OmniRide	Route 1/South Route 1	5/7/3	16.4	334	20.4
OmniRide	Rosslyn/Ballston	4/4/--	10.7	326	30.4
OmniRide	Tysons Express	4/5/--	12.7	65*	5.2*
Metro Direct	Prince William	4/4/13	27.7	828	29.9

* As of May 2011, average weekday ridership on the Tysons Express route had risen to 149, for riders per revenue-hour of 11.6

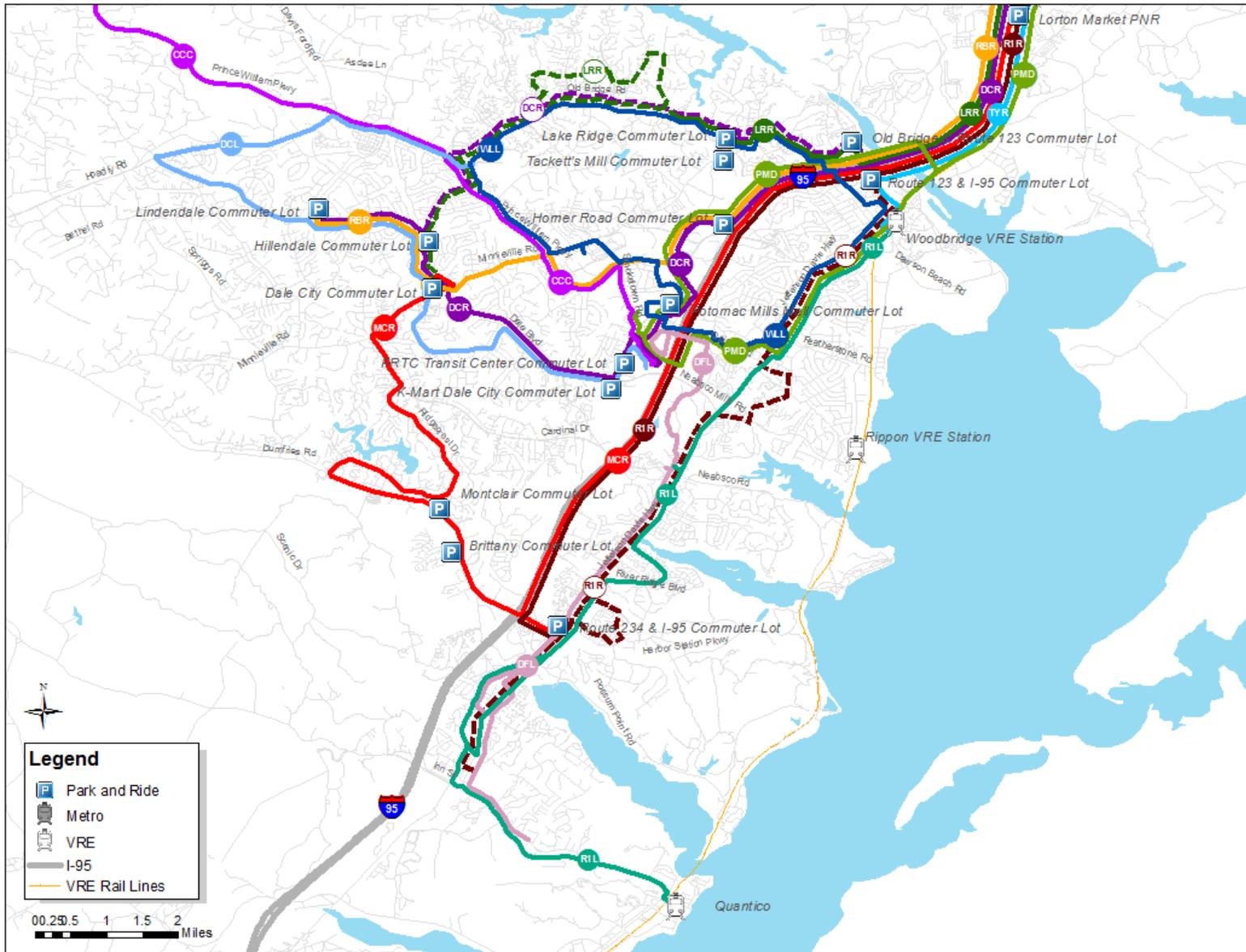
Following is a general description of each route, as of May 23, 2011 when PRTC's spring service changes went into effect.

Dale City to Washington OmniRide – This route provides connecting service between Dale City and Downtown Washington, D.C. The route operates an extended service span on weekdays, with peak period service approximately every 7 to 8 minutes. It generally operates in Prince William County southeast on Dale Boulevard, north on Gideon Drive, Potomac Mills Road, and Telegraph Road and northeast on Prince William Parkway, serving five commuter lots, as listed below.

Taking the average of all trips on a typical weekday morning in April 2011, boardings at each of the commuter lots were as follows:

- Lindendale 2
- Dale City 6
- PRTC Transit Center 9
- Potomac Mills 7
- Horner Road 23

**Figure 5-3:
PRTC Bus Routes in I-95 Corridor**



On average, one additional passenger boarded at other locations along the route, for an average load at Horner Road (just before entering I-95) of 47 passengers. The seated capacity of the OmniRide bus was exceeded at the Horner Road Commuter Lot on five out of the 21 trips.

From the Horner Road Commuter Lot, the route has direct ramp access to the I-95 HOV lanes and travels on I-95 and I-395 non-stop using the HOV lanes to their end north of Eads Street, then in general purpose lanes to the 14th Street exit. The route continues north on 14th Street, west on I Street, south on 19th Street and then northwest on Virginia Avenue to end at the State Department.

Dale City to Pentagon and Crystal City OmniRide – This route provides connecting service between Dale City and the Pentagon and Crystal City. The route operates inbound in the morning peak and outbound all afternoon and early evening. Peak period service operates approximately every 30 minutes. In Prince William County, it operates the same alignment as the Dale City to Washington route, serving five commuter lots, as listed below.

Taking the average of all trips on a typical weekday morning in April 2011, boardings at each of the commuter lots were as follows:

- Lindendale 3
- Dale City 6
- PRTC Transit Center 6
- Potomac Mills 4
- Horner Road 25

On average, one additional passenger boarded at other locations along the route, for an average load at Horner Road (just before entering I-95) of 44 passengers.

From the Horner Road Commuter Lot, the route has direct ramp access to the I-95 HOV lanes and travels non-stop on I-95 and I-395 in the HOV lanes to the HOV exit ramps at Eads Street to the Pentagon. From the Pentagon the route generally travels south on Eads and Clark streets, east on 26th Street, north on Crystal Drive, and west on 12th Street ending at Old Jefferson Davis Highway.

Dale City to Washington Navy Yard OmniRide – This route provides connecting service between Dale City and the Pentagon and the Washington Navy Yard. The route operates inbound in the morning peak and outbound all afternoon and early evening. Peak period service operates approximately every 30 minutes. In Prince William County, it operates the same alignment as the Dale City to Washington route, serving five commuter lots, as listed below.

Taking the average of all trips on a typical weekday morning in April 2011, boardings at each of the commuter lots were as follows:

- Lindendale 2
- Dale City 9
- PRTC Transit Center 6
- Potomac Mills 11
- Horner Road 19

On average, one additional passenger boarded at other locations along the route, for a load at Horner Road (just before entering I-95) of 48 passengers.

From the Horner Road Commuter Lot, the route has direct ramp access to the I-95 HOV lanes and travels non-stop on I-95 and I-395 in the HOV lanes to the HOV exit ramps at Eads Street to the Pentagon. From the Pentagon the route enters I-395 and travels north to the 14th Street exit. The route continues north on 14th Street, east on C Street, south on 12th Street, southeast on Maine Avenue, east on M Street, then south on 11th Street, east on O Street and north on 12th Street, ending at the Maritime Plaza at the Navy Yard.

Lake Ridge to Washington OmniRide – This route provides connecting service between Lake Ridge and Downtown Washington, D.C. The route operates an extended service span on weekdays, with peak period service approximately every 10 to 20 minutes. It generally operates in Prince William County north on Smoketown Road and Griffith Avenue, east on Cotton Mill Drive, south on Mohican Road, east on Seminole Road, north on Antietam Road, east on Deepford Drive, south on Oakwood Drive, southeast on Old Bridge Road, south on Route 123 and north on Annapolis Way, serving five commuter lots, as listed below.

For this route pattern, taking the average of all trips on a typical weekday morning in April 2011, boardings at each of the commuter lots were as follows:

- Festival at Old Bridge 4
- Tacketts Mill 6
- Lake Ridge 3
- Old Bridge and Route 123 9
- Route 123 and I-95 11

On average, five additional passengers boarded at other locations along the route, for a load at Route 123 and I-95 (just before entering I-95) of 38 passengers.

A second route pattern is also operated for the last two trips of the morning, serving both Lake Ridge and Dale City. It generally operates in Prince William County north on Dale Boulevard, northeast on Hillendale Drive, northwest on Prince William Parkway, east on Old Bridge Road and south on Route 123, serving five commuter lots as listed below.

For this secondary route pattern, taking the average of the two trips on a typical weekday morning in April 2011, boardings at each of the commuter lots were as follows:

- Dale City 5
- Tacketts Mill and Lake Ridge 3
- Old Bridge and Route 123 6
- Route 123 and I-95 17

On average, three additional passengers boarded at other locations along the route, for a load at Route 123 and I-95 (just before entering I-95) of 33 passengers.

From the Route 123 and I-95 Commuter Lot, the route has direct ramp access to the I-95 HOV lanes via Annapolis Way and Route 123 and travels on I-95 and I-395 non-stop using the HOV lanes to their end north of Eads Street, then in general purpose lanes to the 14th Street exit. In Washington, D.C., the route follows the same alignment as the Dale City to Washington route, ending at the State Department.

Lake Ridge to Pentagon and Crystal City OmniRide – This route provides connecting service between Lake Ridge and the Pentagon and Crystal City. The route operates inbound in the morning peak and outbound all afternoon and early evening. Peak period service operates approximately every 10 to 20 minutes. In Prince William County, the route follows the same alignment as the Lake Ridge to Washington route, serving five commuter lots, as listed below.

Taking the average of all trips on a typical weekday morning in April 2011, boardings at each of the commuter lots were as follows:

- Festival at Old Bridge 2
- Tacketts Mill 11
- Lake Ridge 8
- Old Bridge and Route 123 6
- Route 123 and I-95 11

On average, seven additional passengers boarded at other locations along the route, for a load at Route 123 and I-95 (just before entering I-95) of 43 passengers.

From the Route 123 and I-95 Commuter Lot, the route has direct ramp access to the I-95 HOV lanes via Annapolis Way and Route 123 and travels in the I-95 and I-395 HOV lanes non-stop to the HOV exit ramps at Eads Street to the Pentagon. From the Pentagon, the route follows the same alignment as the Dale City to Pentagon and Crystal City route, ending at Old Jefferson Davis Highway.

Capitol Hill OmniRide – This route provides connecting service between Dale City, Lake Ridge and Capitol Hill. It operates only one trip in the morning and one trip in the afternoon. It generally operates in Prince William County from the Dale City Commuter Lot north on Dale Boulevard, northeast on Hillendale Drive, northwest on Prince William Parkway, northeast on Old Bridge Road and south on Route 123, serving four commuter lots, as listed below.

On a typical weekday morning in April 2011, boardings at each of the commuter lots were as follows:

- Dale City 2
- Tacketts Mill and Lake Ridge 17
- Old Bridge and Route 123 12

An additional six passengers boarded at other locations along the route, for a load at Old Bridge and Route 123 (just before entering I-95) of 37 passengers.

From the Old Bridge and Route 123 Commuter Lot, the route has direct ramp access to the I-95 HOV lanes via Route 123 and travels on I-95 and I-395 non-stop using the HOV lanes to their end north of Eads Street, then in general purpose lanes to the 14th Street exit. The route continues north on 14th Street, east on C Street, north on 12th Street, east on Constitution Avenue, southeast on Pennsylvania Avenue, makes a loop north on 3rd Street, east on E Street, south on N. Capitol Street and southwest on Louisiana Avenue back to 3rd Street. The route continues south on 3rd Street, and west on Independence Avenue, ending at 7th Street.

Montclair OmniRide – This route provides connecting service between Montclair and the Pentagon and Downtown Washington, D.C. The route operates inbound in the morning peak and outbound all afternoon and early evening. Peak period service operates approximately every 15 minutes. It generally

operates in Prince William County from the Dale City Commuter Lot southwest on Minnieville Road, southeast on Cardinal west on Minnieville, south on Cardinal Drive, south on Waterway Drive through the Montclair community and southeast on Route 234 (Dumfries Road), serving three commuter lots, as listed below.

Taking the average of all trips on a typical weekday morning in April 2011, boardings at each of the commuter lots were as follows:

- Dale City 5
- Brittany 6
- Route 234 and Route 1 25

On average, an additional 10 passengers boarded at other locations along the route, for a load at Route 234 and Route 1 (just before entering I-95) of 45 passengers.

From the Route 234 and Route 1 Commuter Lot, the route enters the general purpose I-95 travel lanes until reaching the I-95 HOV access ramps just south of the Cardinal Drive overpass. It then travels non-stop in the I-95 and I-395 HOV lanes to the HOV exit ramps at Eads Street to the Pentagon. From the Pentagon, the route enters I-395 and travels north to the 14th Street exit. The route continues north on 14th Street, east on H Street, south on 11th Street, southeast on Pennsylvania Avenue, south on 4th Street, west on Independence Avenue, south on 7th Street, and west on D Street, ending at 9th Street.

Route 1/South Route 1 OmniRide – This route operates two distinct route patterns. Route 1 provides connecting service between Triangle, Dumfries and Woodbridge and the Pentagon and Downtown Washington, D.C. South Route 1 provides connecting service between Woodbridge and the Pentagon and Downtown Washington, D.C.

Route 1 operates only one trip in the morning and one in the afternoon. In the morning, it generally operates in Prince William County from Triangle northeast on Route 1, southeast on River Ridge Boulevard, northwest on Powell’s Creek Boulevard, northeast on Route 1 and northwest on Route 123, serving the Route 123 and I-95 Commuter Lot.

On a typical weekday morning in April 2011, boardings at the commuter lot were as follows:

- Route 123 and I-95 4

An additional 19 passengers boarded at other locations along the route, for a load at Route 123 and I-95 (just before entering I-95) of 23 passengers.

From the Route 123 and I-95 Commuter Lot, the route travels via Annapolis Way and Route 123 to the direct access ramp to the I-95 HOV lanes and travels non-stop in the I-95 and I-395 HOV lanes to the HOV exit ramps at Eads Street to the Pentagon. From the Pentagon the route enters I-395 and travels north to the 14th Street exit. The route continues north on 14th Street, west on I Street, south on 19th Street and then northwest on Virginia Avenue to end at the State Department. In the afternoon, after serving the Pentagon, the route travels south in the I-395 and I-95 HOV lanes, exiting and merging into general purpose lanes just south of the Cardinal Drive overpass and exiting I-95 at Joplin Road and traveling southeast on Joplin Road to Triangle. It then continues via the morning routing north to the Route 123 and I-95 Commuter Lot.

South Route 1 operates inbound in the morning peak and outbound all afternoon and early evening. Peak period service operates approximately every 50 minutes. It generally operates in Prince William County from Powell’s Creek Boulevard southwest on Route 1, southeast on River Heritage Boulevard, southwest on Kirby Drive, southeast on Clancy Drive, southwest on River Ridge Boulevard, northwest on Wayside Drive, southwest on Route 1 and northwest on Route 234, serving the Route 234 and Route 1 Commuter Lot.

Taking the average of all trips on a typical weekday morning in April 2011, boardings at each of the commuter lots were as follows:

- Route 234 and Route 1 21

On average, an additional 23 passengers boarded at other locations along the route, for a load at Route 234 and Route 1 (just before entering I-95) of 44 passengers.

From the Route 234 and Route 1 Commuter Lot, the route enters the general purpose I-95 travel lanes until reaching the I-95 HOV access ramps just south of the Cardinal Drive overpass. It then travels non-stop in the I-95 and I-395 HOV lanes to the HOV exit ramps at Eads Street to the Pentagon. From the Pentagon, the route enters I-395 and travels north to the 14th Street exit. In Washington, D.C., the route follows the same alignment as the Montclair route, ending at the D street and 9th Street.

Rosslyn/Ballston OmniRide – This route provides connecting service between Dale City, Woodbridge and the Pentagon and Rosslyn/Ballston. The route operates in the morning and afternoon peak periods only, with service approximately every 40 minutes. It generally operates in Prince William County southeast on Dale Boulevard, northeast on Minnieville Road and Prince William Parkway, and north on Telegraph Road, serving four commuter lots, as listed below.

Taking the average of all trips on a typical weekday morning in April 2011, boardings at each of the commuter lots were as follows:

- Lindendale 10
- Dale City 18
- First Baptist Church 6
- Horner Road 17

On average, the load at Horner Road (just before entering I-95) was 51 passengers. The seated capacity of the OmniRide bus was exceeded at the Horner Road Commuter Lot two of the four trips.

From the Horner Road Commuter Lot, the route has direct ramp access to the I-95 HOV lanes and travels non-stop on I-95 and I-395 in the HOV lanes to the HOV exit ramps at Eads Street to the Pentagon. From the Pentagon, the route continues northwest on Route 110, and southwest on Wilson Boulevard and Fairfax Drive, serving four Metro Stations ending at the Ballston Station.

Tysons Express OmniRide – This route provides connecting service between Woodbridge and Tysons Corner. The route operates in the morning and afternoon peak periods only, with service approximately every 40 minutes. It generally operates in Prince William County from the Woodbridge VRE Station northeast on Route 1 and northwest on Route 124, serving the Route 123 and I-95 Commuter Lot.

Taking the average of all trips on a typical weekday morning in April 2011, boardings at each of the commuter lots were as follows:

- Woodbridge VRE 5
- Route 123 and I-95 14

On average, the load at the Route 123 and I-95 Commuter Lot (just before entering I-95) was 19 passengers.

From the Route 123 and I-95 Commuter Lot, the route has direct ramp access to the I-95 HOV lanes via Annapolis Way and Route 123 and travels northeast in the I-95 HOV lanes and northwest on I-495 to the Leesburg Pike exit and into Tysons Corner. It will travel in the I-495 HOV lanes once they are complete. In the morning, it then circulates through Tysons Corner generally traveling northwest on Leesburg Pike, deviating northeast to serve Tysons Corner Center, north on International Drive, northwest on Greensboro Drive, east and south on Spring Hill Road and Jones Branch Westpark Drive, ending at Westpark Drive. In the afternoon, the route begins at Tysons Corner Center, circulates through Tysons Corner, and enters I-495 via Route 123.

Prince William Metro Direct – This route operates in a loop connecting Dale City and Woodbridge and the Franconia-Springfield Metro and VRE Station. The route operates all-day on weekdays approximately every 40 minutes.

In the morning, it generally operates in Prince William County from the PRTC Transit Center north on Telegraph Road and Potomac Mills Road, serving the PRTC Transit Center and Horner Road Commuter Lot.

Taking the average of all trips on a typical weekday morning in April 2011, boardings at each of the commuter lots were as follows:

- PRTC 5
- Potomac Mills 5
- Horner Road 4

On average, an additional 5 passengers boarded at other locations along the route, for a load at Horner Road (just before entering I-95) of 22 passengers. It should also be noted that not all of the boardings at Potomac Mills are related to parking at the commuter lot.

From the Horner Road Commuter Lot, the route has direct ramp access to the I-95 HOV lanes and travels non-stop on I-95 in the HOV lanes to the HOV exit ramps at Franconia-Springfield Parkway, travelling east and exiting to the Franconia-Springfield Metro and VRE Station via Frontier Drive. It returns to Prince William County north on Frontier Drive, west on Franconia-Springfield Parkway, south on Backlick Road, and entering I-95 just south of Fairfax County Parkway. The route exits I-95 and continues southwest on Route 1, west on Opitz Boulevard, and south on Potomac Mill Road to the PRTC Transit Center. In the afternoon, the route operates in the reverse.

5.4 Fredericksburg Regional Transit (FRED)

FREDericksburg Regional Transit (FRED) provides fixed route transit service with deviations to the Fredericksburg Region including the City of Fredericksburg and Spotsylvania, Stafford, Caroline and King George counties. According to 2008 NTD data, FRED's service area is 242 square miles with a population of 113,716. FRED operates 17 local deviated fixed routes, with five routes serving the City of Fredericksburg, three routes serving Spotsylvania County and six routes serving Stafford County. The Stafford County routes include Route D6, which provides shuttle service between the VDOT North and South commuter lots on Garrisonville Road near I-95. The remaining deviated fixed routes serve King George and Caroline counties. In addition to regular fixed route service, FRED provides weekend service for University of Mary Washington students via the Eagle Express, and VRE feeder service to the VRE station in the City of Fredericksburg. Currently, FRED does not provide commuter service, and most of FRED's deviated fixed routes begin service between 7:00 a.m. and 9:00 a.m. and end by 8:30 p.m. Fares on regular local routes are 50 cents, and VRE feeder service is \$1.25. The following routes serve Fredericksburg area commuters:

- **D6-Stafford County Express Route D6 North Commuter Lot to South Commuter Lot:** This route provides peak period shuttle service between the North Commuter Lot and South Commuter Lot on Garrisonville Road between the hours of 6:30 a.m. and 8:15 a.m. and 4:30 p.m. and 7:15 p.m. In 2009, from January to December, this service had 10,133 riders.
- **VF1-Idlewild/Cowan Blvd. Fredericksburg VRE service:** This route provides a.m. and p.m. period VRE feeder service from stops along Cowan Boulevard and the Idlewild community in City of Fredericksburg to the VRE station in Fredericksburg. Service is timed to coordinate with VRE train schedules. From January to December in 2009, this service had 5,821 riders.
- **VS1-Spotsylvania County VRE Service:** This service provides VRE feeder service from commuter park and ride locations on Gordon Road and Salem Church Crossing in Spotsylvania County (Route 3) to the VRE Station in City of Fredericksburg. Service is timed to coordinate with VRE train schedules. From January to December in 2009, this route had 31,615 riders.

Figure 5-4 illustrates the existing FRED transit network. Not shown in this is D6 – the shuttle service that is provided between the North and South Commuter Lots on Garrisonville Road. **Figure 5-5** illustrates the two existing feeder routes operated by FRED to the Fredericksburg VRE station.

5.5 Quick's Bus Company

Quick's Bus Company (Quick's) provides commuter service from Spotsylvania and Stafford counties to the Washington, D.C. area on a fleet of MCI/Neoplan motor coaches that can accommodate 47 to 55 passengers. Most of Quick's route patterns provide service to destinations outside of the central Washington, D.C. core. Quick's provides regularly scheduled service to the following commuter lots:

Figure 5-4: FRED Transit System Map

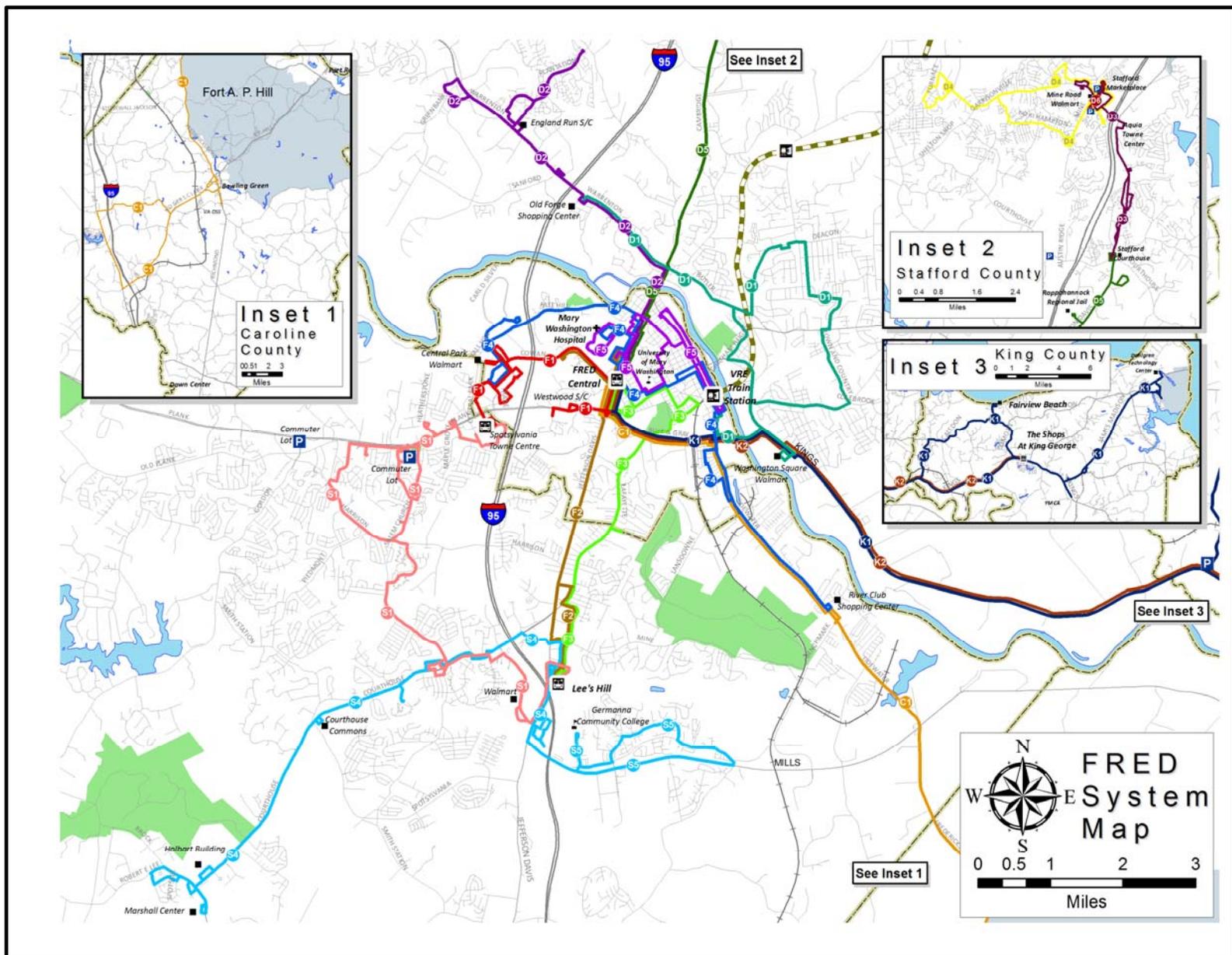


Figure 5-5: FRED-Operated Feeder Routes to Fredericksburg VRE Station

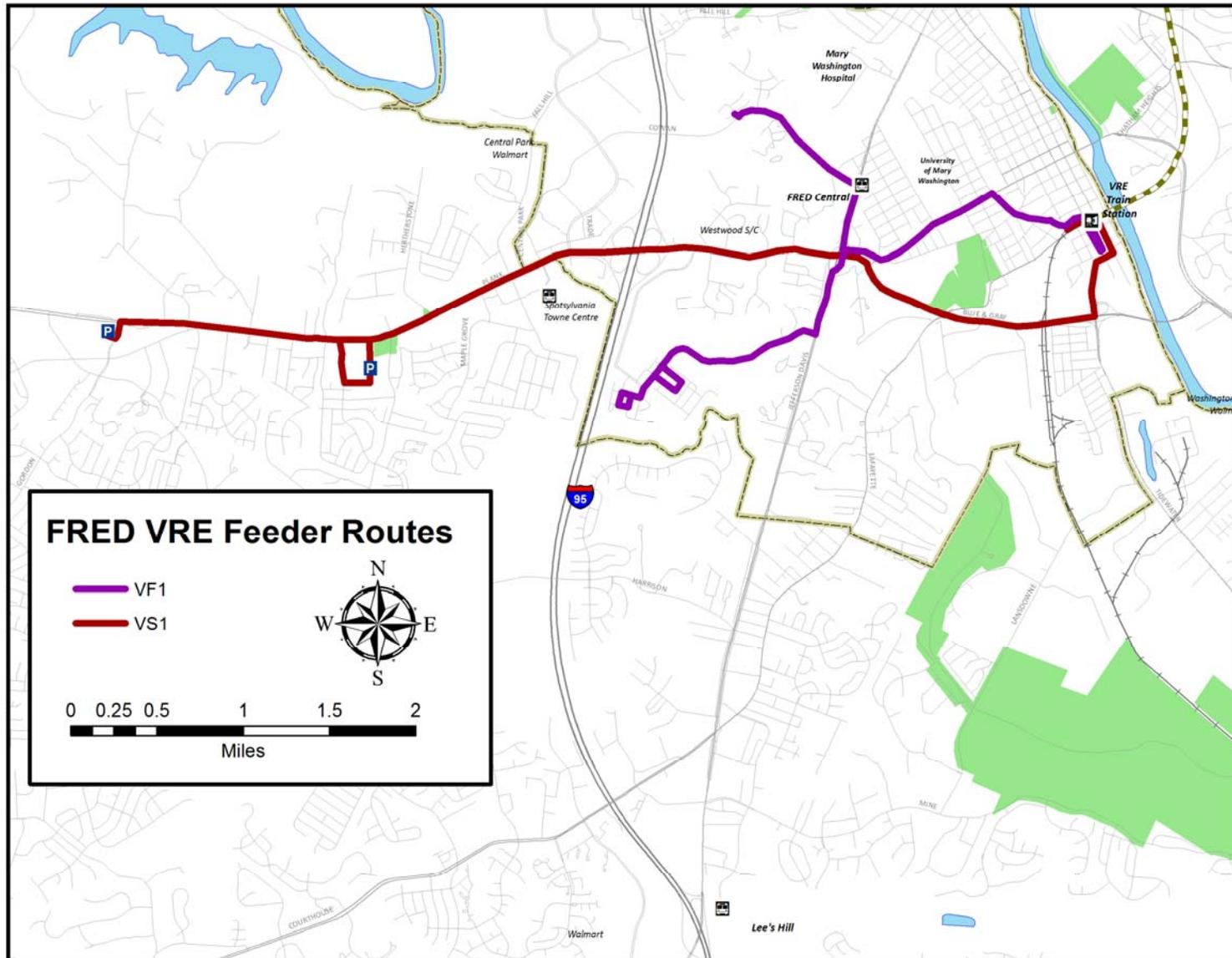


Table 5-3: Commuter Lots Served by Quick's

Commuter Lot	Location
Rt. 17 Commuter Lot	Lot is located on Rt. 17 in Falmouth across from Pizza Hut on the left hand side.
Rt. 630 Commuter Lot	Lot is right off I-95 exit 140 in Stafford.
Rt. 3 (Gordon Road) Commuter Lot	Lot is at the corner of Gordon Road and Rt. 3 West coming from Fredericksburg.
Rt. 3 Old Commuter Lot	Lot is off Route 3 in Fredericksburg, behind the old Ukrops store
Rt. 208 Commuter Lot	Lot is located on Houser Drive, off 208 east of I-95.
Rt. 610 – North Lot	North Lot is located off of Garrisonville Rd. on Staffordborough Blvd., behind the McDonalds (South lot is not served by Quick's

Quick's has the following fares for the regularly scheduled commuter service from Fredericksburg:

- Monthly Tickets for \$260.00, Ft. Belvoir only for \$200.00;
- Bi-Weekly Tickets for \$135.00, Ft. Belvoir only for \$110.00;
- Weekly Tickets for \$75.00;
- Twenty Punch Tickets for \$190.00;
- Round Trip Tickets for \$22.00; and
- One Way Tickets for \$14.00.

Tickets are purchased directly from the conductor on each commuter motor coach via cash, personal checks, SmartBenefits, SmartBenefits Vouchers, TranBen Checks, and Electronic SmarTrip Cards available at WMATA under the van pool section. Quick's operates 10 commuter routes from Stafford and Spotsylvania counties as described below.

- **Run #1 – Washington Navy Yard Department of Transportation (Assigned Seating):** This route serves the Route 17 Commuter Lot, Route 630 Commuter Lot, M & 2nd Streets, Navy Yard Bldg. 197 and Bldg. 172 via the following schedule:

Morning (AM)	Time	Evening (PM)	Time
Route 17 Commuter Lot	5:15 AM	M St. & Department of Transportation	3:30 PM
Route 630 Commuter Lot	5:30 AM	Navy Yard Building 197	3:40 PM
M & 2nd Street	6:27 AM	Route 630 Commuter Lot	4:30 PM
Navy Yard Bldg. 197	6:30 AM	Route 17 Commuter Lot	4:45 PM
Bldg. 172	6:33 AM		

- **Run #2 – Ft. Belvoir:** This routes serves the Route 17 Commuter Lot, Route 630 Commuter Lot, Hospital, Gunston and Jackson Loop, and Buildings 707, 269, 214, 219, 320, and 307 via the following schedule:

Morning (AM)	Time	Evening (PM)	Time
Route 17 Commuter Lot	4:50 AM	Building 307	3:30 PM
Route 630 Commuter Lot	5:00 AM	Building 320	
Hospital		Building 214 and 219	
Gunston and Jackson Loop		Building 269	
Building 707		Building 707	
Building 269		Hospital	
Building 214 and 219		Corner of Gunston and Jackson Loop	
Building 320		Route 630 Commuter Lot	
Building 307		Route 17 Commuter Lot	

- **Run #3 – Crystal City and Pentagon (Assigned Seating):** This route serves the Route 208 Commuter Lot, Route 17 Commuter Lot, Pentagon Bus Bay, 12th & Eads, Crystal Gateway, Hilton Hotel, Airport Plaza 1, Crystal Park 5, Chrystal Park, and Crystal Mall 3 via the following schedule:

Morning (AM)	Time	Evening (PM)	Time
Route 208 Commuter Lot	5:00 AM	Hilton Hotel	3:31 PM
Route 17 Commuter Lot	5:15 AM	Airport Plaza 1	3:32 PM
Pentagon Bus Bay 11	6:15 AM	Crystal Park 5	3:33 PM
12th & Eads	6:17 AM	Crystal Park (Starbucks)	3:34 PM
Crystal Gateway (Stoplight near 12th & Clark Street)	6:18 AM	Crystal Mall 3 (1801 & 1805 Crystal Drive)	3:35 PM
Hilton Hotel	6:19 AM	Jefferson Plaza 1 (JP1)	3:36 PM
Airport Plaza 1	6:20 AM	Clark St. & Crystal Dr. (Gateway N. at Crosswalk)	3:37 PM
Crystal Park 5	6:21 AM	12th & Eads	3:38 PM
Crystal Park (Starbucks)	6:22 AM	Pentagon Bus Bay 11	3:43 PM
Crystal Mall 3 (1801 & 1805 Crystal Drive)	6:23 AM	Route 17 Commuter Lot	4:40 PM
Jefferson Plaza 1 (JP1)	6:24 AM	Route 208 Commuter Lot	4:55 PM

- **Run #5 – Crystal City & Pentagon (Assigned Seating):** This route serves the Route 208 Commuter Lot, Route 17 Commuter Lot, Route 630 Commuter Lot, 12 & Eads, Jefferson Plaza 2, Hilton Hotel, Crystal Mall 3, Crystal Park and Pentagon Bus Bay via the following schedule:

Morning (AM)	Time	Evening (PM)	Time
Route 208 Commuter Lot	5:30 AM	Hilton Hotel	4:25 PM
Route 17 Commuter Lot	5:48 AM	Crystal Park (Starbucks)	4:26 PM
Route 630 Commuter Lot	6:00 AM	Across from Crystal Mall 3	4:27 PM
12th & Eads	6:50 AM	Clark St. & Crystal Dr. (Gateway N. at Crosswalk)	4:30PM
Jefferson Plaza 2 (JP 2)	6:52 AM	12th and Eads (Stoplight)	4:31 PM
Hilton Hotel	6:55 AM	Pentagon Bus Bay 11	4:36 PM
Across from Crystal Mall 3	6:57 AM	Route 630 Commuter Lot	5:30 PM
Crystal Park (Starbucks)	7:00 AM	Route 17 Commuter Lot	5:40 PM
Pentagon Bus Bay 11	7:03 AM	Route 208 Commuter Lot	6:00 PM

- **Run #10 – Crystal City & Pentagon (Assigned Seating):** This route serves Route 3 Gordon Road, Route 610 Commuter Lot, Pentagon Bus Bay, 12 & Eads, Crystal Gateway 1, 2521 South Clark Street, 26th Street & Crystal Drive, Crystal Park, Water Park, Jefferson Plaza 1 and Clark Street & Crystal Drive via the following schedule:

Morning (AM)	Time	Evening (PM)	Time
Route 3 Gordon Road	5:30 AM	2521 S. Clark Street (at Crosswalk)	4:45 PM
Route 610 Commuter Lot	6:00 AM	26th Street & Crystal Drive	4:46 PM
Pentagon Bus Bay 11	6:45 AM	Crystal Park (Starbucks)	4:47 PM
12th & Eads	6:47 AM	Water Park (across from Post Office)	4:48 PM
Crystal Gateway 1	6:48 AM	Jefferson Plaza 1 (JP1)	4:50 PM
2521 South Clark Street (at Crosswalk)	6:50 AM	Clark St. & Crystal Dr. (Gateway North at Crosswalk)	4:53 PM
26th Street & Crystal Drive	6:51 AM	*****	
Crystal Park (Starbucks)	6:52 AM	12th & Eads	4:55 PM
Water Park (across from Post Office)	6:53 AM	Pentagon (Bus Bay 11)	5:00 PM
Jefferson Plaza 1 (JP1)	6:54 AM	Route 610 Commuter Lot	5:45 PM
Clark Street & Crystal Drive (Gateway North at Crosswalk)	6:55 AM	Route 3 Gordon Road	6:10 PM

- **Run #14 – Crystal City & Pentagon (Assigned Seating):** This route provides service to Route 3 Gordon Road, Route 610 Commuter Lot, Pentagon Bus Bay, 12th & Eads, Crystal Gateway 1, Hilton, 26th Street & Crystal Drive, Crystal Park, Water Park, Jefferson Plaza 1 and Clark Street & Crystal Drive via the following schedule:

Morning (AM)	Time	Evening (PM)	Time
Route 3 Gordon Road	4:30 AM	Hilton	3:30 PM
Route 610 Commuter Lot	4:55 AM	26th Street & Crystal Drive	3:31 PM
Pentagon Bus Bay 11	5:50 AM	Crystal Park 4 (Starbucks)	3:33 PM
12th & Eads	5:52 AM	Water Park (across from Post Office)	3:35 PM
Crystal Gateway 1	5:53 AM	Jefferson Plaza 1 (JP1)	3:38 PM
Hilton	5:55 AM	Clark Street & Crystal Drive (Gateway North at Crosswalk)	3:41 PM
26th Street & Crystal Drive	5:56 AM	12th & Eads	3:42 PM
Crystal Park (Starbucks)	5:57 AM	Pentagon Bus Bay 11	3:47 PM
Water Park (across from Post Office)	5:58 AM	Route 610 Commuter Lot	4:30 PM
Jefferson Plaza 1 (JP1)	5:59 AM	Route 3 Gordon Road	5:00 PM
Clark Street & Crystal Drive (Gateway North at Crosswalk)	6:00 AM		

- **Run #7 – Rosslyn/Navy Annex (Assigned Seating):** This route serves the Route 17 Commuter Lot, Route 630 Commuter Lot, Rosslyn, Navy Annex, and Arlington Cemetery via this schedule:

Morning (AM)	Time	Evening (PM)	Time
Route 17 Commuter Lot	5:25 AM	Navy Annex (Steps)	4:05 PM
Route 630 Commuter Lot	5:35 AM	Arlington Cemetery (Columbia Pike)	4:08 PM
Rosslyn (1000 Wilson Blvd)	6:45 AM	Rosslyn (1000 Wilson Blvd)	4:15 PM
Navy Annex (Steps)	7:00 AM	Route 630 Commuter Lot	5:05 PM
Arlington Cemetery (Columbia Pike)	7:03 AM	Route 17 Commuter Lot	5:15 PM

- **Run #9 – Bailey’s Crossroad (Assigned Seating):** This route provides service to Route 3 Commuter Lot at Gordon Road, Route 630 Commuter Lot, Mark Center, Skyline 6, Skyline 7 and Park Center via the following schedule:

Morning (AM)	Time	Evening (PM)	Time
Route 3 Commuter Lot (Gordon Road)	4:40 AM	Skyline 6	3:40 PM
Route 630 Commuter Lot	5:00 AM	Skyline 7	3:45 PM
Mark Center (Buildings 4850 & 4900)	5:40 AM	Park Center	3:50 PM
Skyline 6	5:45 AM	Mark Center (Buildings 4850 & 4900)	3:55 PM
Skyline 7	5:50 AM	Route 630 Commuter Lot	4:45 PM
Park Center	6:00 AM	Route 3 Commuter Lot (Gordon Road)	5:10 PM

- **Run #12 – Washington DC (Assigned Seating):** This route provides service to the Route 3 Ukrops, Route 630 Commuter Lot, and stops in Washington, D.C. as identified in the following schedule:

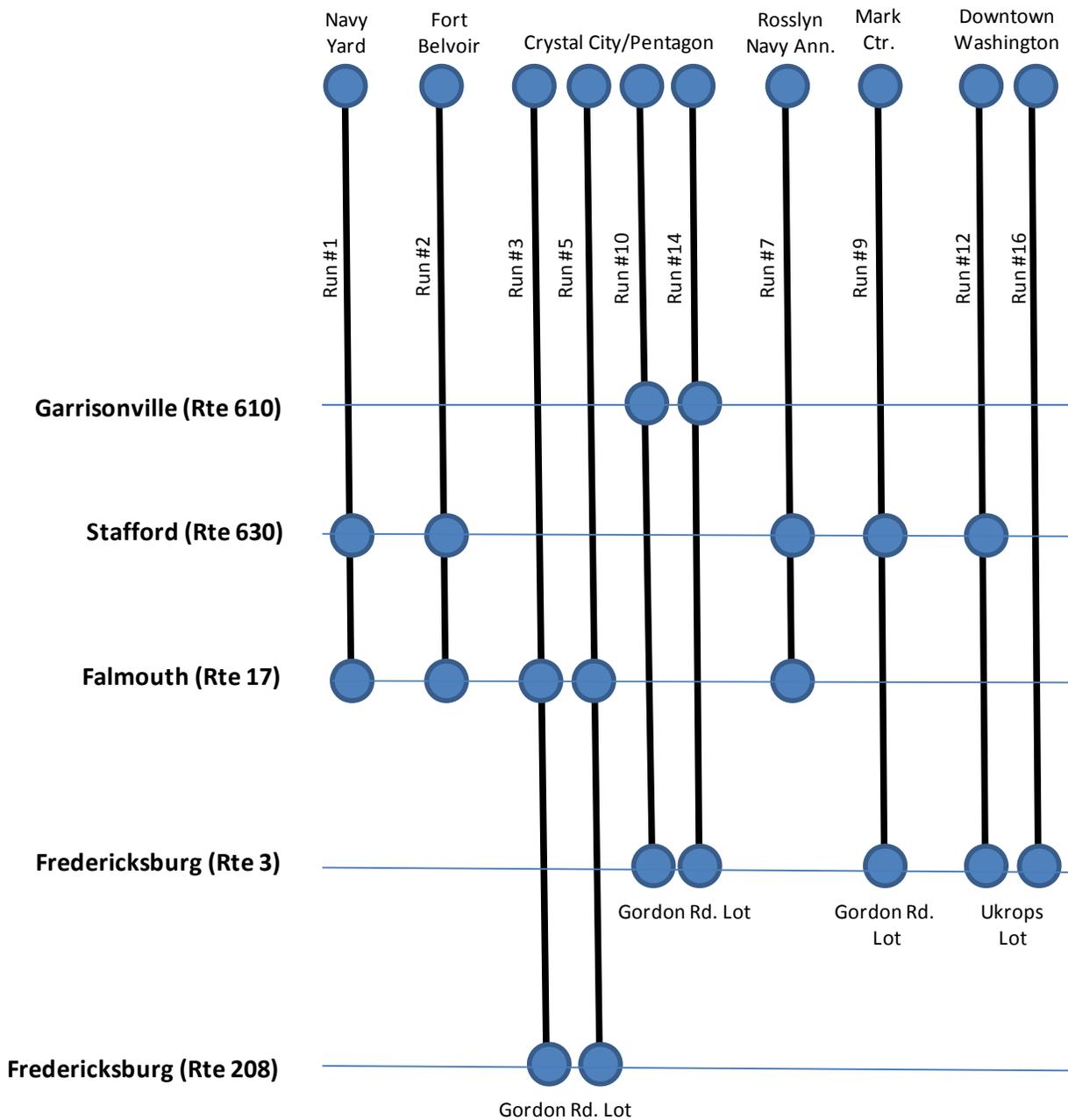
Morning (AM)	Time	Evening (PM)	Time
Route 3 Ukrops	5:00 AM	12th & Constitution	4:30 PM
Route 630 Commuter Lot	5:15 AM	12th & G NW	4:33 PM
14th Between C & Independence (Across from Holocaust M)	6:10 AM	9th & H NW	4:35 PM
12th & Constitution	6:15 AM	7th & H NW (Chinatown Metro)	4:36 PM
6th & Independence	6:17 AM	E Street a 4th	4:42 PM
4th & Independence	6:19 AM	4th & Independence (American Indian Museum)	4:46 PM
3rd & E	6:22 AM	7th & Independence (Hirshhorn Museum)	4:47 PM
6th & F NW	6:26 AM	12th & Independence (Metro stop– Across Agriculture S. Bldg.)	4:49 PM
7th & H NW (Chinatown Metro)	6:27 AM	Route 630 Commuter Lot	5:45 PM
9th & H	6:28 AM	Route 3 Ukrops	6:00 PM

- **Run # 16 – Washington, D.C. (Assigned Seating):** This route provides service to the Route 3 Ukrops and stops in Washington, D.C. as identified in the following schedule:

Morning (AM)	Time	Evening (PM)	Time
Route 3 Ukrops	5:00 AM	E & North Capital	3:32 PM
14th Between C & Independence	5:59 AM	1st & D	3:35 PM
12th & Independence	6:00 AM	4th & Independence	3:41 PM
6th & Independence	6:04 AM	7th & Independence	3:43 PM
4th & Independence	6:08 AM	12th & Independence	3:45 PM
1st & D	6:10 AM	Route 3 Ukrops	5:00 PM
E & North Capital	6:13 AM		

Overall, the Quick’s Bus Company averages 400 customers per day, making two trips a day (i.e., 800 total one-way trips). **Figure 5-6** illustrates bus route patterns operated by Quick’s.

**Figure 5-6
Quick's Bus Route Patterns**



5.6 The Martz Group

The Martz Group (Martz) provides 14 commuter routes from the Fredericksburg region with a fleet of 55-passenger deluxe motor coaches. Nearly all Martz bus trips serve the central core of Washington, D.C. Commuter lots in Spotsylvania and Stafford counties served by Martz are the same as noted earlier for Quick’s with one exception. Martz bus service does not serve the Route 630 (Stafford) commuter lot. Lots served by Martz are as follows:

Table 5.4: Commuter Lots Served by Martz

Commuter Lot	Location
Rte 208	Lot is located on Houser Drive, off 208 east of I-95
Rte 3 (Old Commuter Lot)	Lot is off Route 3 in Fredericksburg, behind the old Ukrops store
Rte 3 Gordon Rd	Lot is at the corner of Gordon Road and Rt. 3 West, coming from Fredericksburg
Rte 17	Lot is located on Rt. 17 in Falmouth across from Pizza Hut on the left hand side
North & South Lots at Rte 610	North Lot is located north of Garrisonville Rd. behind the McDonalds on Staffordborough Blvd. South lot is located south of Garrisonville Road, off of Mine Road. Most buses go to the North lot. Some buses are scheduled to serve both the North and South lots

Fares for Martz’s Fredericksburg to Washington, D.C. commuter service are as follows:

- **10-punch:** 10 one-way tickets that expire after 90-days for \$140.00
- **20-punch:** 20 one-way tickets that expire after 90-days for \$215.00
- **32-punch:** 32 one-way tickets that expire after 90-days for \$240.00
- **1-month:** Good for one-month period. Expires after month on ticket expires for \$290.00; and
- **1-day or 1-way** for \$24.00

The 1-month ticket is a flat rate ticket at a reduced rate to give the daily riders a discount. Accepted payment methods include Cash, Check, TranBen Checks, SmarTrip Card, and Smart Benefit Vouchers. Passengers can pay via phone with a credit card. All routes are open seating.

Martz averages about 450 riders each way on its 14 peak period trips (900 one-way trips each day). The following tables provide the northbound AM commuter route schedules from Fredericksburg provided by Martz. Northbound bus route patterns are illustrated in **Figure 5-7**.

Southbound DC commuter routes returning to Fredericksburg operate on the following schedules. Southbound bus route patterns are illustrated in **Figure 5-8**.

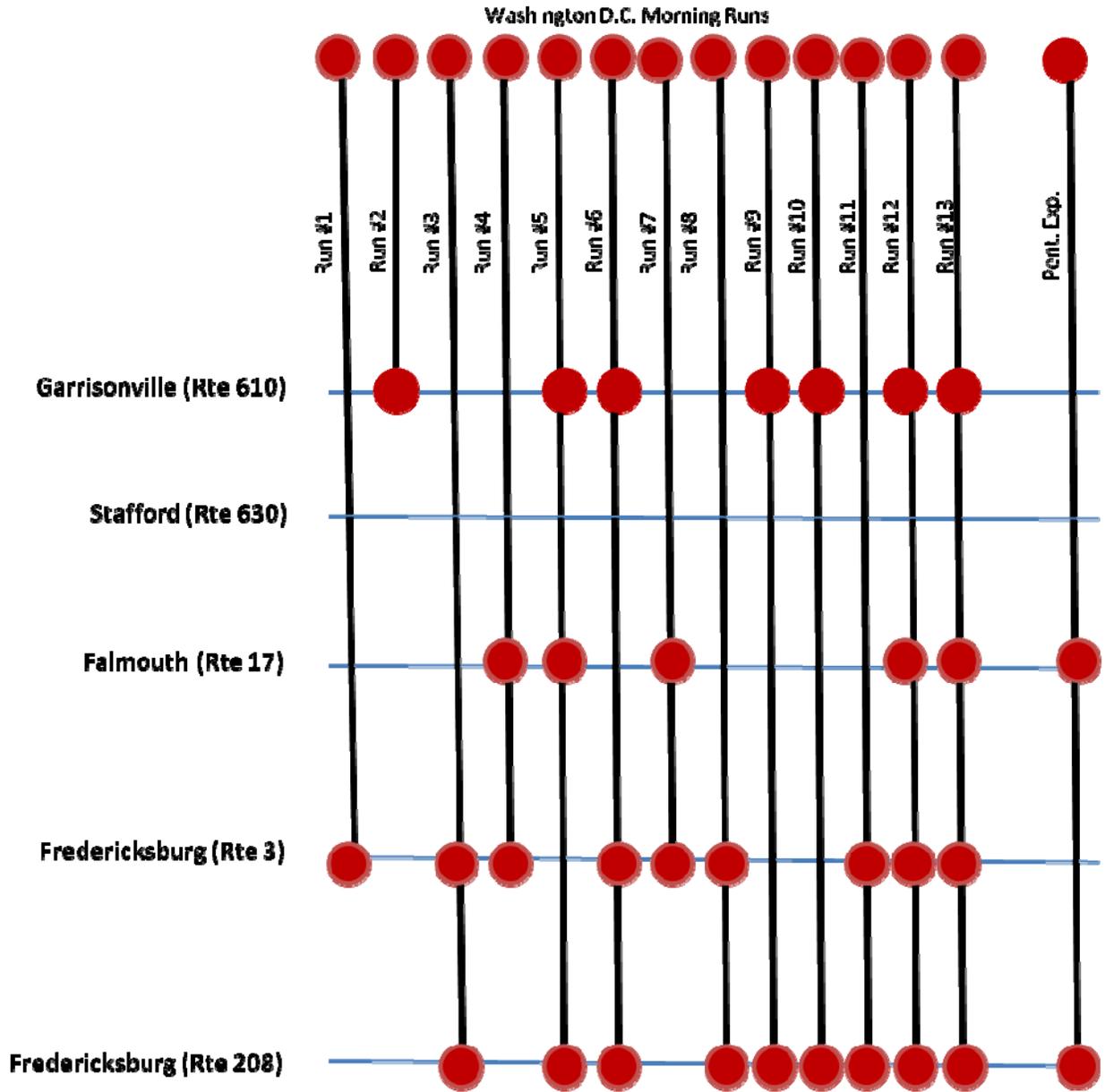
Northbound AM DC Commuter Routes - Effective April 18, 2011

DC 1 AM	
Rt 3	5:05
14th & C St	6:00
7th & Independence (DOT)	6:03
10th & Constitution	6:05
12th & Constitution	6:07
14th & Reagan Blvd	6:10
14th & NY	6:12
8th & H	6:15
5th & H	6:20

Stop	Pent Exp	DC 2	DC 3	DC 4	DC 5	DC 6	DC 7	DC 8	DC 9	DC 10	DC 11	DC 12	DC 13
Rt 208	4:25		4:35		5:35	5:45		6:15	6:25	4:30	5:30	6:25	4:50
Rt 3			4:50	5:40		6:00	6:15	6:30			5:45	6:40	5:05
Rt 17	4:55			5:55	5:55		6:30					6:55	5:20
Rt 610		5:15			6:10	6:25			6:50	5:00		7:10	5:35
Army/Navy & Fern			6:05	6:55	6:55	7:20	7:30	7:40	7:48	5:51	6:55	8:08	
Army/Navy & Macys			6:06										
S Fern & S Rotary					6:56						6:56		
Pentagon L3	5:50									5:55			6:20
2531 Clark St										5:59			
Va & E	6:00	6:12	6:12	7:02		7:27	7:40	7:50	8:05			8:25	
20th & E	6:03	6:15	6:15	7:04		7:29	7:42	7:52	8:07			8:27	
19th & F					7:22						7:22		
20th & G	6:04	6:16	6:16	7:07		7:30	7:43	7:53	8:10			8:28	
20th & I	6:05	6:17	6:17	7:09		7:32	7:45	7:55	8:12			8:33	
19th & K					7:19						7:19		
18th & K					7:18						7:18		
17th & K	6:08	6:20	6:20	7:17	7:17	7:36	7:49	7:59	8:15		7:17	8:36	
15th & K	6:10	6:22	6:22	7:19	7:14	7:38	7:51	8:01	8:17		7:14	8:38	
14th & K				7:20									
13th & K								8:03	8:21				
13th & NY	6:12	6:24	6:24	7:21		7:42	7:54	8:04	8:22			8:41	
12th & G					7:10						7:10		
13th & Penn	6:13	6:25	6:25	7:22		7:44	7:56	8:06	8:25			8:43	
12th & Penn					7:09						7:09		
10th & Penn	6:15	6:27	6:27	7:24		7:46	7:57	8:07	8:27			8:44	
7th & Penn	6:16	6:30	6:30	7:27		7:48	7:59	8:09	8:30			8:46	
7th & Ind	6:17	6:32	6:32	7:30		7:50	8:01	8:11				8:48	
L'Enf Prom	6:19	6:35	6:35	7:32		7:51	8:02	8:12	8:35			8:49	
12th & Const					7:08						7:07		
12th & Ind					7:05	7:53	8:04				7:05	8:51	6:35
14th & Ind	6:21	6:37	6:37	7:34		7:54	8:06	8:16	8:37			8:52	
27th St & Crystal Dr										6:01			
20th St & Crystal Dr										6:03			
Water Park Towers										6:06			
Union Station													6:45

*** DC9 AM picks up at both 610 commuter lots.

Figure 5-7
 Martz Group Northbound Commuter Route Patterns



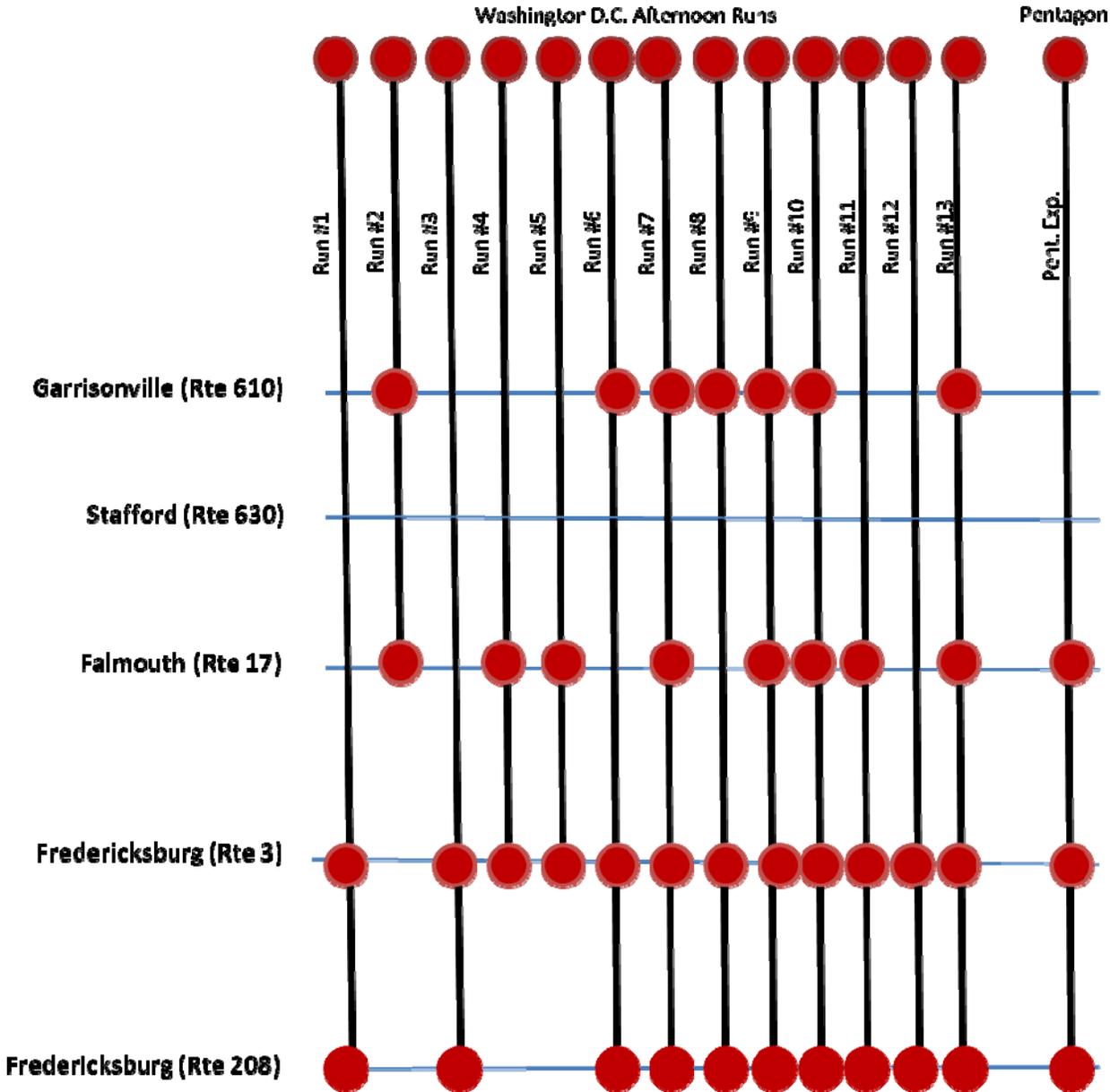
Southbound PM DC Commuter Routes - Effective April 18, 2011

Stop	DC 1 PM	DC 12 PM
7th & Ind	3:50	3:40
6th & G	3:54	3:44
8th & H (former Chopsticks)	3:55	3:45
14th & G	4:02	3:52
14th & Penn (Commerce)	4:06	3:56
14th & Ind	4:09	3:59
Rt 3	5:25	5:12
Rt 208	5:35	5:24

Rt	Pent Exp	DC 2	DC 3	DC 4	DC 5	DC 6	DC 7	DC 8	DC 9	DC 10	DC 11	DC 13	Noon
Va & E (State Dept)		3:50	3:50	4:20	4:31	4:35	5:05	5:05	5:40	6:25	3:07		12:30
20th & E		3:52	3:52	4:22	4:33	4:37	5:07	5:07	5:43	6:27	3:09		
20th & G		3:53	3:53	4:23	4:35	4:38	5:08	5:08	5:44	6:28	3:10		
20th & I		3:54	3:54	4:25	4:37	4:40	5:10	5:10	5:46	6:30	3:11		12:33
17th & K		3:57	3:57	4:29	4:40	4:44	5:15	5:15	5:50	6:35	3:14		
15th & K		4:00	4:00	4:31	4:42	4:46	5:18	5:18	5:52	6:38	3:17		12:37
14th & NY				4:34					5:56				12:40
13th & NY		4:03	4:03		4:47	4:51	5:22	5:22		6:42	3:20		
14th & G				4:36					5:58				
14th & DOC				4:38					6:00				
14th & Const													12:43
13th & Penn		4:07	4:07			4:52	5:26	5:26		6:46	3:24		
12th & Penn (OPO)					4:50								
10th & Penn		4:08	4:08			4:53	5:28	5:28		6:48	3:25		
7th & Penn		4:10	4:10		4:54	4:55	5:30	5:30		6:50	3:27		
7th & Ind		4:12	4:12		4:59	4:59	5:34	5:34		6:52	3:29		
L'Enf Prom		4:14	4:14		5:00	5:01	5:36	5:36		6:54	3:31		
14th & Ind				4:41					6:03				12:48
14th & C		4:16	4:16		5:02	5:02	5:37	5:37		6:55	3:33		
27th & Crystal Dr	4:00												
20th & Crystal Dr	4:02												
Water Park Towers	4:05												
Army/ Navy & Fern	4:10		4:23	4:50		5:05	5:45		6:08	7:00	3:45		12:55
Union Station												4:45	
12th & Ind												5:05	
Pentagon Bay L3	4:15											5:15	
Rt 610		5:10				6:00	6:30		7:12	7:45	4:30	5:55	1:40
Rt 17	5:15	5:30		5:55	6:00		6:50		7:28	8:00	4:50	6:10	1:55
Rt 3	5:30		5:35	6:10	6:15	6:30	7:05	7:00	7:43	8:15	5:05	6:30	2:20
Rt 208	5:45		5:50			6:40	7:20	7:15	7:53	8:30	5:20	6:45	2:35

*** DC 7 PM, DC 9 PM and DC 10 PM drop at both 610 lots; Noon shuttle drops at both 610 lots

Figure 5-8
 Martz Group Southbound Commuter Route Patterns



5.7 Virginia Railway Express

The I-95 corridor is also served by VRE's Fredericksburg commuter rail line. VRE is operated through a partnership between the Northern Virginia Transportation Commission (NVTC) and PRTC. NVTC represents the counties of Arlington, Fairfax and Loudoun and the cities of Alexandria, Fairfax and Falls Church, while PRTC represents the counties of Prince William, Stafford and Spotsylvania and the cities of Manassas, Manassas Park, and Fredericksburg. The line serving I-95 operates from Fredericksburg to Union Station in Washington, D.C. and includes service to the following rail stations:

- Union Station
- L'Enfant
- Crystal City
- Alexandria
- Franconia-Springfield
- Lorton
- Woodbridge
- Rippon
- Quantico
- Brooke
- Leeland Road
- Fredericksburg

VRE stations that are located in Fairfax County are: Franconia-Springfield and Lorton. Stations that are within Prince William County are: Woodbridge, Rippon and Quantico. Brooke and Leeland Road stations are located in Stafford County.

Parking spaces and park-and-ride utilization rates tend to be more fully utilized towards the south end of the Fredericksburg rail line, as shown below in **Table 5-5**:

Table 5-5: VRE Station Parking Lots:

VRE Station	Parking Spaces	Spaces Utilized*
Franconia-Springfield	Parking owned by WMATA	
Lorton	567	67%
Woodbridge	738**	70%
Rippon	676	74%
Quantico	258	79%
Brooke	499	89%
Leeland Road***	827	96%
Fredericksburg***	644	91%

Notes:

* Spaces Utilized based on May 2011 parking lot survey, reported on VRE web site.

** Woodbridge parking spaces include a parking garage

*** These stations have overflow parking that is included in % utilization calculations

A zonal fare structure is used by VRE. Stations in each Zone along the Fredericksburg rail line are as follows:

- Zone 1 – Union Station, L’Enfant
- Zone 2 – Crystal City, Alexandria
- Zone 3 – Franconia-Springfield
- Zone 4 – Lorton
- Zone 5 – Woodbridge, Rippon
- Zone 6 – Quantico
- Zone 7 – n/a
- Zone 8 – Brooke, Leeland Road
- Zone 9 – Fredericksburg

The maximum single ride fare from Fredericksburg to Union Station (Zone 9 to Zone 1) is \$10.30. Discounts are provided for ten-ride, five day and monthly passes.

VRE operates on weekdays only. There are seven inbound trips and seven outbound trips. Train numbers, starting times and ridership by train are shown in **Table 5-6**. Midweek ridership currently averages over 10,600 riders each day.

Table 5-6: VRE Ridership by Train Trip

Time Period	Train Number	Departure Time	Rail Cars and Seats/Train	Midweek Ridership	Train Occupancy
AM	300	5:05	5 (645 seats)	527	82%
	302	5:15	6 (798 seats)	769	96%
	304	5:40	6 (819 seats)	910	111%
	306	6:05	8 (1,095 seats)	939	86%
	308	6:30	6 (819 seats)	941	115%
	310	7:15	6 (908 seats)	635	70%
	312	7:40	4 (522 seats)	490	94%
	PM	301	12:55	4 (522 seats)	149
303		3:35	6 (798 seats)	1,049	131%
305		4:10	6 (819 seats)	1,017	124%
307		4:40	8 (1,095 seats)	1,186	108%
309		5:15	6 (819 seats)	1,107	135%
311		6:00	6 (908 seats)	611	67%
313		6:40	5 (645 seats)	274	42%

Train schedule, train make-up (consist) and ridership based on May 2011 information in VRE’s web site.

In addition to the trips identified above, VRE has an Amtrak Cross Honor Agreement. VRE passengers possessing a multi-ride ticket (i.e., monthly, five day, or 10 trip) can ride on select Amtrak trains at a cost of \$5 per trip. These Amtrak trains are as follows:

Inbound Amtrak Trains

- Amtrak Train #86 – departs Fredericksburg at 7:00 a.m.
- Amtrak Train #174 – departs Fredericksburg at 8:00 a.m.
- Amtrak Train #84 – departs Fredericksburg at 8:58 a.m.
- Amtrak Train #94 – departs Fredericksburg at 12:04 p.m.

Outbound Amtrak Trains

- Amtrak Train #95 – departs Union Station at 2:30 p.m.
- Amtrak Train #125 – departs Union Station at 3:55 p.m.
- Amtrak Train #93/83 – departs Union Station at 5:50 p.m.
- Amtrak Train #85/87 – departs Union Station at 7:00 p.m.

Amtrak trains do not stop at all VRE stations. They generally stop at 2 to 4 stations in between Fredericksburg and Union Station.

Ridership has been steadily growing on the Fredericksburg line. Growth has been more pronounced in the past few months as gasoline prices have risen. **Table 5-7** presents monthly ridership for FY 2010 and the first 11 months of FY 2011.

Table 5-7: VRE Monthly Ridership Trends

Month	FY 2010		FY 2011		Percent Change
	Monthly	Cumulative	Monthly	Cumulative	
July	179,830	179,830	183,554	183,554	2.1%
August	171,750	351,580	186,007	369,561	5.1%
September	177,310	528,890	191,390	560,951	6.1%
October	178,340	707,230	188,099	749,050	5.9%
November	154,091	861,321	187,743	936,793	8.8%
December	156,037	1,017,358	182,553	1,119,345	10.0%
January	167,813	1,185,171	192,585	1,311,930	10.7%
February	122,003	1,307,174	191,941	1,503,871	15.0%
March	204,066	15,11,240	240,799	1,744,670	15.4%
April	191,567	1,702,807	214,564	1,959,234	15.1%
May	174,015	1,876,822	213,372	2,172,606	15.8%
June	192,978	2,069,800	n/a	n/a	n/a

Note: ridership includes Amtrak Cross Honor train riders

VRE conducts a passenger survey every fall to determine passenger trip boarding and alighting locations. Survey data from Fall 2010 was used to determine passenger travel characteristics. A total of 3,256 surveys were completed on the Fredericksburg line on morning train trips (only morning trips were surveyed). As there is a 60-65 percent response rate to the survey, it should be noted that survey results do not reflect total VRE ridership. Rail station boarding and alighting locations are summarized in **Table 5-8**. Pertinent findings are as follows:

- Fredericksburg Station had 35% of all boardings – the highest of all stations
- Fredericksburg, Leeland Road and Brook, combined account for 67% of all boardings
- Quantico, Rippon, Woodbridge and Lorton account for 30% of all boardings
- 87% of all train trips were destined to L’Enfant Station
- Alexandria, Crystal City, L’Enfant and Union Station account for 87% of all trip destinations

Table 5-8: VRE 2010 Rider Survey Origins and Destinations

Fredericksburg Line	Destinations											Total
	Leeland Road	Brooke	Quantico	Rippon	Woodbridge	Lorton	Franconia/Springfield	Alexandria	Crystal City	L'Enfant	Union Station	
Fredericksburg	0	0	68	1	17	61	64	145	256	359	169	1,140
Leeland Road	-	0	36	1	7	63	24	74	152	240	67	664
Brooke	-	-	9	1	4	17	22	38	130	137	43	401
Quantico	-	-	-	0	0	8	11	23	81	78	40	241
Rippon	-	-	-	-	0	1	9	57	95	131	81	374
Woodbridge	-	-	-	-	-	1	4	31	55	98	71	260
Lorton	-	-	-	-	-	-	1	11	30	53	40	135
Franconia/Springfield	-	-	-	-	-	-	-	2	1	9	16	28
Alexandria	-	-	-	-	-	-	-	-	0	1	8	9
Crystal City	-	-	-	-	-	-	-	-	-	0	4	4
Total	0	0	113	3	28	151	135	381	800	1,106	539	3,256

5.8 Corridor Bus Volumes and Ridership

As noted in the prior sections, there are significant bus volumes that originate along the redefined I-95 HOT/HOV Lanes project and are destined for the Pentagon and central Washington, D.C. Using existing schedules, daily bus volume impacts have been determined for the public transit operators in the I-95 corridor, and are noted below in **Table 5-9**. Daily bus volumes have been broken out by operator, by direction of travel, and by time period. As noted in this table, PRTC operates the largest number of bus trips originating along the I-95 corridor. **Figure 5-9** illustrates a.m. peak period bus volumes.

Table 5-9: Daily Bus Volumes Originating in the I-95 Corridor by Time Period

Bus Volume Locations	AM Peak (5-9 a.m.)		Midday (9 am-3 pm)		PM Peak (3-7 pm)		Evening (after 7 pm)	
	NB	SB	NB	SB	NB	SB	NB	SB
I-395, S. of Pentagon								
Fairfax Connector (380D)	11	0	0	0	0	11	0	0
MetroBus (18's)	22	7	0	0	7	28	0	1
PRTC	71	0	1	10	0	79	0	6
<u>Quicks/Martz</u>	<u>23</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>23</u>	<u>0</u>	<u>0</u>
Total	127	7	1	10	7	141	0	7
I4th St. Bridge, N. of Pentagon								
PRTC	53	0	1	7	0	59	0	4
<u>Quicks/Martz</u>	<u>16</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>16</u>	<u>0</u>	<u>0</u>
Total	69	0	1	7	0	75	0	4
Trips into/out of Pentagon								
Fairfax Connector (380D)	11	0	0	0	0	11	0	0
MetroBus (18's)	22	7	0	0	7	28	0	1
PRTC	41	0	0	8	0	45	0	5
<u>Quicks/Martz</u>	<u>5</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>5</u>	<u>0</u>	<u>0</u>
Total	79	7	0	8	7	89	0	6

Existing combined daily ridership (one way passenger trips per day) on I-95 corridor express routes and VRE is estimated to be as follows:

Fairfax Connector and Metrobus – 1,200 riders/day

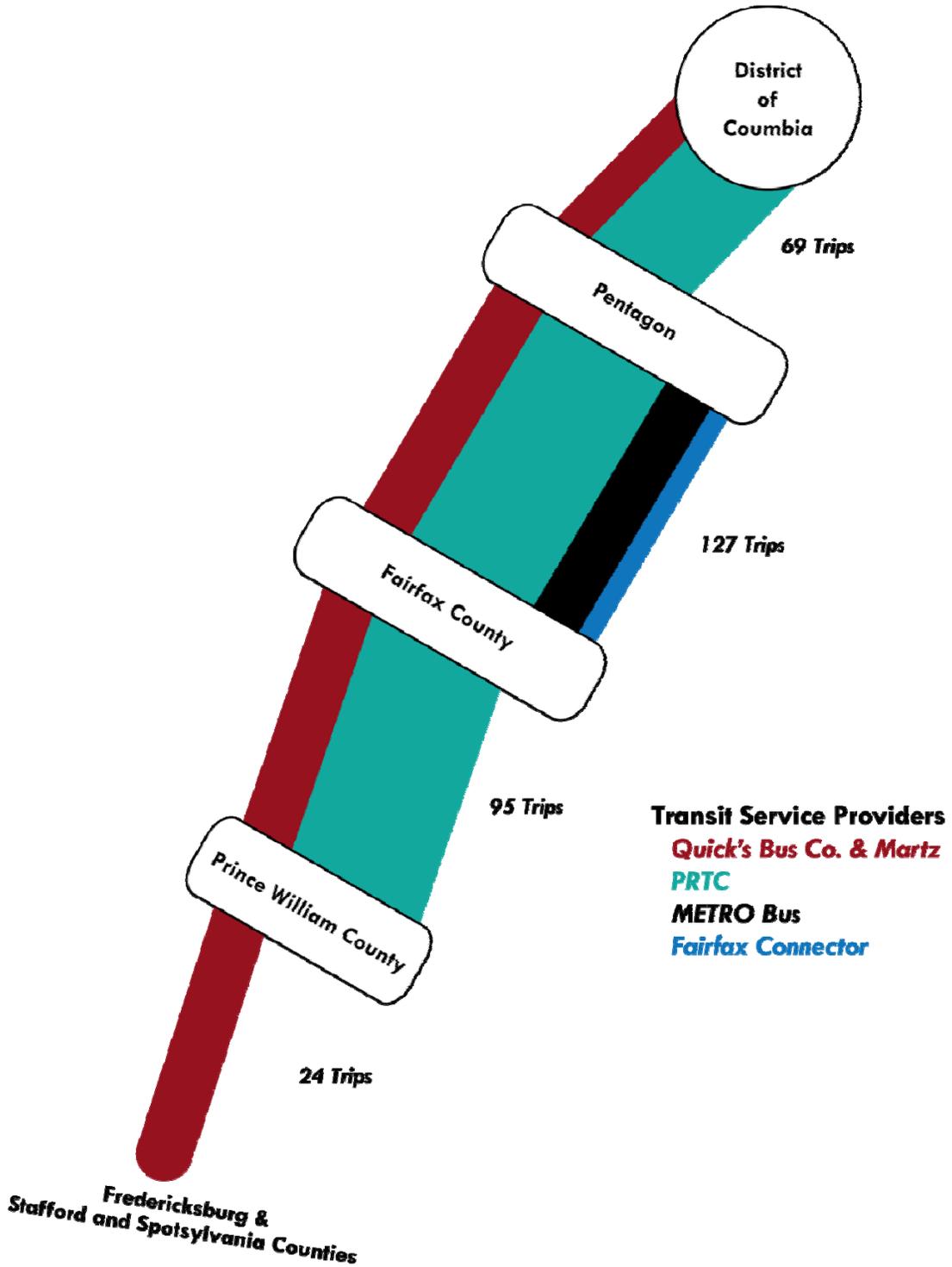
PRTC OmniRide – 5,800 riders/day

Quick's and Martz – 1,700 riders/day

VRE – 10,000 riders/day

Total – Approximately 19,000 riders/day

Figure 5-9
 AM Peak Period Bus Volumes Originating Along I-95 and Continuing on I-395
 (5 to 9 a.m.)
 (Northbound Direction)



Looking again at **Table 5-9**, most of these trips continue on I-395 to just south of the Pentagon. Over half of the daily bus trips continue across the 14th Street Bridge into central Washington, D.C. It is important to note the impact bus trips originating along I-95 can have north of the I-95 HOT/HOV Lanes project on the destination end on I-395 and also arterial streets (primarily within the central area of Washington, D.C.) As noted in **Table 5-9**, there are 69 bus trips originating crossing the 14th Street Bridge into central Washington, D.C. in the a.m. peak period, and 75 bus trips departing central Washington D.C. in the p.m. peak period. Many of the PRTC bus trips in the a.m. peak period follow one of the following two route patterns: 14th Street, Eye Street and 19th Street to the State Department, or 14th Street, H Street, 11th Street and Pennsylvania Avenue to Constitution Avenue, with service continuing to L'Enfant Plaza. These patterns are generally reversed in the afternoon. Martz buses generally tend to follow 20th Street, K Street, 14th Street, Pennsylvania Avenue and Independence Avenue.

5.9 Destination End Bus Service

Table 5-9 and **Figure 5-9** focus on bus service originating along I-95. North of the I-95 HOT/HOV Lanes project, a significant number of bus routes provide service on I-395 south of the Pentagon (operated by PRTC, Fairfax Connector, WMATA, Alexandria Transit Company, Arlington Transit, Martz and Quick's) and across the 14th Street Bridge into central Washington, D.C. (operated by PRTC, WMATA, Loudoun County Transit, Martz and Quick's).

To provide a fuller picture of bus service on the destination end, **Table 5-10** lists all routes crossing the Potomac River into central Washington, D.C. via the 14th Street Bridge. In the same fashion, **Table 5-11** lists all of the routes currently operating on I-395 at a point just south of the Pentagon.

Table 5-10: All Routes Using the 14th Street Bridge

Provider	Route	Route Name
WMATA	5A	Dulles-DC
	11Y	Mt. Vernon Express
	13F, G	Ronald Reagan Airport-Federal Triangle
	16F	Columbia Pike-Federal Triangle
Loudoun County Transit (LCT)	Christian Fellowship	Pentagon-Crystal City-Washington
	Dulles North	Rosslyn-Pentagon-Crystal City-Washington
	Dulles South	Rosslyn-Pentagon-Crystal City-Washington
	Leesburg	Rosslyn-Pentagon-Crystal City-Washington
	Purcellville	Rosslyn-Pentagon-Crystal City-Washington
PRTC	DC-R	Dale City-Washington
	DC-R	Dale City-Navy Yard
	LR-R	Lake Ridge-Washington
	MC-R	Montclair
	MN-R	Manassas
	R1-R	Route 1/South Route 1
Martz	Various Runs	Pentagon-Crystal City-Washington
Quick's	Various Runs	Pentagon-Crystal City-Washington

Table 5-11: All Routes Operating on I-395 South of the Pentagon

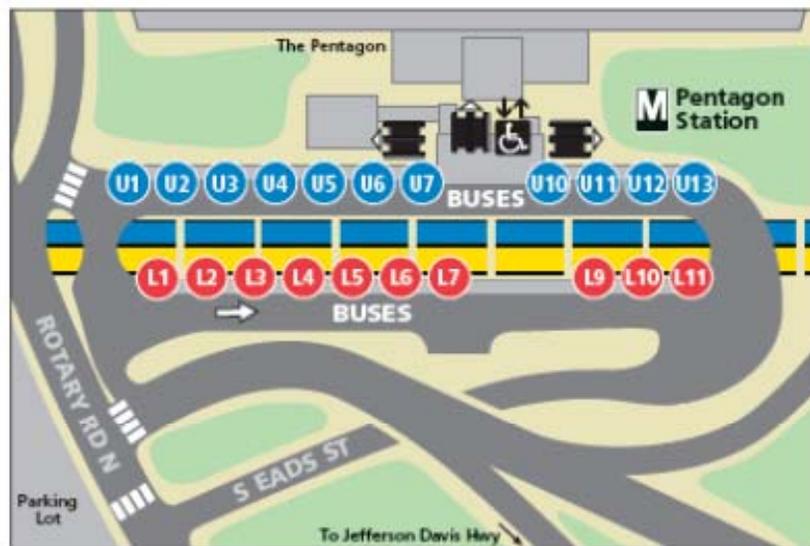
Provider	Route	Route Name
WMATA	7A, E, F, Y	Lincolnia-North Fairlington
	7B, C, D, H, P, W, X	Lincolnia-Park Center-Pentagon
	16L	Annandale-Skyline City-Pentagon
	17A, B, F, M	Kings Park
	17G, H, K, L	Kings Park Express
	18E, F	Springfield
	18G, H, J	Orange Hunt
	18P	Burke Centre
	21A, D	Landmark-Pentagon
	22A	Barcroft-South Fairlington
	25A, C, D	Ballston-Bradlee-Pentagon
	28F, G	Skyline City
	29C, E, G, H, X	Annandale
Arlington Transit (ART)	ART 87X	Pentagon Metro-Shirlington
Alexandria Transit Company (DASH)	AT3	Hunting Towers-Parkfairfax, Pentagon
	AT4	Old Town-Parkfairfax, Pentagon
Fairfax Connector	306	GMU-Pentagon
	380D	Gambrill Road-Pentagon Express-DETOUR
PRTC	DC-R	Dale City-Washington
	DC-R	Dale City-Pentagon & Crystal City
	DC-R	Dale City-Navy Yard
	LR-R	Lake Ridge-Washington
	LR-R	Lake Ridge-Pentagon & Crystal City
	MC-R	Montclair
	R1-R	Route 1/South Route 1
RB-R	Rosslyn/Ballston	
Martz	Various Runs	Pentagon-Crystal City-Washington
Quick's	Various Runs	Pentagon-Crystal City-Washington

Destination end impacts to key Metrorail stations are also important to consider, as capacity is limited. In particular, planning is underway to add bus bays to both the Pentagon and Franconia-Springfield stations.

The Pentagon Station currently has 11 bus bays on the upper level and 10 bus bays on the lower level, as shown in **Figure 5-10**. The upper bus bays are served by WMATA and Arlington Transit (ART) routes, as listed in **Table 5-12**. The lower bus bays are served by WMATA, PRTC, Fairfax Connector, Alexandria Transit Company (DASH), Loudoun County Transit, Martz and Quick's as listed in **Table 5-13**.

As noted earlier in Table 5-9, p.m. peak period volumes for I-95 corridor routes at the Pentagon Station are higher than a.m. peak volumes. Corridor bus volumes at Pentagon Station, however, are just a fraction of total bus activity at the Station, as noted in Tables 5-12 and 5-13. Therefore, total bus volumes for trips into and out of the Pentagon Station were determined for the p.m. peak period (3-7 p.m.) and the p.m. peak hour (4:30 to 5:30 p.m.). **Table 5-14** presents these volumes. Note that these volumes do not include Department of Defense (DoD) shuttles that also use Pentagon Station bus bays.

Figure 5-10
Pentagon Metrorail Station Bus Bays



Map obtained from WMATA web site www.wmata.com

Table 5-12: All Routes Serving the Pentagon Station Upper Bus Bays

Provider	Route	Final Destination	Bus Bay	Frequency					
				M-F AM	M-F Mid/Eve	M-F PM	Saturday	Sunday	F-Sat Late
Arlington Transit (ART)	ART 42	Ballson-MU M	U4	20	30	20	60		
	ART 87	Shirlington	U4		30		30		
	ART 87A	26th St & Troy St	U4	20		11-21			
	ART 87X	Shirlington	U4	20		20			
WMATA	10A	Hunting Towers	U13	30	30	30	30	60	60
	10E	Braddock Road M	U13			10-20			
	13F	Archives Station (2) NB, (1) SB	U2				30#	40-50#	
	13G	Archives Station (1) NB, (2) SB	U2				30#	30-50#	
	16A	Annandale	U10	60	60	60			
	16B	Annandale	U10	30*		30*	30	30-60	
	16D	Annandale	U10	60	60	60			
	16E	Culmore	U10			20-60@	20-60@	20-60@	20-60@
	16F	Federal Triangle M	U2	12-28		13-30			
	16F	Culmore	U11			12-20			
	16J	Culmore	U11	30	30	30	30		
	16K	Columbia Heights West	U7				30#	30#	
	16L	Annandale	U7			30			
	16P	Culmore	U11					60	
	18E	Springfield [P]	U1			30			
	18F	Springfield [P]	U1	30					
	18G	Rolling Valley Mall [P]	U1			30			
	18H	Orange Hunt [P]	U1			30			
	18J	Rolling Valley Mall [P]	U1	30					
	18P	Burke Centre [P]	U1			12-35			
	22A	Ballson-MU M	U4	20	40	20	40		
	25A	Ballson-MU M	U3	24-31	60	21-43	65-70	60	
	25C	NVCC-Alexandria	U3			7-40			
	25D	NVCC-Alexandria	U3	25-30					
	28F	Skyline City [P]	U7	25-30					
	28G	Skyline City [P]	U7			20			
	7A	Landmark [P]	U5	60	60		60-67	45	
	7B	Southern Towers [P]	U5			36-38			
	7C	Park Center [P]	U5			15-28			
	7D	Southern Towers [P]	U5	35					
	7E	Southern Towers [P]	U5			18-60			
	7F	Landmark [P]	U5	60	60		60-67		
	7H	Landmark [P]	U5			30			
	7P	Park Center [P]	U5	15-20					
7W	Landmark [P]	U6			5-33				
7X	Lincolnia [P]	U6			13-19				
7Y	Federal Triangle M (1) [P]	U2	8-20		15-35				
9A	Southern Towers	U5			10-20				
9A	Huntington Station	U12	30	30	30	30	40-60	60	
9E	Braddock Road M	U12	15-20						

M Metro Station

[P] Pentagon

(1) Via Arlington Bridge

(2) Via 14th St. Bridge

Before 8:00 AM only

@ Late evenings only

* Most service to Culmore only

Table 5-13: All Routes Serving the Pentagon Station Lower Bus Bays

Provider	Route	Final Destination	Bus Bay	Frequency					
				M-F AM	M-F Midday	M-F PM	Saturday	Sunday	F-Sat Late
Alexandria Transit Company (DASH)	AT 3	Hunting Towers	L7	20		20			
	AT 4	Old Town	L7	20		20			
Fairfax Connector	306	George Mason University	L6	£	60	£			
	380	Franconia-Springfield Station	L3	15		15			
	595	Reston East	L3			15-20			
Loudoun County Transit (LCT)	Various Routes	Pentagon-Crystal City-Washington	L11	9 trips		7 trips			
Quick's	Various Runs	Pentagon-Crystal City-Washington	L11	4 trips		4 trips			
Martz	Various Runs	Pentagon-Crystal City-Washington	L3	3 trips		2 trips			
PRTC	Montclair	Pentagon-Washington	L1	8-36	2 trips	15-32			
	Dale City	Pentagon-Crystal City-Washington-Navy Yard	L1	5-44	2 trips	15-40			
	Route 1	Pentagon-Washington	L2	34-54	2 trips	41-60			
	Manassas	Pentagon-Washington	L2	10-38	2 trips	30-50			
	Lake Ridge	Pentagon-Crystal City-Washington-Capitol Hill	L2	12-26	2 trips	11-29			
WMATA	17A	George Mason University	L6	30	§	60-65 ^a			
	17B	Kings Park West	L5		2 trips				
	17F	Kings Park West	L5	20-40					
	17G	George Mason University	L6			14-23			
	17H	Kings Park West	L5			15-32			
	17K	Kings Park West	L5			15-25			
	17L	Kings Park West	L6			19-30			
	17M	Kings Park West	L5			25			
	21A	Landmark	L9			17-20			
	21D	Landmark	L9			35#			
	29C	NVCC	L4	28-41					
	29E	NVCC/Braeburn Dr	L4			4 trips			
	29G	Annandale	L4			60 ^a	12-20		
	29H	Annandale	L4				9-18		
	29X	NVCC/Braeburn Dr	L4				24-30		
	8S	Quaker Lane	L10	17-21					
8W	Fox Chase	L10				26			
8X	Quaker Lane	L10				26-39			
8Z	Quaker Lane	L10				13			

^a To early evenings

§ Midday service operated by Fairfax Connector Line 306

£ See Metro Route 17 for rush hour service along the Braddock Rd corridor

Three trips only

^a After 7:00 PM only

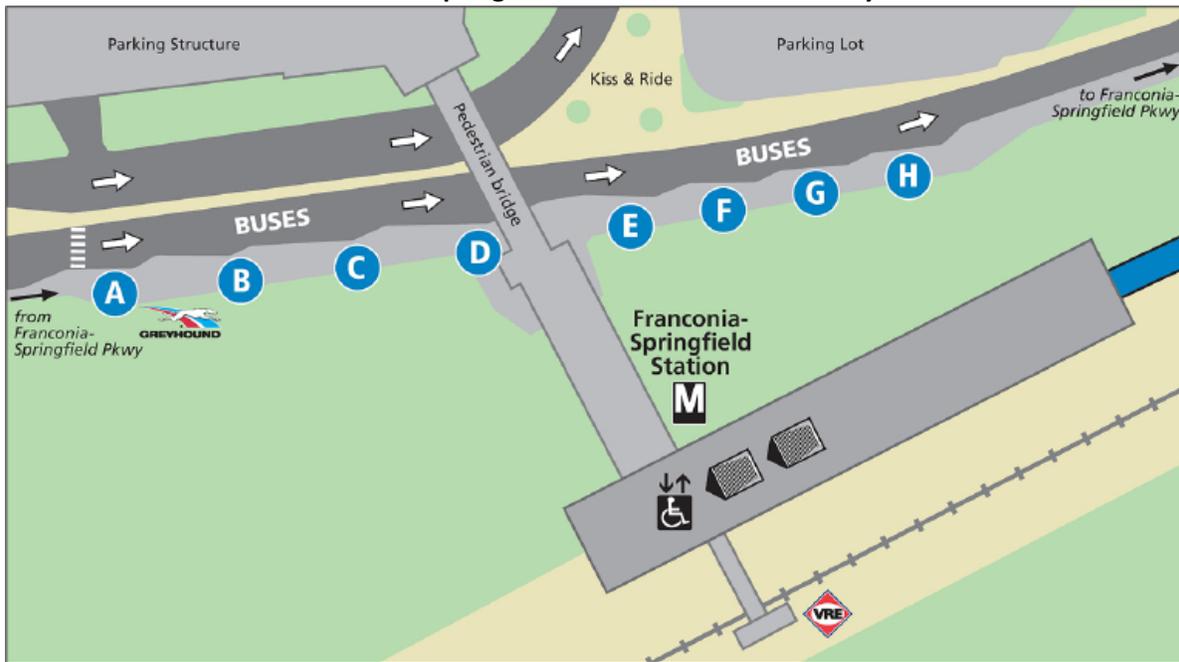
Table 5-14
P.M. Peak Period & Peak Hour Revenue Bus Trips
Departing Pentagon Station

Bus Routes Operated by:	P.M. Peak Period Bus Trips (3-7 p.m.)	P.M. Peak Hour Bus Trips (4:30-5:30 p.m.)
WMATA	262	92
DASH	22	6
ART	29	9
LC Transit	7	5
PRTC	50	17
Fairfax Connector	18	5
Martz/Quicks	5	3
TOTAL	393 trips	137 trips

Note: Above totals do not include DoD shuttle bus volumes.

The Franconia-Springfield Station currently has eight bus bays, as shown in **Figure 5-11**. Public transit routes that serve this station are operated by WMATA, Fairfax Connector, and PRTC routes, as listed in **Table 5-15**. Total bus volumes for trips into and out of the Franconia-Springfield Station were determined for the p.m. peak period (3-7 p.m.) and the p.m. peak hour (4:30 to 5:30 p.m.). **Table 5-16** presents these volumes.

Figure 5-11
Franconia-Springfield Metrorail Station Bus Bays



Map obtained from WMATA web site www.wmata.com

Table 5-15: All Routes Serving the Franconia-Springfield Station

Provider	Route	Final Destination	Bus Bay	Frequency					
				M-F AM	M-F Mid/Eve	M-F PM	Saturday	Sunday	F-Sat Late
Fairfax Connector	171	Huntington Station	F	30	60	30	60	60	
	231	Van Dorn Street Station	H	30	60@	30			
	232	Van Dorn Street Station	B	30	60@	30			
	301	Huntingdon Station	E	30	60@	30			
	303	Island Creek	H	30	60@	30			
	304	Saratoga	H	30		30			
	305	Newington Forest	H			30			
	310	Rolling Valley	F	30	60	30	60	60	
	310	Huntington Station	G	30	60	30	60	60	
	321	Van Dorn Street Station	E	30	60	30	60	60	
	322	Van Dorn Street Station	B	30	60	30	60	60	
	331	I-95 Circulator	F	30	60	30			
	332	I-95 Circulator	F	30	60	30			
	401	Tysons Westpark Transit Center	E	30	60	30	60	60	
PRTC	Prince William Metro Direct	PRTC Transit Center-Franconia-Springfield	C	30-40	60-65	30-40			
WMATA	18R	Burke Centre	D			24-38			
	18S	Burke Centre	D			16-37			
	18S	Springfield (and Mall Deck A)	D	10-28					
	S80	TAGS	D	15	15	15			
	S80	TAGS	D	15	15	15			
	S91	Mall Shuttle (Mall Deck A)	D	2-13	15	7-8			

@ No midday service after 7:30 pm

**Table 5-16
P.M. Peak Period & Peak Hour Revenue Bus Trips
Departing Franconia-Springfield Station**

Bus Routes Operated by:	P.M. Peak Period Bus Trips (3-7 p.m.)	P.M. Peak Hour Bus Trips (4:30-5:30 p.m.)
WMATA	43	13
PRTC	7	1
Fairfax Connector	96	29
TOTAL	146 trips	43 trips

5.10 Programmed and Planned Transit Improvements

Transit Development Plans (TDPs) were reviewed to determine programmed and planned improvements for the I-95 corridor service area.

5.10.1 Fairfax Connector

The Fairfax Connector TDP was completed in December 2009. Local service transit improvements proposed in this TDP are as follows:

- Fairfax Connector Routes
 - Restructure existing Route 171 into two routes – 171 and 371 (Since completion of this TDP, this recommendation has been modified. Route 171 will now terminate at Lorton VRE and Route 371 will terminate at the Franconia-Springfield Station.)
 - Restructure existing Routes 305 and 307 into a new Route 309 - will connect Lorton VRE, Sydenstricker park-and-ride and Franconia-Springfield Metrorail (Since completion of the TDP, this route will now be designated as Route 305.)
 - Restructure Route 304 - will now serve both Franconia-Springfield Metrorail and Lorton VRE (Since completion of the TDP, this service proposal as been put on hold.)
 - Restructure 331/332 I-95 circulators into a new Route 333 (Since completion of the TDP, this proposal will be labeled as two routes – Routes 333 and 334.)
 - Re-designate Route 380-D as Route 395
 - Increase frequencies on Route 310
 - Decrease frequencies and restructure Route 301
 - Establish new Route 341/342 Springfield Circulator
 - Increase frequencies on Route 401 and create new Route 401 Ltd. Stop
- WMATA Metrobus Routes
 - Replace Route 18R and 18S with a new 18A Franconia-Springfield Metrorail to George Mason University and a new 18B Fair Oaks Mall to Franconia-Springfield Metrorail
 - Modify Routes 18G & P, maintain 18H
 - Restructure and promote Metrobus reverse direction service on Route 18J
 - Eliminate Route 18E/F
 - Maintain TAGS service (Metrobus S80 and S91)
- BRAC-Related Shuttle Services
 - Implement two new shuttle services to provide connections from the Lorton VRE Station to Fort Belvoir and to Fort Belvoir North.

The Fairfax Connector TDP also includes the following proposed cross-county / regional routes:

- Fairfax County Parkway BRT/Enhanced Bus service from the Herndon-Monroe park-and-ride to Ft. Belvoir/Richmond Highway
- Four new I-495 HOT Lane express routes
 - Lorton-Tysons
 - Tysons-Fort Belvoir
 - Burke Centre-Tysons
 - Huntington Metrorail-Tysons

The Fairfax Connector TDP prioritizes service improvements into three time periods – short-term (1-3 years) mid-term (4-6 years) and long-term (7-10 years). Improvements that were included in the short-term period include the BRAC shuttle routes, Route 304, Route 309, Route 333 and Routes 171/371. Service plan details for the above-noted improvements are provided in the Fairfax Connector TDP.

Since completion of the TDP, Fairfax County has been proceeding with refinement of TDP recommendations, with many of those refinements noted in the bulleted list above. The I-495 HOT lane projects are to be implemented in conjunction with opening of the HOT lanes (end of 2012). Route alignments for the HOT lane express routes are also undergoing modification. The Lorton-Tysons route is no longer proposed to go through Fort Belvoir North. The Tysons-Fort Belvoir route will now terminate at Franconia-Springfield Station, and the Huntington Metrorail-Tysons route has been put on hold.

5.10.2 PRTC

The PRTC TDP identifies several transit service and capital needs for the I-95 corridor. Many of the service needs reflect recommendations in the *I-95/I-395 Transit/TDM Study* (February 2008). Needs were also identified to service requirements associated with Base Realignment and Closure Commission (BRAC) recommendations for BRAC 133 (Mark Center), Fort Belvoir, and Fort Belvoir North.

OmniRide and Metro Direct service needs associated with the I-95 corridor are as follows:

- Continue to address overcrowding and longer travel times due to congestion by programming contingency hours and buses annually
- Provide improved connectivity between Prince William County and regional activity centers (e.g., downtown Washington, D.C., Pentagon, Crystal City, Tysons Corner, Dulles Airport, Alexandria, Merrifield, Bailey's Crossroads)
- Implement Saturday Metro Direct service connecting eastern Prince William County to the Metrorail system
- Position PRTC to take full advantage of the region's plans for high occupancy toll (HOT) lanes on I-95 and I-495 by planning for modifications to existing routes and new routes
- Address transit needs associated with BRAC recommendations

Omni Link service needs associated with the I-95 corridor are as follows:

- Address transit needs associated with Fort Belvoir BRAC recommendations

Specific service proposals are identified in the PRTC TDP.

It is important to note that PRTC service expansion is contingent on the opening of a second maintenance facility on the western side of the service area. Currently, PRTC has one bus maintenance and storage facility, which is located at the PRTC Transit Center. Constructed in 1996 to 1997, the maintenance facility consists of six service bays plus a steam pit, and the storage yard has the capacity for 128 buses. PRTC's current fleet consists of 133 buses. PRTC is constrained by the site from being able to add any more bus storage. To address the storage capacity problem, PRTC has been storing its contingency bus fleet off-site but in close proximity to the Transit Center for the last several years. Thus, PRTC is at practical capacity with regards to bus storage. In addition to the bus storage capacity issue, the number of available maintenance bays at the facility is becoming a limiting factor. To make room for new vehicles, reduce deadheading costs (miles and fuel), and expand its maintenance capacity, PRTC has been actively pursuing the development of a second maintenance facility on the western side of the service area for the past several years. PRTC proposes to have this second maintenance facility operational in FY 2016. Estimated costs for this facility are \$12 million.

Also, since the completion of the TDP in early 2011, PRTC's OmniRide services have been experiencing chronic overcrowding (currently on 17% of its scheduled trips). Only September 5, 2011 the PRTC Board approved an "overcrowding relief" plan that does not require additional subsidy or the acquisition of any additional buses. Three buses that are over 18-years in age and slated for retirement when their replacements arrive have been kept in service for overcrowding relief, with eight morning trips and three afternoon trips added to the schedule. All but two of the additional trips have been added to routes serving the I-95 corridor (Dale City/State Department, Dale City/Pentagon/Navy Yard, and Montclair). Implementation of this plan has substantially improved the situation, but has not entirely eliminated overcrowding.

5.10.3 FRED

FRED's future service improvements are focused on expanding service locally to jurisdictions inside the FRED service area, and do not include providing commuter service. FRED's FY 2011-2016 Six-Year Transit Development Plan has several planned local service improvements that may affect commuters traveling from the southern end of the I-95 corridor, which include:

- Increased span of service on major routes with service beginning at 6:30 a.m. and ending at 9:30 p.m.; and
- VRE feeder service to the proposed VRE Spotsylvania County station.

FRED does not currently provide commuter service and is not positioned to do so in the near future. FRED is constrained with limited funding and service decisions are made individually by each jurisdiction on an annual basis. New service must be requested by the jurisdiction with funding sources identified. Although FRED does provide feeder service to the VRE station in the City of Fredericksburg and a peak period shuttle service between the VDOT North and South Commuter Lots on Garrisonville Road in Stafford County, the availability of parking is a big driver for these routes. Any future service to park-and-ride locations in the region and the existing and proposed VRE stations will largely depend on the availability of parking at these locations.

Potential commuter service needs that exist along the I-95 corridor in Spotsylvania and Stafford counties that were identified in the FRED TDP are as follows:

- **VRE Feeder Service to Stafford County VRE Station** – Currently, FRED is unable to serve the Brooke VRE station in Stafford County due to a bridge impediment. The redesign of this station may provide an opportunity for VRE feeder service to this station. Alternatively, if additional parking is added to this station, FRED service may not be productive enough to warrant service.
- **VRE Feeder Service to proposed Spotsylvania County VRE Station:** FRED’s TDP identifies potential VRE feeder service to the proposed VRE station at Hwy 17/Rt. 1 should the need arise.
- **Route 1 Corridor service to Quantico:** Although FRED does not serve Quantico and has no future plans to serve the base, the need for service along the Route 1 Corridor to Quantico does exist. Service to Quantico would need to overcome barriers to accessing the base as well as excessive wait times at the gate.
- **Local service to park and rides as parking limitations and jurisdictional support dictates:** Although FRED recognizes the need for long haul commuter service between the Fredericksburg Region and points north to Washington, D.C., FRED’s focus is local service. As the need arises, FRED could provide feeder service to park and rides as requested and funded by Stafford and Spotsylvania counties.

5.10.4 Martz and Quick’s

Martz does not currently have any specific future service expansion plans. Availability of funding was noted by Martz staff as being a constraint to adding new service. Martz staff also noted that future service expansion from Spotsylvania and Stafford Counties will need to be contingent on the availability of parking, with the park-and-ride lots on Garrisonville Road (610) and Route 3 (Ukrops) identified as the highest priority. Additionally, commuter service demand is expected to grow to destinations along the corridor outside of Spotsylvania and Stafford counties along I-95 to DC. Martz also recognizes a need for southbound service along the corridor to destinations including Quantico, Fort Meade and Fort Belvoir in the very near future.

Quick’s also does not currently have any specific future service expansion plans. Quick’s staff expressed a need to focus on adding parking and commuter transit service along the corridor, rather than increasing capacity for single occupancy vehicles. Parking at commuter lots in Stafford and Spotsylvania Counties are at capacity or quickly reaching capacity.

5.10.5 VRE

Active projects underway or planned for implementation by VRE are as follows:

- *Fredericksburg Station.* Renovations at this station are underway and will be completed this summer.
- *Brooke and Leeland Road Station parking expansion.* These projects would add about 200 spaces at each station, and are going out to bid in the near future. The VRE Operations Board will decide on whether to proceed with one or both projects depending on the bid amounts.
- *Cherry Hill 3rd Track.* A 3rd track has been proposed in the Cherry Hill area to improve operational reliability. This project is funded, but on hold pending resolution of funding grant-related issues.

- *Spotsylvania County Station.* Construction of this station/platform and parking is the responsibility of Spotsylvania County. VRE will be responsible for extending a 3rd main track from Fredericksburg south to the station location. The County is proceeding with plan to have this station operational by the end of 2012. The 3rd track is anticipated to be complete in 2013.
- *Platform extensions.* VRE is proceeding with extensions of existing platforms to accommodate 8-car trains. Lorton is funded through construction. Platform extensions are planned, but currently unfunded at Rippon, Brooke and Leeland (the Quantico platform extension is included in the Cherry Hill 3rd track project)
- *Passenger Car Replacements.* VRE is proceeding with plans to replace existing 40+year gallery cars. Development of specs and procurement documents is underway
- *L'Enfant Storage Track.* This project was recently completed and will allow for storage of 1-2 trains (depending on size of consist) in addition to storage yard in DC.
- *Switch project outside L'Enfant Station.* VRE is proceeding with plans to add a switch to allow trains to back up from Union Station and be stored at the new storage track at L'Enfant Station. The project is anticipated to be complete in 2012.
- *Kiss-and-Ride Lot at Woodbridge Station.* This new lot will be located along Route 1 and should be complete by the end of 2011.

Other potential service expansion proposals that have been identified for VRE include:

- Increasing train lengths to increase capacity (requires purchase of additional locomotives and passenger cars);
- Expedite station platform extensions to accommodate 8-car trains;
- Maximize use of Amtrak trains in the corridor through expansion of the cross honor agreement , especially for reverse flow trains;
- Expedite construction of the Spotsylvania station;
- Construct second platforms at Lorton and Rippon

Any expansion of VRE service must be accommodated with expansion of parking at rail stations.

5.10.6 BRAC Related Transit Services

Transportation Management Plans (TMPs) have been developed for the BRAC sites at Mark Center (BRAC-133) and Ft. Belvoir/Ft. Belvoir North. Access to the BRAC-133 Facility at Mark Center will be aided by the I-95 at Seminary Road HOV/Transit ramp. The TMP developed for the BRAC-133 site reflects an estimate of 7 percent of exiting BRAC-133 federal employees coming from Spotsylvania and Stafford Counties. Another 11 percent come from Prince William County and 28 percent come from Fairfax County – with high concentrations of employees coming from Prince William and Fairfax County zip codes that are along the I-95 corridor. Proposed service plans for the BRAC-133 site include:

- Alexandria Transit Company's DASH system is proposed to include shuttle service from King Street Metro to the BRAC-133 Facility at the Mark Center with ten-minute headways during peak periods. The general public can ride the express buses on a fare basis; Department of Defense Mark Center personnel and contractors ride free by showing appropriate ID.
- The Department of Defense (DoD) has proposed funding and operating shuttles from the Franconia-Springfield Metrorail Station to the BRAC-133 facility

- WMATA is planning on implementing the following new services and changes to existing service effective Fall 2011:
 - Mark Center-Pentagon Line, Route 7M
New express service between the Pentagon and Mark Center via I-395. Will operate every 10-15 minutes from 5:40 a.m. to 7 p.m. DoD employees ride free with I.D.
 - Lincolnia-Park Center-Pentagon Line, Routes 7W, 7X
Reroute via Mark Center and modify routing/stops in Southern Towers
 - Foxchase-Seminary Valley Line, Route 8W
Extend from Seminary Rd. & Library La. to Mark Center

Also, Routes 7A and 7F which currently operate via Mark Center every 30-60 minutes seven days a week will continue with no changes in route or schedule at this time. DoD employees with I.D. will be allowed to ride free on any 7 line bus (7A, F, M, W, X) operating via Mark Center.

Additional possible changes for December 2011 or later include:

- Extend Route 28X Leesburg Pike limited stop service from Baileys Crossroads to Mark Center
- Modify Routes 25C,D and/or 28F,G to operate via Mark Center
- All routes starting/ending at Southern Towers (7B,D,E,Y) extend to start/end at Mark Center

Transit plans for Fort Belvoir and Fort Belvoir North include:

- Recently implemented internal circulator at Fort Belvoir. It is a 15-passenger van with 30-minute headways, since the installation plans to start small and build up. There is a bus stop at Pence Gate on Belvoir Road near the new Hospital.
- The Department of Defense (DoD) has proposed funding and operating shuttles from the Franconia-Springfield Metrorail Station to Fort Belvoir North
- A publicly-operated shuttle is also proposed between Franconia-Springfield Station and Fort Belvoir. This shuttle would enter onto the base.
- The existing REX route will run extended evening service until 11 p.m. for Fort Belvoir hospital late night shifts.

5.10.7 Metrorail Station Bus Bays

At the Pentagon Station, there are physical limitations for expansion of bus bays. The DoD is in the process of analyzing bus activity at the Pentagon Station bus bays. Fieldwork will be completed this summer to determine bus bay utilization during peak periods. It is also important to note that WMATA has TIGER money for two additional bus bays at this station, and is currently looking into locations and developing concepts. The TIGER grant money is also being used to investigate the potential of adding up to three additional bus bays at the Franconia-Springfield Station.

5.10.8 Other Regional/Local Transit Projects

In addition to the service and facility expansion plans described above, it is also important to be aware of other regional transit initiatives and their potential impacts on regional transit services that originate from the I-95 corridor. Those projects include:

- *Metrorail's Silver Line (2014)*. This new rail line will include four stations in the Tysons Corner area, with service initially extended west to Wiehle Avenue (2014), and eventually to the Dulles Airport and Loudoun County (2017).
- *Crystal City and Potomac Yard Transitway (2013)*. One lane on Crystal Drive and Clark Drive will be converted to bus use only. This project proposes the consolidation of bus stops in the Crystal City area, which will impact commuter operations, such as PRTC, Quick's and Martz.
- *Management of Downtown D.C. Slugging Locations*. DDOT has been working to manage slugging operations within downtown Washington, D.C. and has developed a plan (November 2010) that recommends new locations for slugging pick-up locations.
- *14th Street Bridge*. The Federal Highway Administration has also begun work on an Environmental Impact Statement (EIS) to determine impacts associated with potential mobility improvements for the 14th Street Bridge.

6.0 Corridor Transit Park-and-Ride Lots

As noted in the prior sections, there are several park-and-ride lots in the I-95 corridor that are well utilized by transit riders, dynamic ridesharing (sluggers), vanpoolers and carpoolers. This section of the Technical Memorandum presents information pertaining to existing corridor park-and-ride lots.

6.1 Fairfax County Lots

VDOT owns or leases several lots in the Fairfax County portion of the I-95 corridor. This is complemented by Fairfax County-owned park-and-ride lots and other private lots with leasing arrangements. VDOT enters into lease agreements with the county when VDOT is the party paying the lease. Otherwise, the county executes an agreement with the private land owner. Over 2,800 spaces are available in the Fairfax County portion of the I-95 corridor. Park-and-ride lots and utilization counts are presented below in **Table 6-1**. Lot locations are shown in **Figure 6-1**.

**Table 6-1:
Fairfax County Park-and-Ride Lots**

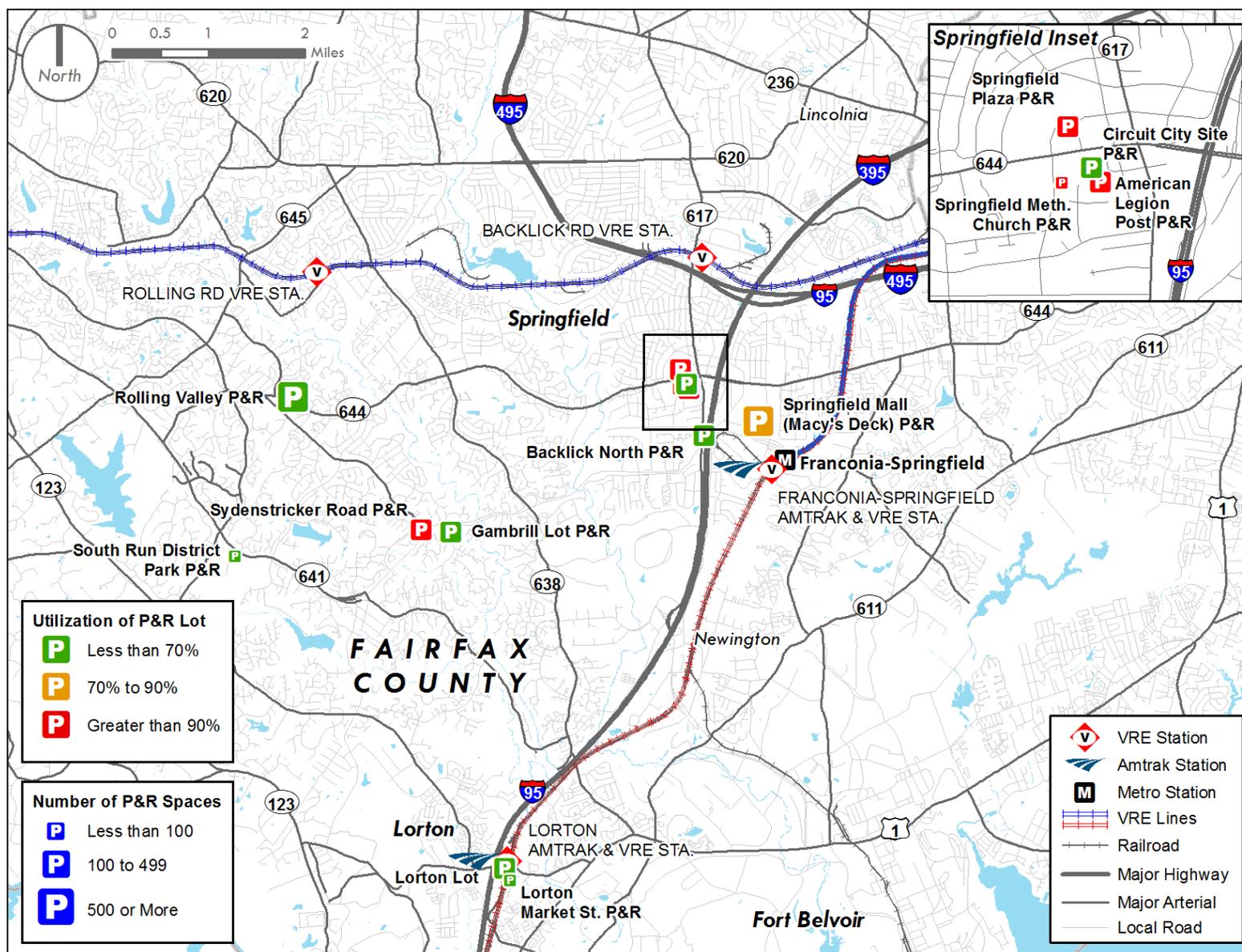
Lots Arrangement	Lot Name	Lot Location	Lot Capacity	Lot Occup.	Percent Occup'd.
VDOT Lots	Rolling Valley	Old Keene Mill Road and Shiplett Boulevard	664	463	70%
	Backlick North	6831 Backlick Road, Springfield	279	109	39%
	Gambrill Lot	Gambrill Road at Hooes Road	225	137	61%
	Lorton Lot	Gunston Cove Road at Lorton Road	170	25	15%
	<u>Sydenstricker Road</u>	<u>Sydenstricker Road at Hooes Road</u>	<u>170</u>	<u>174</u>	<u>102%</u>
	Subtotal		1,508	908	60%
Fairfax Co. Lots	Circuit City Site	7039 Old Keene Mill Road, Springfield	270	130	48%
	South Run District Park	<u>Reservation Dr. off of Fairfax County Parkway</u>	<u>52</u>	<u>0</u>	<u>0%</u>
	Subtotal		322	130	40%
Other Lots	Springfield Mall - Macy's Deck	Spring Mall Dr. Macy's garage	500	410	82%
	Springfield Plaza	Bland Street btwn Old Keene Mill Rd and Amherst	254	254	100%
	American Legion Post	Amherst Ave. at Springfield Blvd.	100	100	100%
	Lorton Market Street	9405 Lorton Market St., Lorton	65	3	5%
	<u>Springfield Methodist Church</u>	<u>7047 Old Keene Mill Road</u>	<u>57</u>	<u>57</u>	<u>100%</u>
	Subtotal		976	824	84%
TOTALS			2,806	1862	66%

*Occupancy counts obtained from VDOT (2010 counts)
Recent observations indicate that Circuit City lot utilization is approaching 100%*

Most of the lots identified in **Table 6-1** are served by transit. Transit connections at the larger lots are as follows:

- Gambrill Road – FC 305, Metrobus 18R
- Backlick North – FC routes 310, 331, 332, 380D
- Rolling Valley – FC Route 310, WMATA Routes 18G,J,P,R,S
- Springfield Mall – FC 321, 322, 331, 332, 401, WMATA routes S80, S91
- Springfield Plaza – FC Routes 331, 332, WMATA Route 18E
- Sydenstricker Road – FC Route 305

Figure 6-1: Fairfax County Park-and-Ride Lots in I-95 Corridor



6.2 Prince William County

There are over 7,700 spaces within the I-95 corridor in Prince William County. Park-and-ride lot locations, lot capacities, utilization rates and transit route connections are presented in **Table 6-2**. Lot locations are illustrated in **Figure 6-2**. Most of the utilization counts were provided by PRTC and supplemented with VDOT counts when necessary. As noted in this table, lot utilization tends to be highest at the larger VDOT-owned and maintained lots, with close to a 90 percent occupancy rate. It is important to note that the list of park-and-ride lots in Table 6-2 does not include a few lots that were identified in VDOT's 2010 lot inventory, for those lots in question do not have a formal lease arrangement with Prince William County, nor do they appear to be actively used by commuters.

VDOT and Prince William County have been working to expand park-and-ride lot opportunities over the past several years. The most recent expansion was at the Route 234/Route 1 lot, with the addition of almost 500 spaces. PRTC did, however, recently (February 14, 2011) lose several hundred spaces at Potomac Mills, with spaces at this site limited to 275. PRTC has been encouraging commuters to park at nearby underused commuter lots, in particular lots west of Minnieville Road, such as Dale City, Hillendale and Lindendale.

It should be noted that the 375 spaces at First Baptist Church lot are currently being used as a stop-gap measure until the proposed Telegraph Road lot (discussed in Section 6.5) is completed, at which time the formal agreement for use of this lot will be terminated. Use of this lot has been very low, primarily due to its location away from I-95.

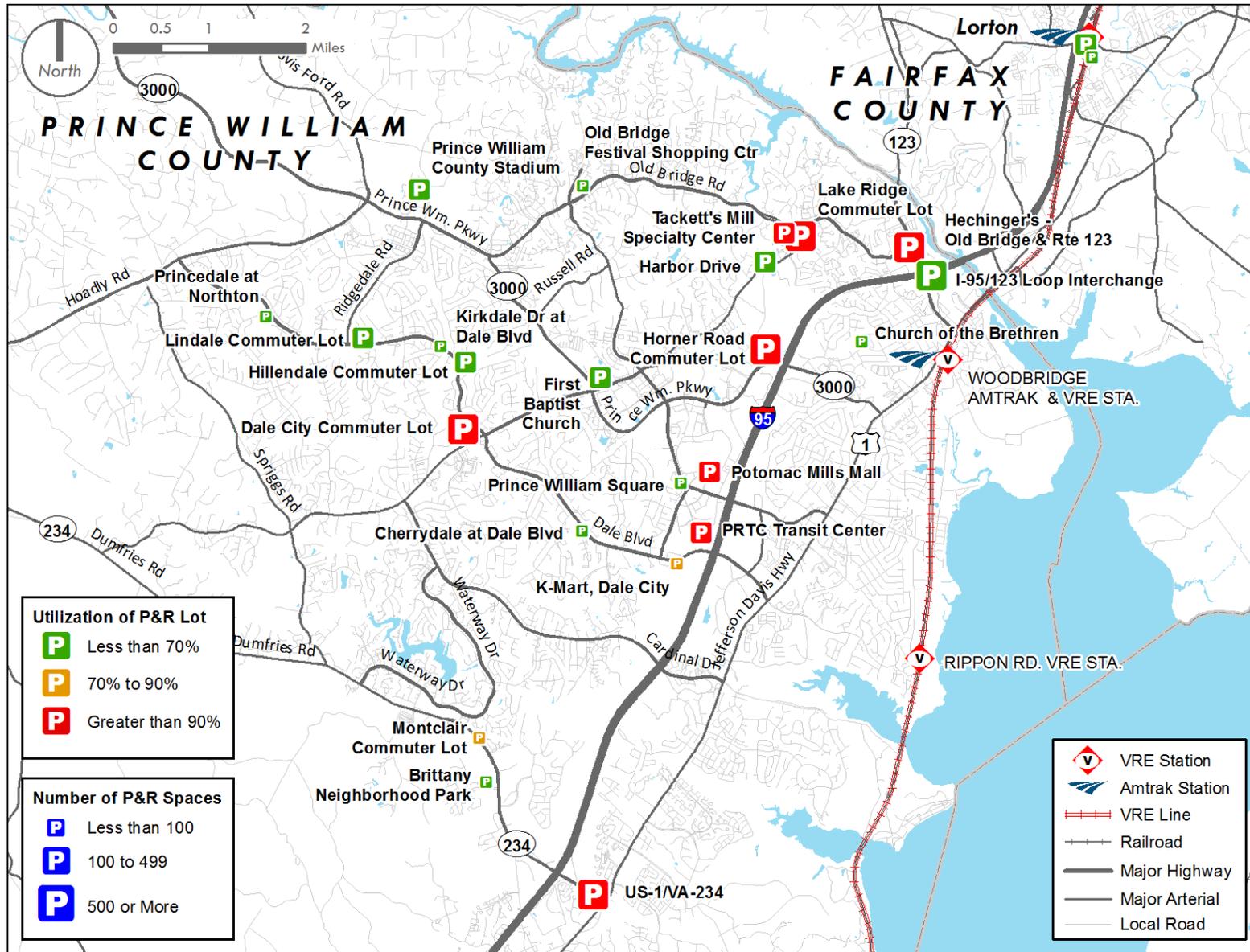
**Table 6-2
Prince William County Park-and-Ride Lots**

Lots Arrangement	Lot Name	Lot Location	Lot Capacity	Lot Occup.	Percent Occup'd.	Dale City	Rossllyn/	Pr Will.	Montclair	Route 1	LakeRidge
						OmniRide	Ballston	Metro Dir.	OmniRide	OmniRide	OmniRide
						DC-R	RB-R	P-MD	MC-R	R1-R	LR-R
VDOT Lots	Horner Road Commuter Lot	Prince William Parkway at I-95	2,363	2,488	105%	X	X	X			
	US1/VA 234	VA 234 & US 1	843	883	105%				X	X	
	Lake Ridge Commuter Lot	Minnieville Road & Old Bridge Road	628	632	101%	X*					X
	Dale City Commuter Lot	Minnieville Road and Dale Boulevard	580	544	94%	X	X		X		X
	Hechinger's - Old Bridge & Rte 123	Intersection Rte 123 and Old Bridge Road	580	598	103%					X*	X
	I-95/123 Loop Interchange	Intersection I-95 and Rte 123, Exit 160	580	292	50%					X*	X
	Hillendale Commuter Lot	Hillendale Road and Dale Boulevard	248	73	29%	X	X				X
	Lindendale Commuter Lot	Lindendale Road and Dale Boulevard	216	100	46%	X	X				
	Harbor Drive	Harbor Drive and Minnieville Road	200	0	0%	X*	X				
	Montclair Commuter Lot	VA 234 North of Stockbridge Drive	50	38	76%				X		
	<u>Princedale at Northton</u>	<u>Princedale Dr. W of Dale Blvd</u>	<u>43</u>	<u>0</u>	<u>0%</u>						
	Subtotal			6,331	5,648	89%					
Proffered Lots	Potomac Mills Mall	Potomac Mills Mall across from Pier I imports center	275	275	100%	X		X			
	Tackett's Mill Specialty Center	center	170	169	99%	X*					X
	Brittany Neighborhood Park	Exeter Drive off VA 234	85	50	59%				X		
	Old Bridge Festival Shopping Center	Old Bridge Road and Smoketown Road	56	56	100%	X*					X
	<u>Prince William Square</u>	<u>Smoketown Road and Gideon Drive</u>	<u>45</u>	<u>0</u>	<u>0%</u>	<u>X</u>			<u>X</u>		
Subtotal			631	550	87%						
Formal Agreements	Prince William County Stadium	Off Davis Ford Road at Stadium	190	58	31%						
	K-Mart, Dale City	Intersection Dale Blvd & Gideon Dr.	90	75	83%						
	<u>First Baptist Church</u>	<u>13600 Minnieville Road</u>	<u>375</u>	<u>20</u>	<u>5%</u>		X				
	Subtotal		655	153	23%						
Other Lots	<u>PRTC Transit Center</u>	<u>Potomac Mills Road at Telegraph Road</u>	<u>124</u>	<u>198</u>	<u>160%</u>	X		X			
	Subtotal		124	198	160%						
TOTALS			7,741	6,549	85%						

Most occupancy counts obtained from PRTC and reflect 2011 occupancy rates. Those counts shown in red were provided by VDOT and reflect 2010 occupancy rates.

NOTE: PRTC Transit center lot capacity does not reflect spaces available at an adjacent unpaved lot (thus the reason why lot occupancy shown is much higher than lot capacity).

Figure 6-2: Prince William County Park-and-Ride Lots in I-95 Corridor



6.3 Spotsylvania and Stafford County Lots

VDOT-owned lots in Spotsylvania and Stafford Counties are as follows:

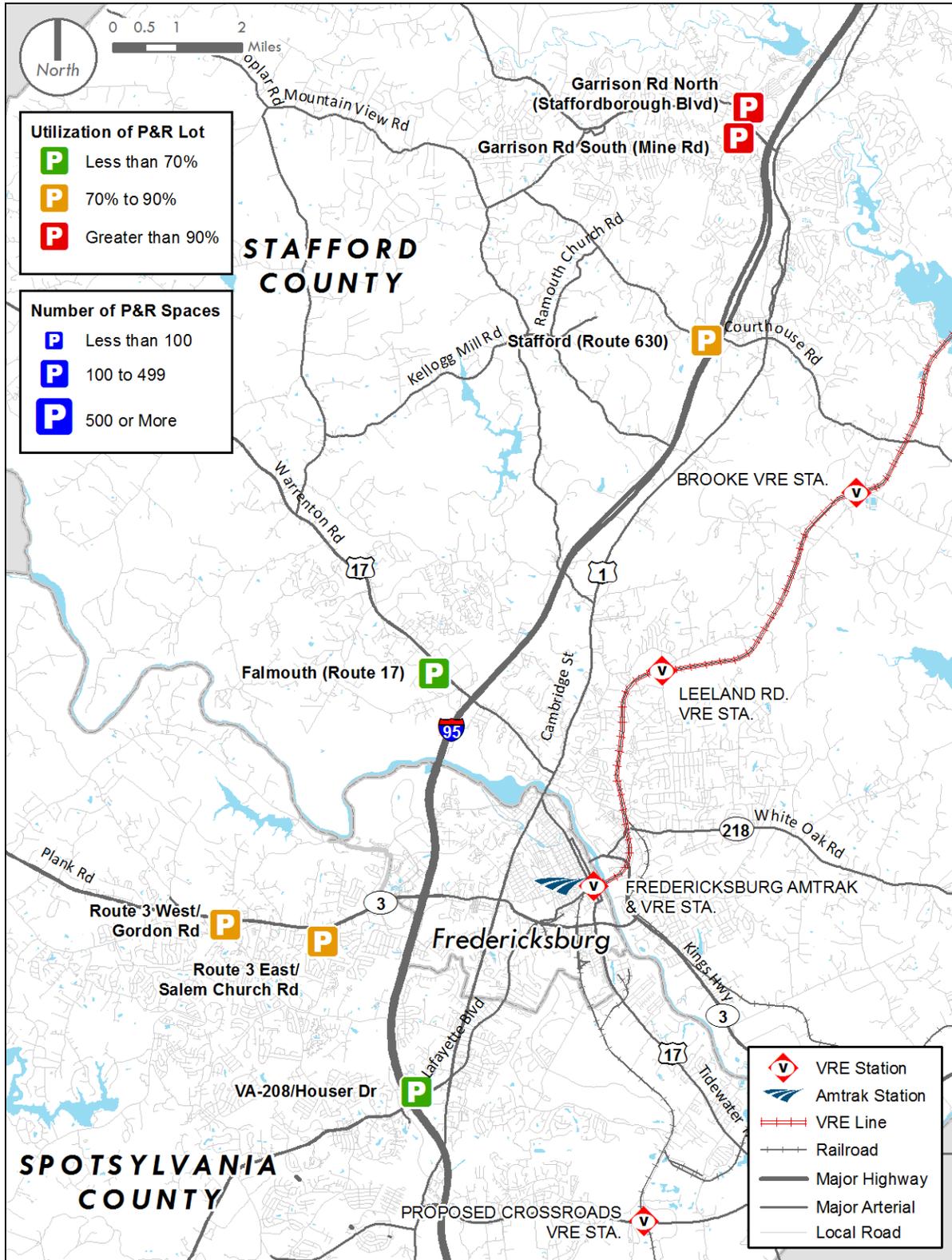
- Garrisonville Road North (Staffordborough Blvd.) – 825 spaces
- Garrisonville Road South (Mine Road) – 750 spaces
- Stafford (Route 630) - 750 spaces
- Falmouth (Route 17) – 1,035 spaces
- Route 3 West / Gordon Road – 645 spaces
- Route 3 East / Salem Church Road – 705 spaces
- VA 208 / Houser Drive – 815 spaces

Park-and-ride lot utilization rates were not available from VDOT for these lots. Parking counts were, however, available from GWRideConnect. The two Garrisonville Road park-and-ride lots are consistently over capacity. The two Route 3 lots are consistently over 90 percent occupied. The Falmouth (Route 17) and VA 208 lots are typically under 75 percent occupied. **Figure 6-3** identifies park-and-ride lot locations and observed lot utilization rates in Stafford and Spotsylvania Counties.

6.4 Park-and-Ride Lot User Characteristics

In 2006, an on-board survey was conducted of OmniRide passengers. Results from that survey are not available for specific I-95 corridor, but county wide, determined that about 7 percent of OmniRide passengers came from other than Prince William/Manassas/Manassas Park. No survey data has been discovered for Stafford or Spotsylvania County park-and-ride lots. A license plate survey was also conducted at Fairfax County park-and-ride lots. This study found that about ½ of all trips originate within 5 miles of the park-and-ride lot, with a slightly up-stream point of origin. Park-and-ride demand was greatly driven by the level of transit service provided.

**Figure 6-3:
Stafford County and Spotsylvania County Park-and-Ride Lots in I-95 Corridor**



6.5 Destination End Park-and-Ride Lots

The Franconia-Springfield Metrorail Station is the end-of-the-line station for the Blue Line, and operates near capacity. According to the 2009 *WMATA Real-Time Parking Information Feasibility Study*, the station has approximately 5,120 parking spaces, of which more than 4,800 were full at noon. This equates to a 94.5 percent occupancy rate. The Springfield Mall Macy's garage is used by many Metrorail commuters for supplemental free parking.

6.6 Programmed and Planned Park-and-Ride Lot Expansion

VDOT is proceeding with the following park-and-ride lot expansion projects for the I-95 corridor:

- *Telegraph Road* – Construction of a new 700-space park-and-ride lot, located off of Telegraph Road, just north of Caton Hill Road directly across from the Horner Road lot. Construction is proposed by the end of 2012. This lot will be located on public right-of-way. Construction costs are estimated to be \$8 million.
- *Saratoga Lot* – Construction of a new 600-space park-and-ride lot near Fort Belvoir North, in the southeast quadrant of Fairfax County Parkway and Rolling Road and will include access to the eastbound on-ramp onto Fairfax County Parkway. Parking lot is currently in design. Construction is proposed by 2013. This lot will be located on public right-of-way. Construction costs are estimated to be \$3 million.
- *Route 3/Gordon Road* - Up to 1,000 additional spaces is proposed. Two potential sites have been identified (one adjacent to the existing Gordon Road lot and one about ½ mile away) and project scoping will begin soon. Anticipated opening year is 2017. Cost identified in VDOT's six-year improvement program as \$3.8 million, but actual cost may be higher. FAMPO's planned toll road/interchange with Route 3 has the potential to impact this lot.
- *Garrisonville Road/Staffordborough Blvd.* – Approximately 1,000 additional spaces are proposed. Design work is in process, with construction to be completed by 2015. Total estimated cost is \$5.9 million.
- *Spotsylvania County VRE Station* – Up to 1,000 spaces at the planned VRE train station in Spotsylvania County.

In addition to the above-noted projects, Prince William County recently entered into a lease arrangement with First Baptist Church on Minnieville Road for 375 spaces. As previously noted, these spaces are currently being used as a stop-gap measure until the Telegraph Road lot is completed.

In total, VDOT's current park-and-ride lot expansion plans reflect 1,300 new spaces in the northern portion of the I-95 corridor (Prince William and Fairfax Counties) and 3,000 new spaces in the southern portion of the corridor (Stafford and Spotsylvania Counties). These totals do not include VDOT's intent to add up to 1,200 new spaces at the Horner Road lot through expansion on the south end of the lot (project is proposed, but no planning/design work has commenced on this project, and there is no schedule in place to advance this project). Nor does it include the potential addition of 180 surface spaces (more if a parking structure is constructed) at the Springfield "Circuit City" lot. Expansion of this lot requires the purchase of two parcels to complete expansion of this existing park-and-ride lot to a total of 450 surface spaces, or more should a parking structure be constructed.

The prior *I-95/I-395 Transit and TDM Study* identified the following specific park-and-ride lot expansion needs:

- 450 spaces in the Springfield/Lorton subarea, all were included in the Fiscally-Constrained Plan
- 1,250 spaces in the Massaponax/Spotsylvania County area, of which 475 were included in the Fiscally Constrained Plan
- 2,125 spaces in the Stafford County area, all were included in the Fiscally-Constrained Plan
- 2,500 additional spaces in Prince William County, of which 1,450 were included in the Fiscally-Constrained Plan
- 1,500 spaces at VRE stations dedicated to stations at the southern end of the Fredericksburg Line (Brooke, Leeland, and Fredericksburg), all were included in the Fiscally-Constrained Plan.
- 1,925 spaces at the Franconia-Springfield Station (not included as part of the study effort).

In total, the prior *I-95/I-395 Transit and TDM Study* identified a need for 9,700 total spaces, of which 6,000 were included in the Fiscally-Constrained Plan.

VDOT's park-and-ride lot expansion plans are addressing many of the expansion needs identified in the *I-95/I-395 Transit and TDM Study*. VDOT park-and-ride projects, as they relate to prior *I-95/I-395 Transit/TDM Study* recommendations, are described below:

- Expansion of the "Circuit City" lot in Springfield will meet the 450 space need that was identified for the Springfield/Lorton area
- As noted in the above list, VDOT is about to commence design for up to 1,000 spaces at the Garrisonville Road lots (VA 610), thus addressing the need for 1,050 spaces identified in the prior study
- VDOT has recognized the need to expand the Horner Road lot with up to 1,200 additional spaces, which is consistent with findings from the prior study
- The lease of 375 spaces at First Baptist Church expands parking opportunities in the Potomac Mills area. The planned construction of 700 spaces at Telegraph Road will help replace the parking spaces recently lost at Potomac Mills.
- VDOT is planning to construct 1,000 spaces at the Spotsylvania Station, and as noted in the prior section, VRE is proceeding with plans to construct approximately 200 additional spaces at both the Leeland Road and Brooke VRE stations. These projects address the need for VRE parking lot expansion that was addressed in the prior study

It is important to note that FAMPO has recently conducted a park-and-ride lot feasibility study. The FAMPO study is based on needs identified in the FAMPO 2035 Long-Range Transportation Plan, which identifies a need for more park-and-ride spaces in Stafford and Spotsylvania County than what was identified in the *I-95/I-395 Transit and TDM Study*. The park-and-ride study identified six general “nodes” where new or expanded park-and-ride lot facilities were needed. Node locations and parking needs were:

1. Garrisonville Road (Route 610) –need for 3,650 spaces identified
2. Jackson Gateway area in Massaponax – need for 1,200 spaces identified
3. Proposed Celebrate Virginia Interchange – need for 1,100 spaces identified
4. Fredericksburg VRE station area – need for 800 additional spaces identified
5. Spotsylvania County VRE Station – need for 1,000 spaces identified
6. Route 3 East – need for 500 spaces identified

The FAMPO study identified potential parcels, and included an evaluation of each parcel.

Finally, it will be important that any expansion or construction of park-and-ride facilities in the I-95 corridor take into consideration vehicular access needs to/from the park-and-ride lots on the adjacent roadways, and bus access needs within the park-and-ride lot and on adjacent roadways. Corridor bus operators will also need to adjust service plans to provide service to these planned new facilities. It may also be appropriate to consider structured parking facilities at some locations as a means to minimize land acquisition costs, pedestrian walking requirements, and the need for multiple bus pick-up/drop-off locations at a park-and-ride site.

7.0 Transportation Demand Management Programs

This section describes the following regional and local Transportation Demand Management (TDM) programs and initiatives in the I-95 corridor.

- Telework Programs
- Slugging/Dynamic Ridesharing
- Commuter Connections Network of TDM Agencies
 - a. Local Motion – City of Alexandria
 - b. Fairfax County Transportation Services Group (FCTSG)
 - c. OmniMatch – Potomac and Rappahannock Transportation Commission (PRTC)
 - d. GWRideConnect – George Washington Regional Commission (GWRC)
- Some Regional Marketing and Incentive Programs
- TDM Plans for BRAC Sites

7.1 Telework Programs

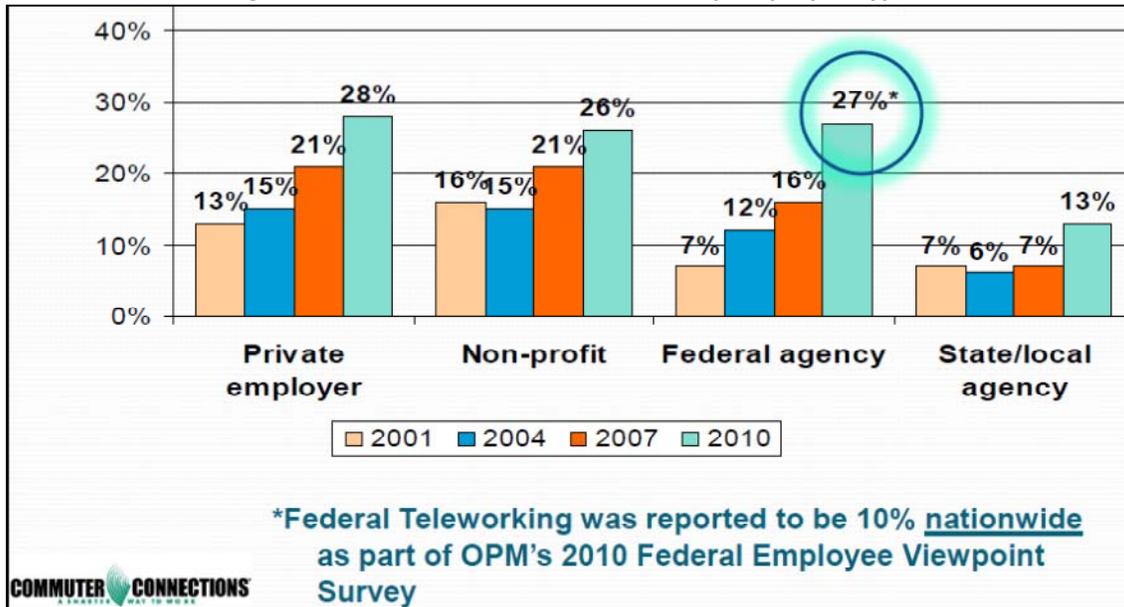
Telework programs give employees and managers the option of working at a location other than the usual workplace on a full-time, part-time, or temporary basis. Potential work locations include home offices, telework centers, or satellite offices. Employers may have a formal telework policy and program, or may allow informal telework arrangements.

The 2010 MWCOG State of the Commute survey found that a quarter of regional commuters, or over 600,000 workers, teleworked at least occasionally. Of these, 291,000 teleworkers lived in Northern Virginia¹. Half of the teleworkers regularly teleworked at least one day a week. About 17 percent telework three or more days per week. Telework has grown among all employer types, with the Federal agencies showing the greatest increase in rate of teleworking (**Figure 7-1**). Half of the current teleworkers were offered a formal program by their employer.

Teleworking has great potential in the region. In addition to the 600,000 regional employees who currently telework at least occasionally, an additional 500,000 employees (or 21%) said they “could and would” telework, i.e. their job responsibilities could be performed through telework and they would like to telework if given the opportunity (**Figure 7-2**). For Northern VA, potential new teleworkers number about 61,000.

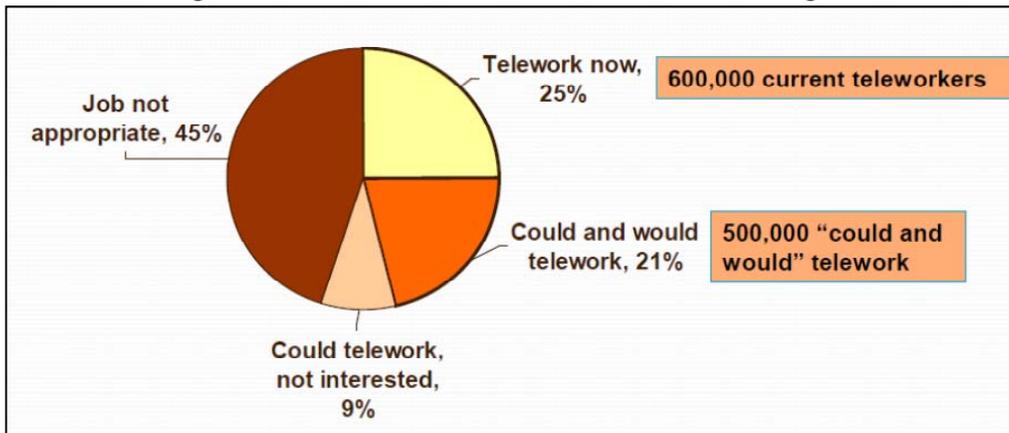
¹ Number of teleworkers tracked by local jurisdictions is listed with the description of each local TDM program later in this section.

Figure 7-1: Historical Rate of Telework by Employer Type



Source: 2010 MWCOG State of the Commute Survey

Figure 7-2: Potential for Telework in the MWCOG Region

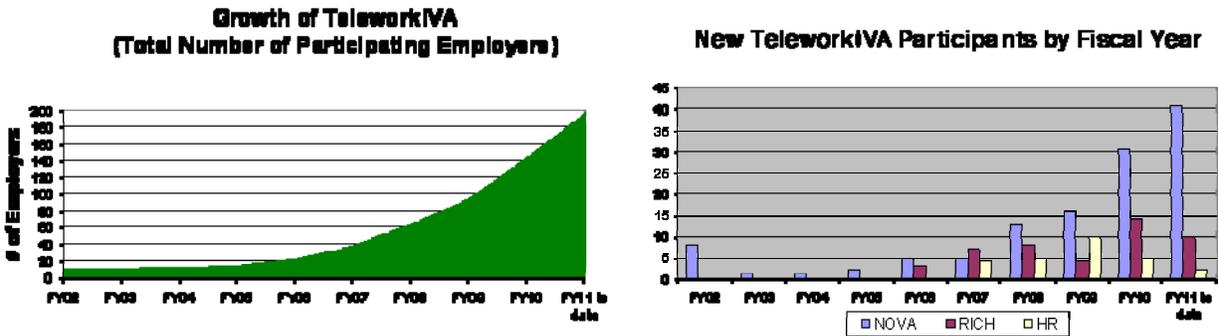


Source: 2010 MWCOG State of the Commute Survey

7.1.1 Telework!VA

The Telework!VA program by DRPT provides telework training and financial incentives for Virginia businesses to establish or expand telework programs for their employees. Through this program, businesses may obtain free assistance to develop telework policies and qualify for up to \$35,000 in reimbursements for various expenses, including equipment leases, telework center space, technical assistance toward program development and equipment installation, and training for teleworkers, non-teleworkers, and management. As seen in the charts below (Figure 7-3), participation in the Telework!VA program has increased exponentially in recent years, especially in Northern Virginia.

Figure 7-3: Telework Participants Growth Trends



In 2011, the Virginia General Assembly passed a telework tax credit to encourage more telework participation by employers in Virginia. The tax credit covers expenses incurred by the employer to enable employees to begin to telework. The tax credit is available for 2012 and 2013. An employer may receive a tax credit up to \$50,000. DRPT is working with the Department of Taxation to develop the rules and procedures for employers to qualify for the tax credit. Through its Telework!VA program, DRPT will promote the tax credit and assist employers with the implementation of a qualifying telework program.

7.1.2 Telework Centers

As of March 31, 2011, government funding for the GSA-managed Telework centers was removed. The telework centers in the study area that remain open as privately operated facilities are:

- The Fairfax Telework Center operated by *GMU’s Mason Enterprise Center*
- Three centers operated by GWRC, i.e. the Fredericksburg Regional Telework Center, Fredericksburg Telework Center North (also known as the Stafford Telework Center), and the Woodbridge Telework Center.

7.1.3 Federal Telework

New legislation also supports telework for federal employees. The Telework Enhancement Act of 2010 (HR 1722) requires each federal agency to designate a Telework Managing Officer, and monitor progress towards a goal of 20 percent of eligible federal workforce teleworking an average of one day per week.

Federal telework is supported by Telework Exchange, a public-private partnership focused on demonstrating the tangible value of telework and serving the emerging educational and communication requirements of the Federal teleworker community. The organization facilitates communication among Federal teleworkers, telework managers, and IT professionals. In June 2011, Telework Exchange published the “Federal Telework Progress Report: Making the Grade?,” which gauges Federal telework progress against the Telework Enhancement Act of 2010 requirements, and notably the provisions within 180 days to build the foundation for a sustainable telework program. According to the report, the majority of TMOs say they will meet the deadline to establish a telework policy (86 percent), determine the eligibility for all employees of the agency to participate in telework (84 percent), and notify all agency employees of their eligibility to telework (76 percent). Additionally, the majority of agencies surveyed have training programs in place. The report also finds that while telework participation is on the rise,

telework leaders agree that the top telework challenges are capturing data and managing program metrics (49 percent), management support (46 percent), and technology support (38 percent). Additionally, Federal agencies have some ground to cover on updating their policies for purchasing telework-enabling technology set forth by the Office of Management and Budget. About 70 percent will still need to update their policies to meet the agency’s July 2011 deadline.

7.2 Slugging

“Slugging” is a colloquial term that has developed to describe the informal dynamic ridesharing activity occurring in the northern Virginia I-95 corridor. A “slug” describes an individual who seeks to ride as a passenger in a private auto traveling in the HOV lanes. Drivers seek these “slugs” to legally travel in the HOV lanes and are referred to as “bodysnatchers”.

A 2006 study by VDOT estimated that a.m. slugs along the I-95 corridor numbered about 6,450, which was about twice the number estimated in 1999 for this corridor. The 2006 estimates were based on a.m. peak counts at 15 slug line locations along the Virginia I-95 corridor (including slug lines in Fairfax and Prince William counties in the VDOT Northern Virginia District as well as locations in Stafford County and Fredericksburg in the VDOT Fredericksburg District). The 1999 study which was based on p.m. counts at four slug lines in downtown Washington, D.C. **Figure 7-4** shows the number of sluggers at each park-and-ride lot in the 2006 study, and **Figure 7-5** and **Figure 7-6** show the origins and destinations of sluggers (based on findings in the 2006 VDOT study). As noted in these figures, over one half of sluggers originate in Prince William County. One third of all sluggers are destined to the Pentagon.

Figure 7-4: Number of Sluggers by Lot

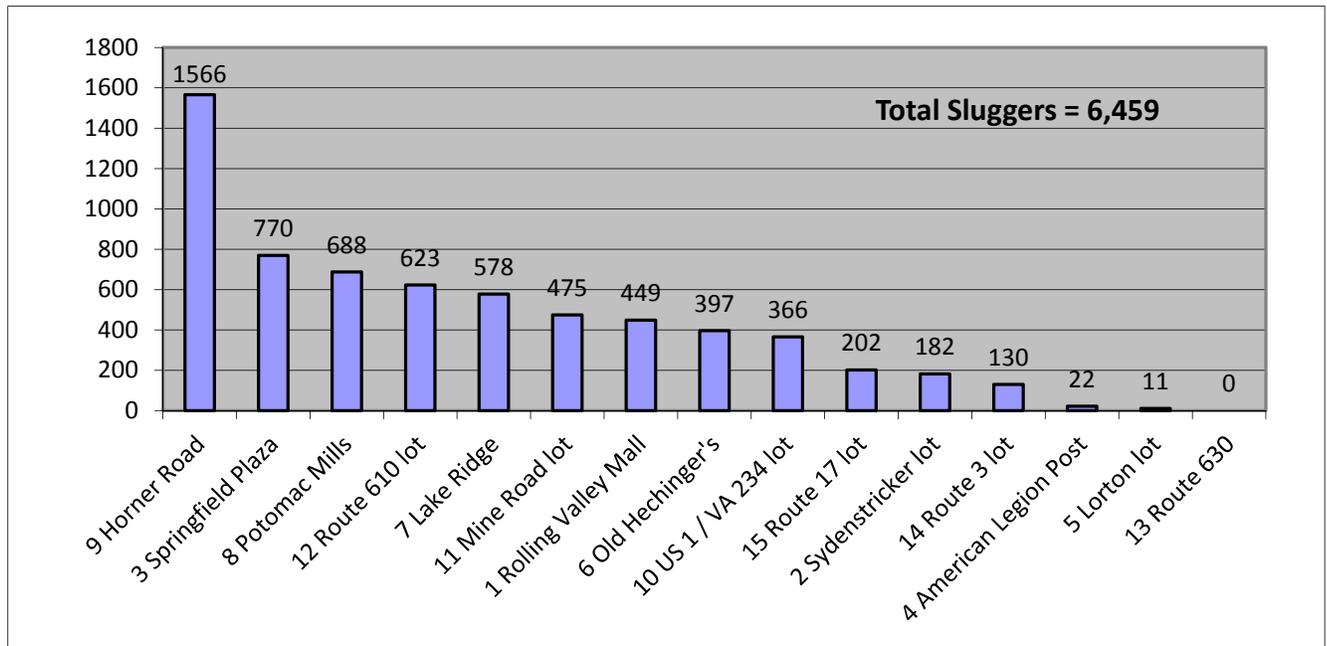


Figure 7-5: Jurisdiction of Origin of Sluggers

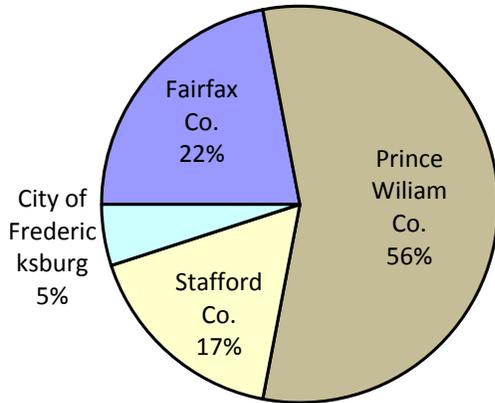
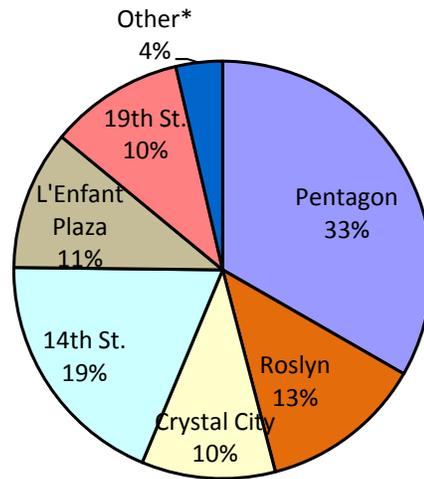


Figure 7-6: Destinations of Sluggers



In 2010, VDOT conducted a study of five park-and-ride lots in Northern VA: Route 610/Stafford, Mine Road/Stafford, Route 234/Dumfries, Route 17/Fredericksburg, and Route 3, Gordon Road/Fredericksburg. The study profiled sluggers’ commute patterns and behaviors. The study found that about 9 out of 10 sluggers commute on I-95/I-395 four or five days a week and for most of them, slugging is their typical mode of commute. Sluggers are “early birds” and tend to start their commutes (i.e., leave home) before 6:00 a.m., especially sluggers using the Fredericksburg lots. Typically, slug drivers pick up just enough slug riders to use the HOV lanes on I-95 and pick up occurs at a single lot. Many sluggers are going to the Pentagon, Washington, D.C., or Crystal City. About 25 to 33 percent of sluggers change to another mode of transportation to get to their final destination, with a higher percentage (49%) from the Route 3/Fredericksburg lots (e.g., Metrorail). Those who change to another mode most often take Metrorail. Depending upon the lot, about 5 percent to 20 percent of slugs use a different mode of transportation in the afternoon, with bus being the most frequent choice and a few riding VRE.

There are six areas within Washington, D.C. that are typically used by afternoon pick-ups. Those locations are: 14th Street & New York Ave., 14th Street and the Commerce Department, 14th Street and Constitution Avenue, 14th Street and Independence Avenue, L’Enfant Plaza and 19th Street/F Street. There are two locations in Rosslyn that are typically used by sluggers for afternoon pick-ups: the Lee Hwy service road near Ft. Meyers Drive and N. Kent Street, north of Wilson Avenue. The other major pick-up location is at the Pentagon.

7.3 Commuter Connections

Commuter Connections is a regional network of transportation organizations coordinated by the MWCOG, and provides information on the commute options for those who live or work in the Metropolitan Washington, D.C. area. Commuter Connections serves as an umbrella organization across

member jurisdictions for regional awareness and marketing services related to improved air quality and reduced automobile emissions. Commuter Connections is a program of the National Capital Region Transportation Planning Board at the MWCOG and is funded by the District, Maryland and Virginia Departments of Transportation as well as the U.S. Department of Transportation. Many of the local Commuter Connections members receive grant funding directly from their respective State government.

Commuter Connections representatives provide commuter and employer services assistance with developing and implementing alternative commute programs and incentives including:

- Computerized Ridematching for carpools and vanpools
- Guaranteed Ride Home program registration and information
- Transit information, including SmartBenefits
- On-site rideshare promotions and displays
- Bicycle commute program development
- Live Near Your Work initiative
- Work schedule alternatives development
- Emergency Preparedness plan development
- Air Quality Action Days program development
- New employee commute options information
- Corporate relocation assistance
- Training on-site transportation managers
- Commuter program coordination with nearby companies
- Parking Management strategies based on an evaluation of the current parking situation
- Telework program development

It is widely acknowledged that reduction in commute trips is best achieved by providing commuter benefits through employers. Commuter Connections has defined levels of employer participation based on TDM strategies implemented by an employer, along with the expected reduction in employee trips at each level (see **Table 7-1**). For the number of employers in the study area participating at each level, see the employer services section under each local program below.

Table 7-1: Commuter Connections’ Levels of Employer Participation and Impacts

Level	Likely Range of Trip Reduction
Level 1-Bronze	0% to 1%
Level 2-Silver	up to 3% without Telework/ Compressed Work Schedules (CWS) up to 9% with Telework/CWS
Level 3- Gold	2% to 5% without financial incentive/disincentive and Telework/CWS 5% to 20% with financial incentive/disincentive and Telework/CWS
Level 4- Platinum	2% to 8% without financial incentive and Telework/CWS up to 30% with financial incentive and Telework/CWS

Source: MWCOG Commuter Connections Item #9

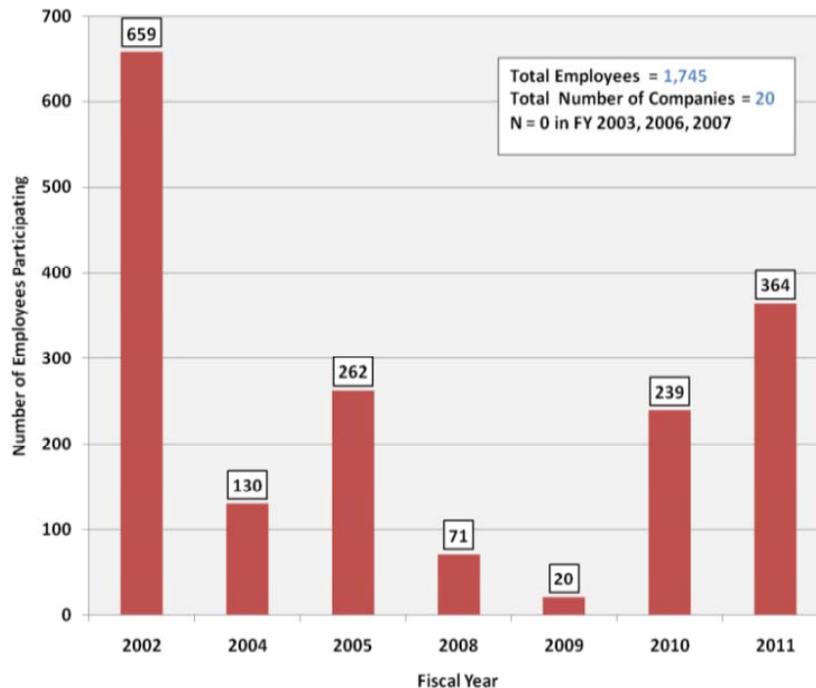
7.3.1 Local Motion – City of Alexandria

Local Motion is the City of Alexandria’s local TDM program that serves the businesses and residents of Alexandria. The City of Alexandria is a member of the Commuter Connections network. While the program began with carpool/vanpool services, it now implements various TDM strategies including

incentivizing transit use (i.e., offering transit subsidies), disincentivizing drive-alone commuters, and providing additional funding for shuttle bus service, registration fees for car sharing, bus shelter construction and maintenance, bicycle lockers and parking facilities for carpoolers/vanpoolers. Based on the Local Motion Long-Range Transportation Demand Management (TDM) Plan 2011-2036, the primary programs currently offered include:

- Employer Services: As of March 2010, there were 53 Level 1 employers, 35 Level 2 employers, 76 Level 3 employers, and 23 Level 4 employers in the program.
- Carshare: For residents, the City provides the initial application fee and the first year of membership. Businesses receive up to \$50 from the City for company membership fees and half of each employee’s membership fee.
- Telework!VA: As shown in **Figure 7-7**, 20 companies and 1,745 employees participated in the program between FY 2002 to FY 2011.
- Regional marketing and incentive programs, including NuRide and Pool Rewards Old Town Transit Shop
- Community Outreach Events, 205 pledges for 2010 Try Transit Week
- Ridematching and Guaranteed Ride Home (GRH)
- Electronic and paper communications materials

Figure 7-7: Impact of Local Motion’s Employer Services Program on Telework!VA Participation (2002-2011)



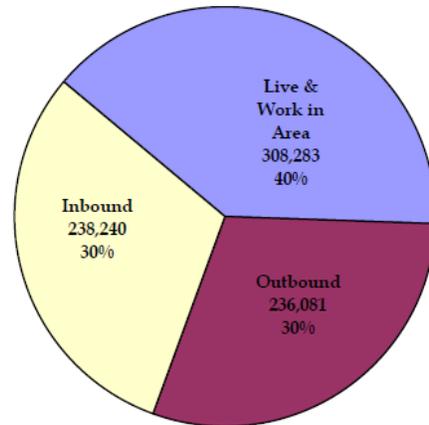
Source: Local Motion Long Range TDM Plan 2011-2036

7.3.2 Fairfax County Transportation Services Group

The Fairfax County Transportation Services Group (FCTSG) Program serves residents and employees in Fairfax County and several independent cities and towns. Fairfax County is a member of the Commuter Connections network. Historically, FCTSG's TDM services are divided into two programs: RideSources and Employer Services. The FCTSG administers both programs and also provides a variety of other transportation options and services, including marketing for the Fairfax Connector transit service.

Since commute patterns in Fairfax County are almost equally split between workers who commute into the county (**Figure 7-8**), residents who commute outside the county, and residents who live and work in the county, FCTSG needs to provide programs that serve all types of commutes. The major FCTSG services include:

Figure 7-8: Fairfax County Commuter Patterns



Source: 2000 U.S. Census and Virginia Employment Commission.

- *Carpool/Ridematching and Vanpool Matching/Leasing (RideSources)*: Services include providing general commute information, assisting individuals using the Commuter Connections on-line tool for regional carpool or vanpool ridematching, and helping vanpools apply for funding through the state-supported Van Start/Van Save programs. In 2011, approximately 30,000 people were in the database.
- *Guaranteed Ride Home (GRH)*: FCTSG helps individuals sign up for and use the GRH program administered by MWCOG.
- *Employer Services*: In 2009, FCTSG had relationships at some level with approximately 1,000 of over 5,000 employers in the service area.
- *Telework*: Currently, 83 companies are involved in the Telework!VA program in the FCTSG service area.
- *Bicycling/Walking*:
 1. Providing walking and bicycling information and maps
 2. Encouraging amenities such as employee lockers, showers, bike racks, trails or paths, and secure storage or a maintenance area for bicycle repair
 3. Supporting Bike to Work Day
 4. Promoting the dedicated bicycle lanes in Fairfax County
 5. Providing contact information for regional biking/walking advocacy groups
 6. Marketing bicycle racks on all Fairfax Connector buses
 7. Developing bicycle standards to address bicycle parking requirements, rack and locker specifications, bicycle sharing, etc.
- *Public Transportation marketing/outreach*
- *Community Residential Program (CRP)*: by partnering with residential developments, multifamily complexes, and associations.
- *SmartBenefits Incentive*: Fairfax County currently is offering a financial incentive to employers who implement a SmartBenefits transit program for their employees by paying 50 percent of the benefit amount for each employee for the first six months.

- *Fairfax Connector Stores*: Five “Connector Stores” are located at transit stations and park-and-ride lots around the County. These stores are not operated or staffed by FCTSG personnel but they provide some similar services. Services available include fare media sales, one-on-one assistance and trip planning assistance.
- *Proffers*: are administered by the Department of Planning and Zoning and are frequently used to ensure that private land developers construct sidewalks, trails, bike paths, bus stops, and other transit and TDM-friendly elements on their sites.

7.3.3 OmniMatch

OmniMatch provides TDM services to Prince William County and the cities of Manassas and Manassas Park. Activity centers in the area include Potomac Mills Mall and Marine Corps Base Quantico. Eastern Prince William County is characterized by large, dense pockets of development and concentrated commute patterns. Ridesharing in the I-95 corridor has become part of the culture, and casual carpooling or “slugging” is the predominant rideshare option. The majority of vanpools in the service area originate in the eastern half. Western Prince William County is less dense and has dispersed commute patterns.

The OmniMatch Program has historically focused on providing ridematching services to area residents commuting to Northern VA and Washington, DC. In 2002, the program was expanded to provide a more holistic, integrated approach to TDM. OmniMatch initiated an employer outreach program, adopted a more defined customer service focus, and worked to improve the quality and timeliness of ridematch and transit information. **Table 7-2** shows the number of customers served by the program in 2008 and 2009.

Table 7-2: OmniMatch Program Statistics

Fiscal Year	New PRTC Applications Processed	Other Applications Processed	Passengers Served Per Day	Passengers Served Per Month
2008	1,148	533	–	–
2009	1,142	638	30,282	638,628

Note: “New PRTC Applications Processed” include all new customers inquiring about rideshare options in Prince William County and the Cities of Manassas and Manassas Park.
 “Other Applications Processed” include reapplicants, deletions and commuters contacted as a follow-up interested in remaining in the program.
 “Passenger Per Day” count is based on average passenger occupancy rate of 13 per maxi-van and 5 per mini-van.
 “Passengers Per Month” is former figure multiplied by number of days per month.

Source: OmniMatch.

- *Carpool/Ridematching*: The majority of initial contacts with customers and employers are related to carpool/vanpool start-up or ridematching. Residents and employees may use the Commuter Connection online tool for instant ridematching information or use the match request form on OmniMatch’s website to receive one-on-one trip planning/transportation program information and ridematching assistance. There are about 2,000 active ridematching applicants from the service area in the Commuter Connections database. Over 1,000 new applicants are added to the database annually. OmniMatch contacts all active rideshare applicants regularly for follow-up.

- *Vanpool Matching/Leasing*: This is one of the largest vanpool markets in VA. In addition to the Commuter Connections ridematching services, OmniMatch supports existing vanpools and promotes establishment of new vanpools by providing:
 - Technical assistance for leasing and starting a vanpool
 - VanStart/VanSave subsidies
 - Assistance to Prince William County residents to take advantage of the personal property tax relief program for vanpools
- *Guaranteed Ride Home (GRH)*: is administered through MWCOG.
- *Employer Services*: This program is contracted out. There are currently over 200 employers in the program. Of these, 13 have an active Level 3 or 4 program. Information about telework, bicycling, walking, and public transportation is part of the employer services program.
- *Marketing*: OmniMatch is co-marketed with PRTC's transit services on PRTC's website, newspaper and magazine advertisements, and directory listings.
- *Teen Pass*: OmniMatch promotes the Teen Summer Pass which costs \$25 and gives teens unlimited rides on local OmniLink and Cross County Connector buses during the summer. As an incentive, a free gift and discounted tickets to Potomac Nationals baseball games are offered to Teen Summer Pass holders.
- *Provision of park-and-ride spaces*: PRTC has supported the development of several park-and-ride lots through proffers, and OmniMatch directly leases 220 spaces for carpools/vanpools. In addition to these official spaces, OmniMatch has informal agreements with several churches and local businesses to allow carpool parking in some spaces. An additional 5,600 private and "unofficial" park-and-ride spaces are located in lots owned by VRE, shopping centers, and local businesses and churches.

7.3.4 GWRideConnect

GWRideConnect, the TDM program by GWRC, currently supports the largest vanpool fleet in the state, manages the AdvANTage vanpool self-insurance program, and is an active partner in regional transit and transportation planning. GWRideConnect is a member of the Commuter Connections network. The program also continues to provide free ridesharing services to assist persons who are seeking daily transportation from the George Washington Region to employment and other destinations in the District of Columbia, Northern Virginia, Richmond, Dahlgren, and the Fredericksburg area. Disseminating information on the range of transportation options available to residents and employees to enable informed transportation decision-making is the core of GWRideConnect's program. **Table 7-3** shows the number of customers served by the program in 2009.

Table 7-3: GWRideConnect Program Statistics for 2009

	Total	Vehicles Removed Daily	Vehicle Miles Traveled Reduced per Year
Rideshare applicants	2,572	N/A	
Carpools registered	130	260	7,800,000
Vanpools registered	400	4,800	144,000,000,
Commuter bus runs	27	810	24,300,000
<i>Total</i>			<i>176,100,000</i>

Source: GWRideConnect, 2035 George Washington Regional Long-Range Transportation Plan.

- *Carpool/Vanpool/ Bus Ridematching*: GWRideConnect assists in the creation of new commuter pools (cars, vans, and buses) and works to keep these pools successfully operating. GWRideConnect receives over 2,000 applications for ridematching each year. Using both the Commuter Connections' database and GWRideConnect's own custom-designed ridematching software, each applicant is provided a personalized listing of existing vanpools, carpools, and buses going to their work location, along with information on commuter incentive programs, Guaranteed Ride Home, local and commuter buses, commuter lots, VRE, the Washington Metro system, and telecommuting. A follow-up survey is conducted to determine if further assistance is needed and the commute mode being used. Currently, there are 3,587 active ridematching applicants from the service area in the GWRideConnect and Commuter Connections databases. The program produces approximately 5,000 match letters each year.
- *Vanpool Matching/Leasing*: GWRideConnect coordinates a vanpool fleet of 187 vanpool operators and nearly 400 vans, resulting in over 1,200,000 passengers being served annually. GWRC does not own or operate any vans, but assists vanpools that are leased by third-party agencies (e.g., VPSI) as well as vanpools that are run by private operators. Vanpool formation and maintenance is one of the program's primary focuses. Vanpools are supported by providing:
 - One-on-one technical assistance to lease and start their own vanpool
 - Benefits and incentives – GWRideConnect has contracted with the Washington Metropolitan Area Transportation Authority (WMATA) to accept SmartBenefits Transit Vouchers – tax free transit subsidies – from area vanpools. Assistance is provided to set up SmartBenefits accounts with WMATA and redeeming SmartBenefit Transit Vouchers.
 - Van Start/Van Save subsidies - In fiscal year 2009, GWRideConnect assisted 13 vanpools with Van Start subsidies and three vanpools with Van Save subsidies.
 - AdVANTage self-insurance developed by which provides affordable self-insurance liability protection for vanpools, in partnership with the Division of Risk Management (DRM) using DRPT seed funding. GWRideConnect currently assists DRM with the operations of the program and markets AdVANTage to vanpool operators Statewide. The AdVANTage program has been in operation for just over one year and nearly one-half of GWRideConnect's vanpool fleet now has self-insurance liability protection through the program.
- *Guaranteed Ride Home (GRH)*: is administered through Commuter Connections.
- *Employer Services*: GWRideConnect contacted 33 employers in the region over the last year and is developing lists of major employers located along the region's most congested corridors (Routes 3, 17, and 610) for targeted outreach in the future. Two large employers in the region currently have active, Level 3 or 4 workplace TDM programs.
- *Telework*: GWRideConnect promotes three telework centers that are operated by GWRC. Telework information is provided to ridematch customers.
- *Marketing*: GWRideConnect is marketed through radio commercials, community and worksite events, newspaper advertisements, press releases, direct mail, websites, "take one" displays at community locations, and bulk information packets distributed through employers and realtors.

- Other programs and services include:
 - Serving on regional/project Planning Advisory Committees
 - Realtor and developer outreach to promote non-SOV options among new residents and encourage TDM supportive development
 - Congestion management planning by assisting in the development of Congestion Mitigation Plans for the I-95 HOT Lanes project and other Mega Projects impacting the area. In December 2004, the FAMPO Policy Committee adopted the Congestion Management System (CMS) program for the FAMPO region which initially examined the North Stafford County area, and will eventually analyze all of the congested corridors in the George Washington Region in detail and recommend modifications as appropriate.

7.4 Some Regional Marketing and Incentive Programs

7.4.1 Marketing and Promotions

Commuter Connections provides regional marketing for regional TDM programs. A new creative umbrella campaign was launched in the spring of 2011 to promote Guaranteed Ride Home, Rideshare, and 'Pool Rewards, as well as special events (Bike to Work Day and Employer Recognition Awards). The campaign included advertising via radio, television, gas pump toppers, direct mail, member donated advertisement space on transit, internet banner ads, social media including Facebook and Twitter, as well as a co-promotion with a local pizza company. The Commuter Connections marketing group also circulates a quarterly newsletter. Only the non-attainment area for the region is included (Arlington, Alexandria, Prince William County, Fairfax County and Loudoun County) in the Commuter Connections campaigns

The Commuter Connections website has seen over 66,000 visits between January and May 2011. Commuter Connections has received over 3,300 applications for GRH during January-March 2011, an increase of 150 percent compared to the same period for the previous year. They have also received over 3,100 rideshare applications during January-March 2011, which is an increase of 119 percent compared to the same period for the previous year. While various factors influence the success of TDM programs, it is reasonable to attribute a large part of these successes to the Spring umbrella campaign.

Additionally, individual agencies and service providers also conduct their own marketing campaigns and promotions, including WMATA, PRTC, FCTSG, GWRideConnect, VDOT, and VRE.

7.4.2 Incentive Programs

- The Pool Rewards program encourages commuters to carpool by offering monetary incentives. Participants can earn \$2 (\$1 each way) for each day they carpool to work over a consecutive 90-day period, up to a maximum of \$130. Each new carpool must commute to work an average of two or more weekdays for the duration of the 90-day program. This service is part of the Commuter Connections program and is administered by the MWCOG.
- The free NuRide program offers incentives and rewards to commuters who walk, bike, telecommute, carpool, vanpool, take a subway, train, bus, or work a compressed week. Active NuRide members typically redeem around \$300 a year in rewards. This is an independent service and is offered nationally. Results posted by the service on their website for the Northern VA region are shown below.

Figure 7-9: NuRide Trip Reduction Results



7.5 TDM Plans for BRAC Sites

Actions taken through the 2005 Base Realignment and Closure (BRAC) Act will add approximately 22,000 personnel that will be commuting along I-395/95 and US Route 1 to the following military installations:

- Fort Belvoir/Belvoir North (National Geospatial Agency)
- Marine Corps Base (MCB) Quantico
- Mark Center
- Henderson Hall

BRAC adjustments at Fort Belvoir's Main Post are anticipated to add 3,400 personnel. Ft. Belvoir North is anticipated to have 8,500 personnel. The Mark Center in Alexandria is anticipated to have 6,400 personnel.

Each site impacted by BRAC was required to produce a Transportation Management Plan (TMP) to manage the transportation impacts of personnel relocations.

Objectives of the BRAC 133 TMP (Mark Center) are:

- Achieve a minimum 40% reduction in single occupant vehicle trips
- Encourage alternative commuter modes to facilitate mobility (ridesharing, public transit use, walk and bike)
- Establish a Transportation Management Program Office

Measures recommended in this TMP include:

- Employee orientation and pre-relocation outreach
- Ride-matching, biking and walking assistance
- Coordination with the Pentagon transit center and public transit agencies
- DoD NCR Transportation Benefit Program
- Shuttle service to the Pentagon Metrorail station
- Coordination of telecommuting/flex time/compressed work week programs
- Parking permitting
- Priority parking for carpool/vanpool/low-emission vehicles
- Reserved flex-time employee parking
- Parking overflow management
- Special events protocol

The TMP for Fort Belvoir/Fort Belvoir North include a telework program, promotion of alternative work schedules, a rideshare website, an internal shuttle and parking management policies that promote ridesharing. The internal shuttle is to connect to external transit routes at army post gates. An external shuttle is also proposed to provide connections between the Franconia-Springfield Metrorail station and Fort Belvoir North. Shuttle operations will be administered directly by the Department of Defense (DoD).

To ensure regional coordination of the TMPs, the Northern Virginia BRAC Coordinators group has:

1. Established the BRAC Rideshare Roundtable for education of and outreach to relocating agencies. Major issues identified through the Roundtable include:
 - Lack of coordination between individual plans and with the region.
 - Lack of adequate transit service to sites.
 - Lack of access to public transportation service on military installations due to security concerns (although REX goes on Fort Belvoir).
 - Lack of funding for DoD shuttles for Fort Belvoir or MCB Quantico (DoD shuttles will be used at Mark Center and Belvoir North).
 - Lack of coordination with VDOT and DRPT for more coordinated solutions, i.e. instead of one DoD shuttle system there are several all vying for space in the bus bays at the metro stops.
2. Produced a rideshare resource guide to define a transportation network for each BRAC facility
3. Sought funding for alternative modes:
 - Prepared an application to the U.S. DOT to implement a Dynamic Rideshare pilot study to provide driver and rider incentives, use smart phones to arrange rides with the help of Avego Corporation's services and software, and quickly get Department of Defense (DoD) personnel who are moving to new locations matched-up with potential drivers.
 - Prepared an application to MARAD for funding a market study for a commuter ferry on the Potomac that would make east/west and south/north crossings. About 2,000 people commute from Maryland to Fort Belvoir and about 600 from Maryland to Quantico. The service would benefit many more working at other locations.

In addition to these short term plans that specifically address BRAC-related impacts, the master plans for Fort Belvoir and Marine Corps Base Quantico include short and long range transportation plans for the installations.

7.6 TDM Program Needs

The three critical goals that TDM strategies strive to achieve are:

1. Change travel behavior to maximize the efficiency and use of existing transportation system.
2. Increase the use of high occupancy commute modes (bus, rail, carpool and vanpool) and remove auto trips through telework, bike and walk option.
3. Increasing mobility and accessibility during all parts of the workday including AM/PM commute, lunchtime, after work, and work travel

TDM program recommendations that were presented in the 2008 Transit/TDM Study for the I-95 corridor are still valid for continued consideration. Recommendations that were include in that study's "Tier 1 (or lower investment scenario) were as follows:

- Carpool Incentives: Rewards and incentives for carpoolers.
- Electronic Toll Transponders for Vanpools: Provide free electronic toll transponders to vanpools.
- Rideshare Program Operational Support: Additional staff for commuter assistance programs in the corridor and feeder markets to promote TDM programs and transit.
- TDM Programs Marketing: Expand marketing efforts touting TDM programs and non-SOV commute modes in the corridor and feeder markets. New signage in park-and-ride lots and along corridor to promote TDM programs.
- Vanpool Driver Incentives: Provide incentives to get new drivers and retain existing drivers for vanpools.
- Vanpool Insurance: Increase vanpool insurance premium pool buy-down for vanpools.
- Vanpool Tracking: Develop a tracking mechanism (GPS, cell phone) to track vans used for vanpools.
- VanStart/VanSave: Additional financial support to cover the cost of vacant seats for new vanpools during start-up operations, and established vanpools that have temporary vacancies. Support is short-term, one to six months, until regular riders are found to fill vacant seats.

The prior study's recommendations in the medium tier of financial investment were:

- Capital Cost of Contracting for Vanpools: Incentives, IT monitoring and reporting of vanpool mileage, and promotion of capital cost of contracting for vanpools.
- Telework Program Assistance: Financial incentives for employers that start new telework programs at their worksites, funding for home-based equipment costs and consulting support.
- Capital Assistance for Vanpools: Provide financial assistance for the purchase or lease of vans for vanpools.
- Enhanced Guaranteed Ride Home: Enhanced promotion and operation of Guaranteed Ride Home (GRH) services in the extended corridor. Offers free taxi or rental car transportation to registered commuters who use alternative modes and have a personal emergency during the workday.

8.0 Generalized I-95 Corridor Transit, Parking and TDM Needs

This Technical Memorandum has documented the key land use, travel pattern, transit, parking and TDM program usage characteristics identified in the sections below.

8.1 Land Use Patterns

An analysis of demographic characteristics, as reflected in the MWCOG and FAMPO travel demand models indicate continued population and employment growth, resulting in increased densities in the I-95 corridor. Population in the northern portion of the corridor is anticipated to grow by 22 percent between 2011 and 2035. Population in the southern portion of the corridor is anticipated to grow by 52 percent for this same time period. Employment is also anticipated to grow at similar rates, with higher employment densities immediately adjacent to I-95. The MWCOG data reflects higher densities in zones where the BRAC projects are occurring.

8.2 Travel Patterns

Existing worker travel flow data from the Census' American Community Survey shows 57,000 workers from the I-95 corridor portions of Prince William and Fairfax Counties, going to work destinations in Alexandria, Arlington and Washington, D.C. Another 16,500 worker trips are from the I-95 corridor portions of Stafford County, Spotsylvania County and Fredericksburg, going to work in these destinations.

MWCOG's travel demand model was used to understand the potential future growth in home-based work (HBW) trips from I-95 corridor zones. Fairfax County HBW trips in the I-95 corridor are projected to grow 17 percent by 2035. Prince William County HBW trips in the corridor are projected to grow by 35 percent. Growth rates are harder to determine for the southern portion of the corridor, for the MWCOG model is less refined in this part of the corridor. However, it is expected the HBW travel growth rate from the southern portion would be similar to the population growth rate, which is over 50 percent by 2035.

HBW trip attractions at major destination areas were determined with the MWCOG travel demand model. The MWCOG model indicates the central area of Washington, D.C. will continue to be the most common destination for HBW trips. Most of the growth in central Washington, D.C. HBW trips is expected to occur in the Navy Yard area, south of the Mall. Higher HBW growth rates are expected in Arlington, Alexandria, and Tysons Corners, but with total trip attractions at these locations still being less than half of those for the central area of Washington, D.C.

8.3 Existing Transit Service Utilization

Both the Fairfax Connector and WMATA provide express bus service from the Fairfax County portion of the I-95 corridor to the Pentagon (via FC 380-D and select patterns of Metrobus Route 18). These routes are generally less than half full. Routes that connect to the Franconia-Springfield Metrorail Station tend to be well-utilized.

PRTC OmniRide routes are well utilized, with over 5,800 average daily passenger trips. The PRTC MetroDirect route that operates in this corridor carries over 800 average daily passenger trips. PRTC routes typically start at park-and-ride lot locations away from the I-95 corridor and circulate through neighborhoods before stopping at a park-and-ride lot immediately adjacent to I-95. Buses are typically less than ½ full when arriving at an I-95 park-and-ride lot. These buses, however, tend to leave full from the I-95 park-and-ride lot. Thus, passengers are drawn more to the lots closest to I-95.

PRTC's ability to attract more ridership on OmniRide routes is limited by two factors – park-and-ride lot capacities and limitations at the existing bus maintenance facility. Many of the lots served by OmniRide routes are at or near capacity. PRTC also does not have the ability to expand bus storage or maintenance at its existing bus maintenance facility.

Martz and Quick's routes carry 800 to 900 passenger trips in each peak period (i.e., 1,600 to 1,800 daily one-way passenger trips. This reflects an average of 30 to 40 passengers per bus trip. It is important to note that Martz and Quick's round trip fares are \$24 to \$28 for a one-day ticket. PRTC's fares for a round trip are \$10.50 with a SmarTrip card, and \$14 cash. Thus, there are likely residents from the southern portion of the corridor that drive to Prince William County lots to use OmniRide service, for that service is less expensive and more frequent.

VRE also is well-utilized, with over 10,600 trips a day. Many VRE train trips are operating with standing passenger loads. VRE's potential to expand ridership is primarily limited by its available passenger car fleet, midday storage availability, and parking availability at rail station parking lots.

8.4 Park-and-Ride Lot Utilization

As noted in the paragraphs above, bus service and VRE service expansion cannot happen without a concurrent expansion of park-and-ride lots. Many of the major parking lots in the corridor are at capacity, or close to capacity. In particular, lots that are served by transit with several capacity constraints are:

Springfield Plaza	PRTC Transit Center
Horner Road	Garrisonville Rd. Staffordborough Blvd.
US 1/VA 234	Garrisonville Rd. Mine Road
Lake Ridge	Stafford (VA 630)
Old Bridge Rd./123	Route 3 Gordon Road
Potomac Mills	Route 3 Salem Church Road
Tacketts Mill	

VDOT has plans to expand parking in the corridor. Many of VDOT's expansion plans address expansion needs that were identified in the prior I-95/I-395 Transit and TDM Plan. VDOT is proceeding with plans to add two lots in the north portion of the corridor that will provide 1,300 spaces. VDOT is also proceeding with plans to add up to 2,000 spaces at south corridor park-and-ride lots, with an additional 1,000 spaces at the proposed Spotsylvania VRE station.

8.5 TDM Programs

Several TDM programs are in place in the I-95 corridor that have reduced single occupant vehicle usage in the corridor.

Telework continues to grow in popularity in the Washington, D.C. area. There are a few privately operated telework centers in operation in the corridor.

Dynamic ridesharing (slugging) also continues to grow in this corridor. A 2009 survey by VDOT estimates that there are 6,450 “sluggers” that originate from 15 locations in the corridor. About 25 percent of sluggers originate from the Horner Road Lot. About one third of all sluggers are destined to the Pentagon.

Commuter Connections serves as an umbrella agency for local TDM programs. TDM agencies within the corridor include Alexandria’s Local Motion, the Fairfax County Transportation Services Group, OmniMatch, and GWRideConnect. These TDM agencies provide employer services that are aimed at reducing single occupant vehicle travel. Both OmniMatch and GWRideConnect administer large vanpool programs, with GWRideConnect overseeing over 400 vanpools.

Finally, it is important to note that the corridor’s BRAC projects include funding for a Transportation Management Program Office that will be responsible for promoting alternatives to single occupant vehicle travel.

8.6 Summary of I-95 Corridor Transit and TDM Needs

Building upon the previous *I-95/I-395 Transit/TDM Study* and subsequent planning efforts by various agencies in the corridor, the following generalized needs have been identified:

Fairfax County Area

1. New commuter and local bus service from the proposed VDOT Saratoga park-and-ride lot.
2. Potential commuter bus service from the “Circuit City” lot in Springfield. Fairfax County is presently considering expansion of this lot. Commuter service at this lot will require pedestrian access improvements for returning buses in the afternoon (e.g., a pedestrian bridge over Keene Mill Road).
3. Modification and expansion of local route bus service connections to the Franconia-Springfield Metrorail Station, as proposed in the Fairfax Connector TDP.
4. Cross-County express / limited stop transit service between the I-95 corridor and Tysons Corner.
5. Shuttle transit service to the Fort Belvoir and Fort Belvoir North BRAC projects from the Lorton VRE Station and Franconia-Springfield Metrorail Station (note – the DoD is planning on providing shuttle service from Franconia-Springfield to Fort Belvoir North in conjunction with opening of the NGA this fall).

Prince William County

1. Immediate expansion of service to address current bus overloads (PRTC is in the process of adding trips to address these overloads).
2. Adjustments to existing OmniRide routes to provide commuter bus service to the proposed VDOT Telegraph Road park-and-ride lot.

3. Advancement of PRTC's planned western maintenance facility (to free-up capacity at PRTC's existing maintenance facility).
4. Accommodation of ridership growth on existing OmniRide routes, including the addition of service in the midday and later evening as services mature.
5. Expansion of OmniRide service to new markets including Alexandria (the Mark Center) and Merrifield, extension of OmniLink service to Fort Belvoir, extension of the Prince William Metro Direct route to circulate around Springfield, and resumption of OmniRide service to the north along Route 1.
6. Continued expansion of park-and-ride spaces in Prince William County, in particular in close proximity to I-95.

Stafford and Spotsylvania Counties

1. Coordination between VDOT and FAMPO on park-and-ride expansion needs and locations in the corridor.
2. Accelerated advancement of park-and-ride spaces in the Garrisonville Road and Route 3 areas, (i.e., completion of VDOT's current plans to expand park-and-ride lots at these two locations).
3. Expansion of transit service levels, with more direct trips (i.e., bus trips that stop at only one park-and-ride lot).

VRE

1. Advancement of the Spotsylvania County rail station.
2. Expansion of parking at other rail stations.
3. Increased train passenger capacity through longer trains.
4. Addition of midday and overnight storage to accommodate the increased passenger fleet required with longer trains.

TDM Programs

1. Promotion of TDM programs through a targeted marketing campaign for I-95 commuters.
2. Enhancement of employer services programs at destinations of I-95 commuters.
3. Establishment of a coordinated monitoring program that measures effectiveness of TDM programs.
4. Continued expansion of vanpool programs.
5. Establishment of bike sharing and/or car sharing programs in strategic locations.
6. Enhancement of access to information on travel options in the I-95 corridor through websites/online services, maps/printed information, advertising, and retail outlets.
7. Implementation of trip planning technology that enhances use of transit, dynamic ridesharing and ride-matching.

Destination End Needs

1. Management of bus pick-up and drop-off locations within downtown Washington, D.C. and Arlington County.
2. Management and eventual expansion of bus facility capacity in Pentagon/Pentagon City/Crystal City area.
3. Expansion of Franconia-Springfield Metrorail Station bus bays (as planned), and potential need for expansion of parking.
4. Management of bus activity at Mark Center Transit Center.