Virginia's Long-Range Multimodal Transportation Plan

Corridors of Statewide Significance: Seminole Corridor

Prepared for:
Commonwealth Transportation Board

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Corridor Overview

1.1 Transportation Facilities

The Seminole Corridor is primarily defined by U.S. 29, which is a highway running north-to-south in the eastern United States for over 1,000 miles. The northern terminus is in the suburbs of Baltimore, at Maryland Route 99 in Ellicott City, and its southern terminus is in Pensacola, Florida, at U.S. Highways 90 and 98. From Greensboro, North Carolina to Tuskegee, Alabama, U.S. 29 serves as a parallel route and local access route for I-85. Figure 1 shows the entire corridor from Maryland to Florida.

Within Virginia, U.S. 29 serves as the major north-south corridor through the central part of the state, as it lies west of I-95 and east of I-81. It provides the main connection between the Washington, D.C. metropolitan area and the cities of Charlottesville, Lynchburg, and Danville. It provides local access to many of these areas as well as to smaller communities. It is a freight alternative to the heavy freight corridor of I-81 to the west, and is one of two major corridors (along with U.S. 460) serving the Lynchburg area. U.S. 29 is also defined as a National Scenic Highway.

While U.S. 29 provides local access to many areas, there are numerous grade-separate interchanges along its length, and there are a total of 11 bypass routes around various towns and cities along the corridor. U.S. 29 is a multi-lane highway through Virginia, with a majority of sections at four lanes. Through the Northern Virginia area, U.S. 29 serves as a parallel corridor and local access route for I- 66. Virginia Route 28 also serves as a parallel corridor for U.S. 29 between the western end of Fairfax County and Fauquier County. U.S. 50 serves as a parallel roadway through Fairfax County and Arlington County. Figure 2 illustrates the entire corridor in Virginia and shows all modal facilities.

Seminole Corridor Jurisdictions

- Arlington County
- City of Falls Church
- City of Fairfax
- Prince William County
- Fauquier County
- Culpeper County
- Madison County
- Greene County
- Albemarle County
- City of Charlottesville
- Nelson County
- Amherst County
- Campbell County
- City of Lynchburg
- Pittsylvania County
- City of Danville

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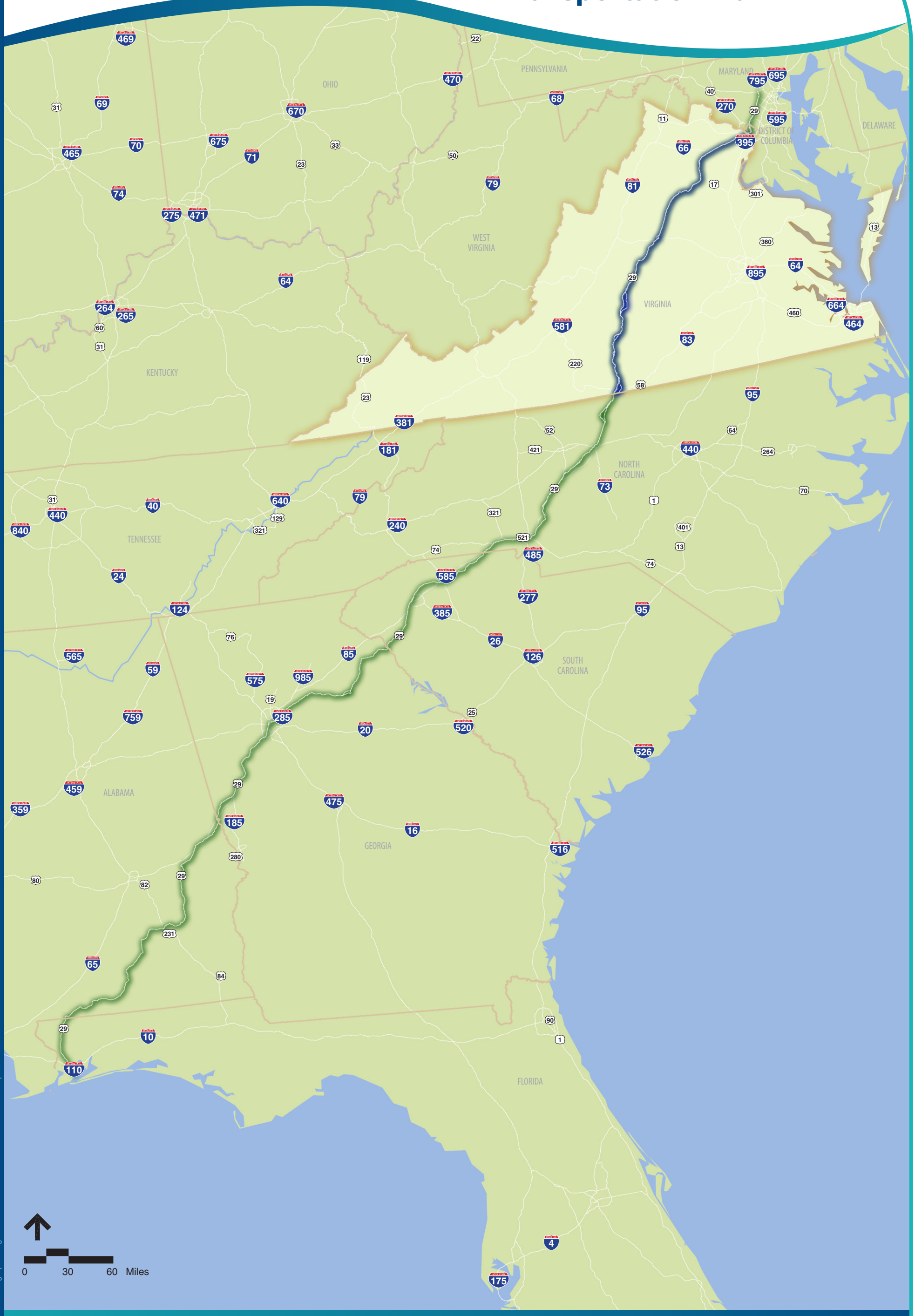

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FIGURE 1
Seminole Corridor National Context Map

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WEST VIRGINIA
MARYLAND
NORTH CAROLINA
WASHINGTON D.C.
FREDERICK
CLARKE
LOUDOUN
WINCHESTER MPO
Virginia Inland Port
NORTHERN VIRGINIA PORTION OF THE METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS
SHENANDOAH
WARREN
FAUQUIER
Manassas Regional
FAIRFAX
RAPPAHANNOCK
PRINCE WILLIAM
Warrenton Fauquier
ROCKINGHAM
PAGE
CULPEPER
Culpeper County
Hartwood
HARRISONBURG-ROCKINGHAM MPO
MADISON COUNTY
STAFFORD
HIGHLAND
AUGUSTA
GREENE
Orange County
FREDERICKSBURG AREA MPO
KING GEORGE
ORANGE
Charlottesville-Albemarle
CHARLOTTESVILLE-ALBEMARLE MPO
SPOTSYLVANIA
BATH
CAROLINE
LOUISA
ESSEX
ROCKBRIDGE
ALBEMARLE
FLUVANNA
NELSON
HANOVER
KING & QUEEN
GOOCHLAND
KING WILLIAM
RICHMOND AREA MPO
AMHERST
POWHATAN
NEW KENT
BUCKINGHAM
HENRICO
LYNCBURG AREA MPO
APPOMATTOX
CHESTERFIELD
CHALRES CITY
Lynchburg Regional
AMELIA
BEDFORD
CAMPBELL
PRINCE EDWARD
NOTTOWAY
TRI-CITIES AREA MPO
PRINCE GEORGE
DINWIDDIE
Smith Mountain Lake
CHARLOTTE
LUNENBURG
BRUNSWICK
PITTSYLVANIA
HALIFAX
MECKLENBURG
GREENSVILLE
DANVILLE MPO
Danville Regional
81
66
29
95

0 7.5 15 Miles

Legend

- US 29
- Airport
- Metrorail
- Metrorail Station
- Railroad
- VRE Station
- Greyhound Terminal
- Amtrak Station
- Park and Ride
- Port
- County Line
- MPO Area
- Planning District

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FIGURE 2
Seminole Corridor Map

The Seminole Corridor passes through five separate Planning Districts (Northern Virginia, Rappahannock-Rapidan, Thomas Jefferson, Region 2000 Regional, and West Piedmont), while passing through twelve counties and numerous incorporated cities and towns. U.S. 29 runs through 12 counties and four cities. It also provides access to numerous towns, though bypasses have been built around most of these communities. U.S. 29 runs concurrently with other roadways throughout its course in Virginia, including U.S. 15 for a long stretch near Warrenton, U.S. 250 near Charlottesville, and U.S. 460 near Lynchburg.

Through the Northern Virginia region, U.S. 29 serves as an arterial roadway, which provides local access along its length from within Arlington County through most of Prince William County. In southern Prince William County, south of Gainesville and south of the junction with U.S. Highway 15, U.S. 29 serves as a highway, with increased speed limits and more limited access, though signalized and unsignalized at-grade intersections exist along its length. U.S. 29 also provides access to I-66 at numerous locations, to Virginia Route 28 in Centreville, to U.S. 50, and to U.S. 15 in Prince William County.

U.S. 29 Concurrent and Parallel Roadway Facilities

Parellel:
- I- 66
- U.S. 50
- Virginia Route 28

Concurrent:
- Virginia Route 237
- Virginia Route 309
- U.S. 50
- U.S. 15
- U.S. 17
- Virginia Route 230
- Virginia Route 231
- U.S. 250
- Virginia Route 6
- Virginia Route 56
- U.S. 301
- U.S. 460

I- 66 runs parallel to U.S. 29 through Arlington and accesses it at two separate locations. It continues to parallel U.S. 29 through Fairfax County and into Prince William County. There is one junction of the two corridors in Fairfax County and one at Gainesville in Prince William County where the two corridors split, with I-66 continuing west toward Front Royal, while U.S. 29 dips to the south toward Charlottesville.

Virginia Route 237 runs concurrently with U.S. 29 between the City of Fairfax and the western interchange with I-66 in Arlington. In addition, U.S. 50 runs concurrently with U.S. 29 for under three miles within the City of Fairfax and runs parallel to it east of this overlap into Arlington County and west of this overlap through the remainder of Fairfax County. South of Gainesville, U.S. 15 and U.S. 29 run concurrently into Fauquier County.

The Route 28 corridor between the interchange with U.S. 29 in Centreville in Fairfax County and the intersection with U.S. 29 in Fauquier County can be considered a parallel facility to U.S. 29. It is a multi-lane facility north of Manassas, then passes through the City of Manassas Park and the City of Manassas before heading south, paralleling U.S. 29. It is mostly a two-lane facility south of Manassas and is used as an alternative access through Prince William County and Fauquier County for vehicles heading north and south along the Seminole Corridor. In addition, U.S. 50 is a parallel facility through Arlington County and Fairfax County and runs concurrently with U.S. 29 for a short stretch through the City of Fairfax.

Limited access bypasses have been constructed around the Town of Warrenton and around the unincorporated town of Remington in Fauquier County. U.S. 29 bypasses Warrenton to the east, while U.S. Business Routes 15 and 211, as well as U.S. Highways 17 and 211 directly access the Town. U.S. 29 bypasses Remington to the west, while Business Route 15 accesses the town. In Culpeper County, U.S. 29 bypasses Brandy Station to the north, while Business Route 15 again provides local access. U.S. 29 bypasses the Town of Culpeper to the south, with the continuation of Route 15 Business from Brandy Station providing local access to the Town. South of the Town of Culpeper, Route 15 splits from U.S. 29, with Route 15 paralleling U.S. 29 to the east. U.S. 29 also bypasses Madison to the east, while Virginia Route 231 accesses the town.

Though the aforementioned bypasses exist, U.S. 29 still provides direct access to other numerous small communities. Though much of U.S. 29 acts as a limited access facility with numerous grade-separated interchanges, there are also many signalized and unsignalized at-grade intersections through the Rappahannock-Rapidan Planning District.

In the Thomas Jefferson Planning District, between Ruckersville and Charlottesville, numerous traffic signals are in place, especially in Ruckersville and Hollymead, near the Charlottesville Albemarle Airport, and near the City of Charlottesville. There is a six-mile stretch north of the City where U.S. 29 is expanded to eight lanes and is primarily a suburban access road with numerous traffic signals and dense commercial development on either side of the roadway, along with access to nearby residential development. Most traffic through these areas is locally-based traffic. U.S. 29 primarily serves as the major local access arterial through the northern part of the Thomas Jefferson Planning District, though it also serves some through traffic.

Soon after entering the City of Charlottesville, U.S. 29 joins with U.S. 250 along a bypass to the west of the City. U.S. 29 Business and Route 250 Business provide access to downtown Charlottesville and to the University of Virginia. South of Charlottesville, U.S. 29 accesses I- 64. South of I-64, U.S. 29 once again serves mostly as a through highway with some limited access areas.

In the Region 2000 Regional PDC, U.S. 29 does not travel directly into the Town of Amherst, as a bypass to the east exists, with Business U.S. 29 traveling directly into Amherst. This business route continues to the south into the City of Lynchburg, where it provides direct access into downtown Lynchburg. U.S. 29 bypasses the City of Lynchburg to the east before a junction with U.S. 460. U.S. 29 and U.S. 460 then split south of Lynchburg with U.S. 460 continuing to the west while U.S. 29 continues to the south. In southern Campbell County, U.S. 29 bypasses Altavista to the northwest, with a roadway marked Business U.S. 29 accessing the town.

In the West Piedmont PDC, U.S. 29 bypasses the Town of Chatham to the east, with a Business U.S. 29 providing direct access into the Town. North of Chatham, another bypass, this time to the west around Gretna, also exists, again, with a separate Business U.S. 29 providing access directly into the town.

U.S. 29 bypasses the City of Danville to the east using the Danville Expressway, with Business U.S. 29 providing one of the major corridors through the City. Between the interchange of the U.S. 29 bypass with U.S. 360 and U.S. 58 east of Danville and the interchange with the southern end of Business U.S. 29 and U.S. 58 south of Danville, the Danville Expressway overlaps with U.S. 58. U.S. 29 continues to the south into North Carolina, while U.S. 58 continues to the west. U.S. 29 Business travels through the city limits of Danville while using the bypass around the heart of the City.

Seminole Corridor Transit Facilities

- WMATA Metrorail Orange Line
- Virginia Railway Express (VRE)
- PRTC Express Bus
- RRCS Express Bus
- JAUNT Express Bus
- Greyhound

There are multiple line-haul transit options available along U.S. 29 in the Northern Virginia region. The Washington Metropolitan Area Transit Authority's (WMATA) Orange Line runs parallel to U.S. 29 from Arlington to Vienna, with multiple stops in Arlington, near Falls Church, and in Fairfax County. The Orange Line provides connections to many different local transit providers such as: Metro, CUE, George, Fairfax Connector, and Arlington Transit. Stations along the Orange line have almost 9,000 parking spaces available for all-day parking. Short-term and long-term parking are available at the four westernmost stops, and bus service from western Fairfax County is available to and from the West Falls Church Station. There is a very large park and ride facility at the Vienna Metro Station, with multiple garages surface lots for commuterse.

In addition, the first stage of the proposed Silver Line of the Metrorail system will run from West Falls Church into Tysons Corner, where there will be an additional four stops, then into Reston. The second stage of the Silver Line will connect from Reston through Herndon to Dulles Airport and eventually connect to stops in Loudoun County.

The Virginia Railway Express (VRE) also operates rail service within the Seminole Corridor. VRE provides commuter rail service between the suburbs of Northern Virginia and Washington,, D.C. The service operates Monday through Friday, traveling inbound (towards Washington) in the mornings and outbound (away from Washington) in the afternoon and evenings. The Manassas Line service runs between the Manassas Airport and Washington, D.C. using the Norfolk Southern Piedmont freight rail line.

Potomac and Rappahannock Transportation Commission (PRTC) also provides commuter bus service along the Seminole Corridor. These routes are used to connect residents of Prince William County and the Cities of Manassas and Manassas Park with Metrorail or destinations in Washington, D.C. The routes operate Monday through Friday with trips occurring during the peak morning and evening travel times. They also offer service during the afternoon period to accommodate

individuals needing more flexible scheduling. In addition, express bus service from Culpeper to Washington, D.C. is provided by RRCS, and there is an express bus transit option between Lovingston in Nelson County and the City of Charlottesville, provided by JAUNT.

Line-haul transit options are limited south of Charlottesville and Nelson County, though Greyhound offers bus service along the entire Seminole Corridor, with stations located in Danville, Lynchburg, Charlottesville, and Northern Virginia (in Springfield and Woodbridge) as well as points south in North Carolina. In addition, local transit options are available in Charlottesville and Lynchburg.

There are multiple park and ride lots in Prince William County along the Seminole Corridor and more in Arlington and Fairfax Counties, generally associated with Metrorail and VRE stations. They are also available in Fauquier County and Culpeper County, and there are numerous park and ride facilities in and around the City of Charlottesville along U.S. 29, including at least three lots south of the City in Nelson County.

Norfolk Southern freight rail lines run along virtually the entire Seminole Corridor in Virginia, offering a freight option to points south along U.S. 29 as well as north of Washington, D.C. and to the northeast. The eastern line of Norfolk Southern's Crescent Route runs along U.S. 29, and connection to the I-66 corridor Norfolk Southern rail lines can be made to the Virginia Inland Port and the western line of Norfolk Southern's Crescent Corridor, which runs along the I-81 corridor.

Seminole Corridor Rail and Port Facilities

Freight Rail:
- Norfolk Southern Crescent Corridor

Passenger Rail:
- Amtrak Crescent Route
- Amtrak Cardinal Route
- Virginia Railway Express (VRE)

Connections To:
- Virginia Inland Port
- Norfolk Southern Crescent Corridor
- CSX Coal Corridor
- Norfolk Southern Coal Corridor
- Norfolk Southern Heartland Corridor

In Charlottesville, these Norfolk Southern lines have a junction with CSX's Coal Corridor, which provides a connection between the Port of Virginia and the Appalachian coalfields to the west. In the Lynchburg area, these lines have a junction with both Norfolk Southern's Coal Corridor, which offers a connection between the Port of Virginia and the Appalachian coalfields to the west and with Norfolk Southern's Heartland Corridor, which runs along the U.S. 460 corridor and provides a connection between the Port of Virginia and the Midwest.

Amtrak's Crescent Route, running from New York to New Orleans, provides passenger rail service, running directly along Norfolk Southern rail lines within the Seminole Corridor. There are stops in Lynchburg, Charlottesville, Washington, D.C., and Manassas. In addition, Amtrak's Cardinal Route, running from New York to Chicago, also runs along the Seminole Corridor, with the same stop locations.

Commercial air service is most readily available using Dulles International Airport, located north of U.S. 29 in Northern Virginia along Route 28. In addition, the Charlottesville-Albemarle Airport offers commercial service and fifty flights per day

to larger cities, such as Washington, D.C., Charlotte, New York, and Atlanta. This airport is located north of the City of Charlottesville, near Hollymead, Virginia, directly west of U.S. 29. Lynchburg Regional Airport, which offers eight flights into and out of the area on two airlines, is another commercial service provider along U.S. 29 and is located south of the City of Lynchburg, near the junction of U.S. 29 with Business U.S. 29 and U.S. Highway 460. In addition, there are numerous general aviation facilities within the corridor. Table 1 details all air facilities along U.S. 29, including their location and designation by the Virginia Air Transportation System Plan.

Table 1 Seminole Corridor Airport Facilities

Airport	Type	Location
Dulles International	Commercial Service	Fairfax/Loudoun Counties
Charlottesville Albemarle	Commercial Service	Albemarle County
Lynchburg Regional	Commercial Service	Campbell County
Manassas Regional	Reliever	Prince William County
Warrenton-Fauquier	Reliever	Fauquier County
Culpeper Regional	General Aviation – Regional	Culpeper County
Orange County	General Aviation – Community	Orange County
Gordonsville Municipal	General Aviation – Community	Orange County
Falwell	Local Service	Campbell County
New London	Local Service	Bedford County
Brookneal-Campbell	General Aviation – Community	Campbell County
Smith Mountain Lake	Local Service	Bedford County
Danville Regional	General Aviation – Regional	Pittsylvania County

2

Corridor Functions

2.1 Corridor Functions in Virginia

The Seminole Corridor serves numerous functions in Virginia. It is a commuter route in the Northern Virginia area, with commuters from as far south as Culpeper County using the corridor to access Northern Virginia and Washington, D.C. It is also an important north-south corridor for both passengers and freight, offering an alternative to the I-81 and I-95 corridors to the west and to the east, respectively, and it provides a connection between the Northern Virginia region, Charlottesville, Lynchburg, and Danville. U.S. 29 is defined as a Heritage Trail and accesses many historical and tourist areas, including Civil War Battlefields.

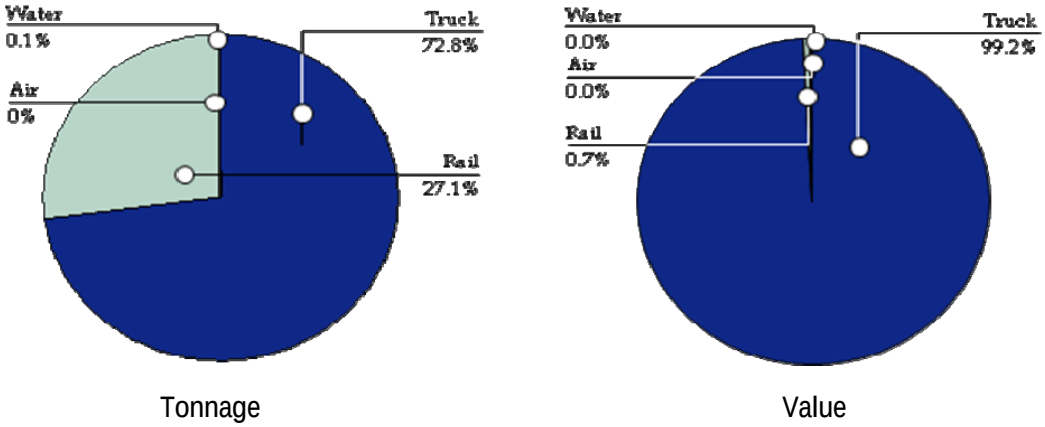
Functions of U.S. 29

- Connection between urban areas
- Commuter route for Northern Virginia
- Freight alternative to I-95/I-81
- Cultural resources and tourism

2.2 Freight Movement

The Seminole Corridor is an important freight corridor, with most freight movement accomplished via trucking along the highway facilities, though other options exist, including rail and air. It is used as a freight alternative to the I-81 and I-95 corridors, as it lies between these other corridors. Trucking accounts for over 70 percent of the freight movement, and freight rail accounts for the remainder of the total freight movement. Rail freight movement is mostly along the eastern line of Norfolk Southern's Crescent Corridor, which runs along the Seminole Corridor throughout most of its length in Virginia. Figure 3 shows the tonnage by mode along the Seminole Corridor as well as the freight value by mode.

Figure 3 Total Freight Tonnage and Value by Mode



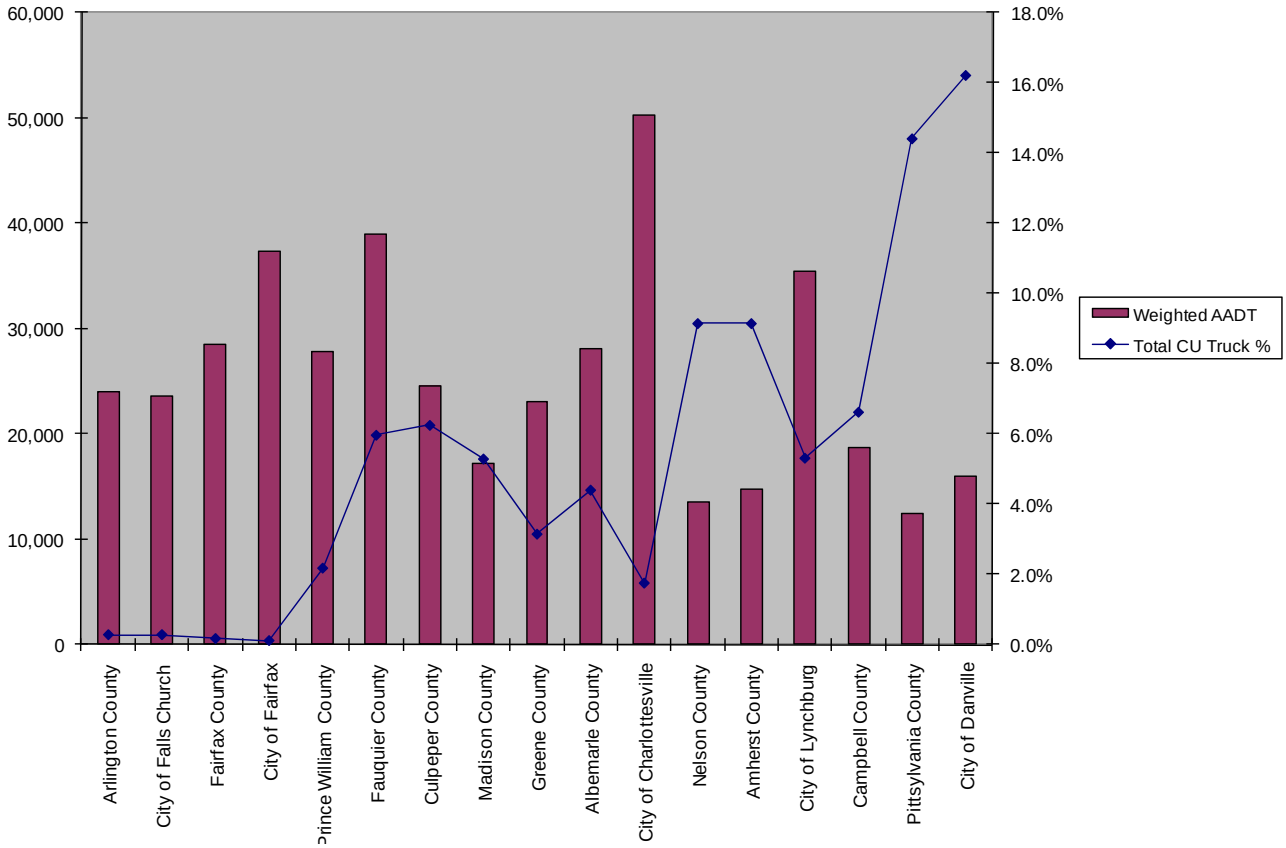
(Source: Statewide Freight Study)

As seen in Figure 3, most freight along the Seminole Corridor is handled by truck despite the presence of Norfolk Southern rail lines along the entire corridor. There are no waterways along the corridor, and while there are some air facilities, as listed in the previous section, most of the facilities are smaller, general aviation or reliever facilities. Dulles Airport is indirectly accessible via the Seminole Corridor and freight movement through this major hub was not considered in these figures.

Figure 4 illustrates that trucks account for anywhere between less than 1 percent and 16 percent of the total traffic along U.S. 29's highway facilities.

Traffic is heaviest around the Charlottesville area and in Northern Virginia, though truck percentages are highest through the southern areas, such as Pittsylvania County and the City of Danville. Truck percentages are very low through Northern Virginia but increase to up to 6 percent between Prince William County and Charlottesville. Within the City of Charlottesville, truck traffic is low, but south of Charlottesville, truck traffic increases as a percentage of total traffic steadily through the remainder of the state.

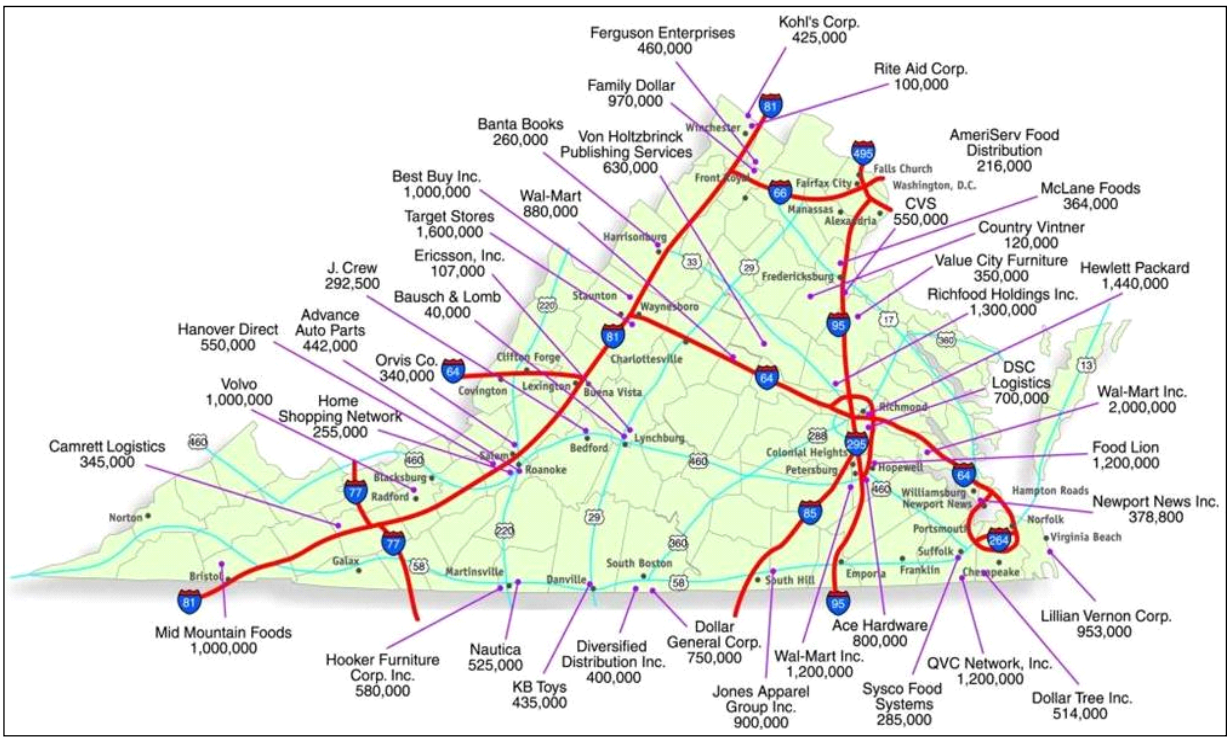
Figure 4 U.S. 29 Average Annual Daily Traffic (AADT) and Commercial Unit (CU) Truck Percentages



(Source: Statewide Freight Study)

Figure 5 shows the major distribution centers in Virginia. As seen in the figure, there are a few of these centers directly along the Seminole Corridor and more a short distance away. This allows for easy access from the corridor to the distribution centers.

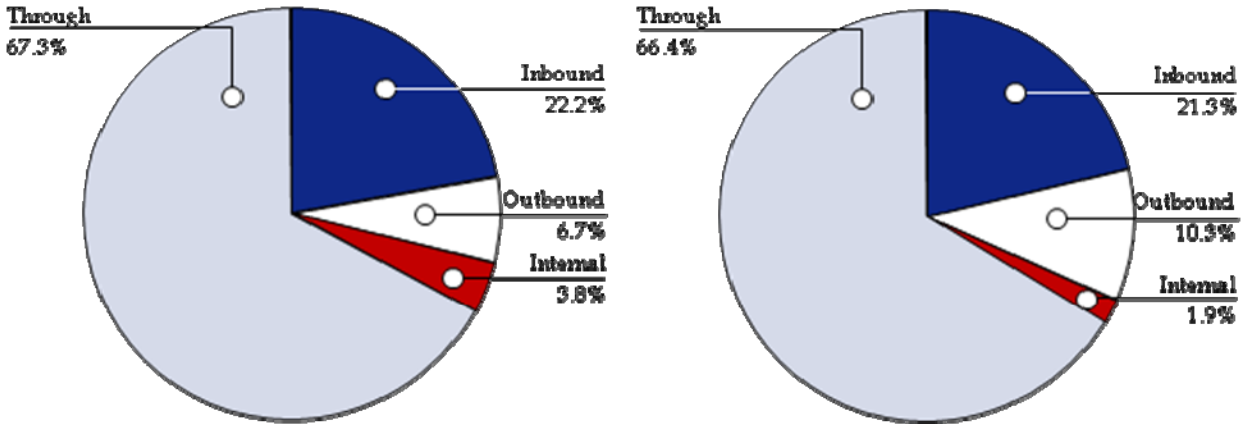
Figure 5 Major Virginia Distribution Centers



(Source: Statewide Freight Study)

Figure 6 shows the freight tonnage and value by direction along the corridor. As seen in this figure, two-thirds of the freight traffic moved through Virginia is through freight, though a large amount has origins and destinations in Virginia. There is also a small percentage of internal freight moved within Virginia.

Figure 6 Freight Tonnage and Value by Direction



Tonnage Value

(Source: Statewide Freight Study)

According to the Statewide Freight Study, freight volumes along the Seminole Corridor will continue to grow and will be influenced by a number of factors leading to increased transportation demand. Population growth along the corridor will play a major role. In addition, changes in national and global logistics patterns and the corridor's evolving industry structure will lead to increased demand for freight along this already heavy freight corridor.

With increases in freight demand, it is important that capacity to carry the expected volumes of freight exist in the future, not only along the highway facilities but along the rail facilities as well. Norfolk Southern has many planned projects for their Crescent Corridor, half of which runs directly along the Seminole Corridor. These projects include expansion of single-line tracks to double tracks, adding and improving existing passing sidings, realigning curves, improving connections, raising tunnels to add double-stack capacity, and adding track signals and systems. These will all increase capacity of the rail system along U.S. 29. It is important that with these projects, more freight is moved to rail to connect with national markets as well as to the distribution centers. This will assist capacity for both freight traffic and passenger traffic along the corridor's highway facilities and improve safety.

2.3 Connection between Northern Virginia and Points South; Commuter Corridor; and Tourism

U.S. 29 serves as an important passenger corridor in Virginia. It runs parallel to the I-66 corridor through much of Northern Virginia, diverging in Gainesville to the south while I-66 continues to the west. The Seminole Corridor connects the Northern Virginia region to Charlottesville, Lynchburg, and Danville as well as to some smaller communities, such as Warrenton and Culpeper.

U.S. 29 is generally a four-lane divided facility throughout Virginia, except for a short stretch of two-lane roadway through National Park Service land in Prince William County. In addition, there are multiple limited-access sections, mostly bypasses around larger cities such as Charlottesville and Lynchburg and smaller towns such as Altavista, Culpeper, Madison, and Chatham.

U.S. 29 is the third main north-south corridor through the state, along with I-81 and I-95, and offers a non-interstate option through Virginia. In addition, it serves as a major commuter corridor for Northern Virginia and the Washington, D.C. metropolitan area with residents from as far south as Culpeper commuting to these areas. Many of these commuters connect with I-66 in Gainesville.

There is a substantial amount of local traffic along the Seminole Corridor, especially in the larger urban areas, such as Northern Virginia and Charlottesville. For example, while there is a bypass around Charlottesville, there is a section of eight-lane divided highway for six miles north of this bypass, which provides access to numerous commercial developments, as well as other roadways that lead to residential developments. There is also substantial local traffic along U.S. 29 through Lynchburg and Danville.

2.3.1 Population Projections

The Virginia Transportation Research Council (VTRC) completed a report as part of VTrans2035 detailing population and employment trends and projections to 2035 for these socioeconomic factors. Increases in population will impact the amount of traffic on the roadway, impacting local traffic as well as through traffic along the roadway. It will also impact both passenger and freight traffic.

Table 2 details the population projections for 2010 and 2035 based on two different sources, one a private vendor (NPA Data Associates) and one a public source (Virginia Employment Commission - VEC). Projections by both these sources only extended to 2030, so linear regression was used by VTRC to project to 2035. The data was organized by Planning District. Figure 7 illustrates the population density projections for the year 2010 at the Planning District level along the Seminole Corridor, and Figure 8 illustrates the density projections for the year 2035 and the increase in population density from 2010 to 2035.

Table 2 Population Projections to 2035

PDC (Number)	2010 Value		Midpoint 2035 Forecast		Percentage Increase		Annual Effective Growth Rate	
	VEC	NPA	VEC	NPA	VEC	NPA	VEC	NPA
Northern Virginia	2,192,533	2,250,780	3,022,996	3,484,698	37.9%	54.8%	1.3%	1.8%
Rappahannock-Rapidan	176,584	175,960	279,603	253,073	58.3%	43.8%	1.9%	1.5%
Thomas Jefferson	234,606	235,010	322,748	324,780	37.6%	38.2%	1.3%	1.3%
Region 2000 Regional	243,276	245,130	280,997	288,340	15.5%	17.6%	0.6%	0.7%
West Piedmont	248,072	245,930	260,317	258,456	4.9%	5.1%	0.2%	0.2%
Statewide Totals	8,010,340	8,057,350	10,278,943	10,926,181	28.3%	35.6%	1.0%	1.2%

Source: Virginia Transportation Research Council

As seen in this table and in the graphics, the increases in population between 2010 and 2035 along the Seminole Corridor are substantial in the Northern Virginia, Rappahannock-Rapidan, and Thomas Jefferson Planning Districts, with expected growth percentages greater than the state averages. The growth rates are substantially less south of Charlottesville along the Seminole Corridor. While the growth rates in the Rappahannock and Thomas Jefferson PDCs are high, the total populations are low, meaning that the total increase in population is not as substantial as in Northern Virginia.

According to the VTRC Trends Report, between 76 and 81 percent of the total population increase in Virginia will take place in four Planning Districts (Northern Virginia, Richmond Regional, Hampton Roads, and George Washington). The Northern Virginia PDC will see increases in population of close to a million residents. It is vital that the transportation infrastructure keep up with the population both in Northern Virginia and along the entire corridor.

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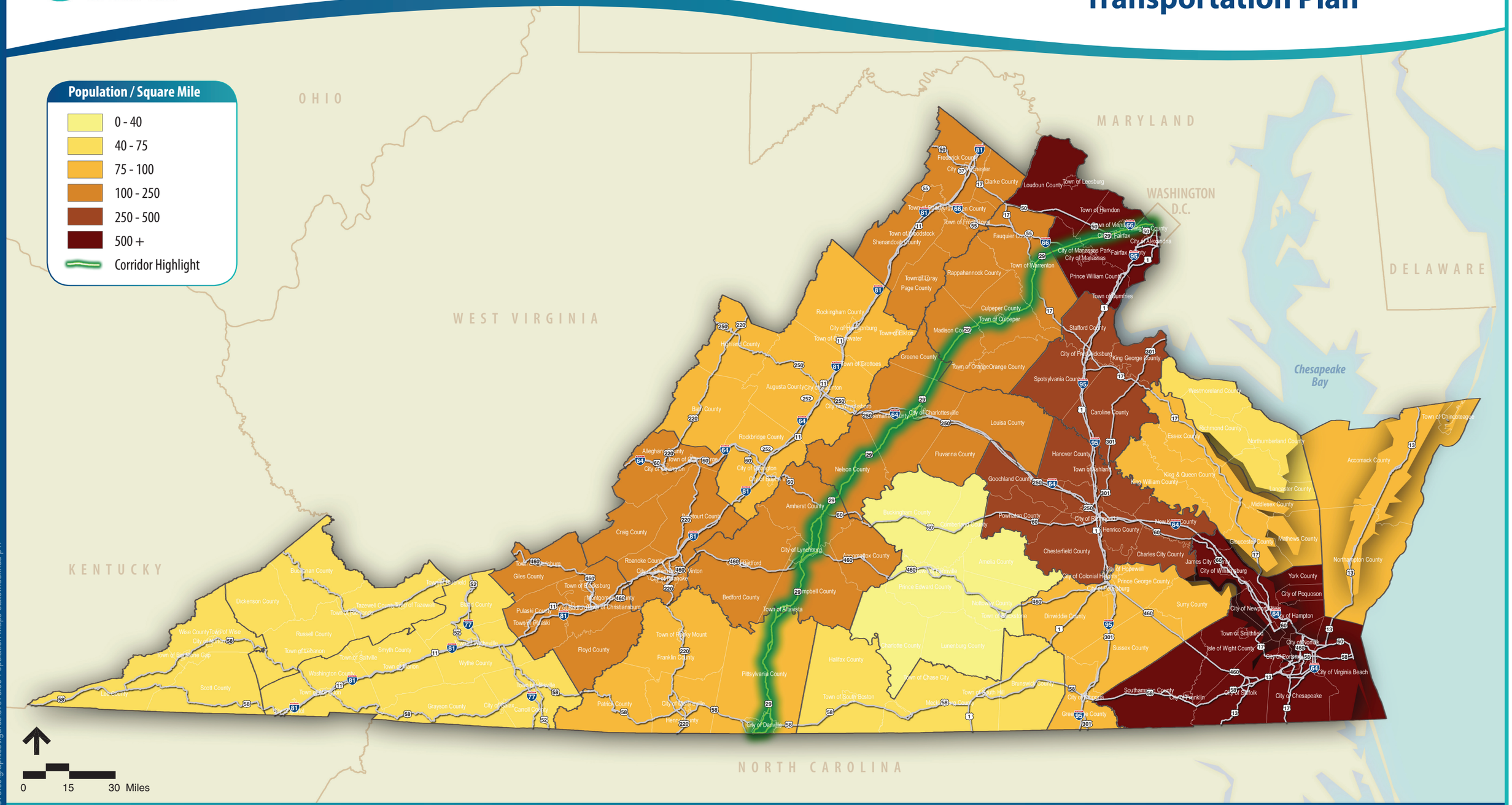

FIGURE 7

Population Density 2010 Projections - Seminole Corridor

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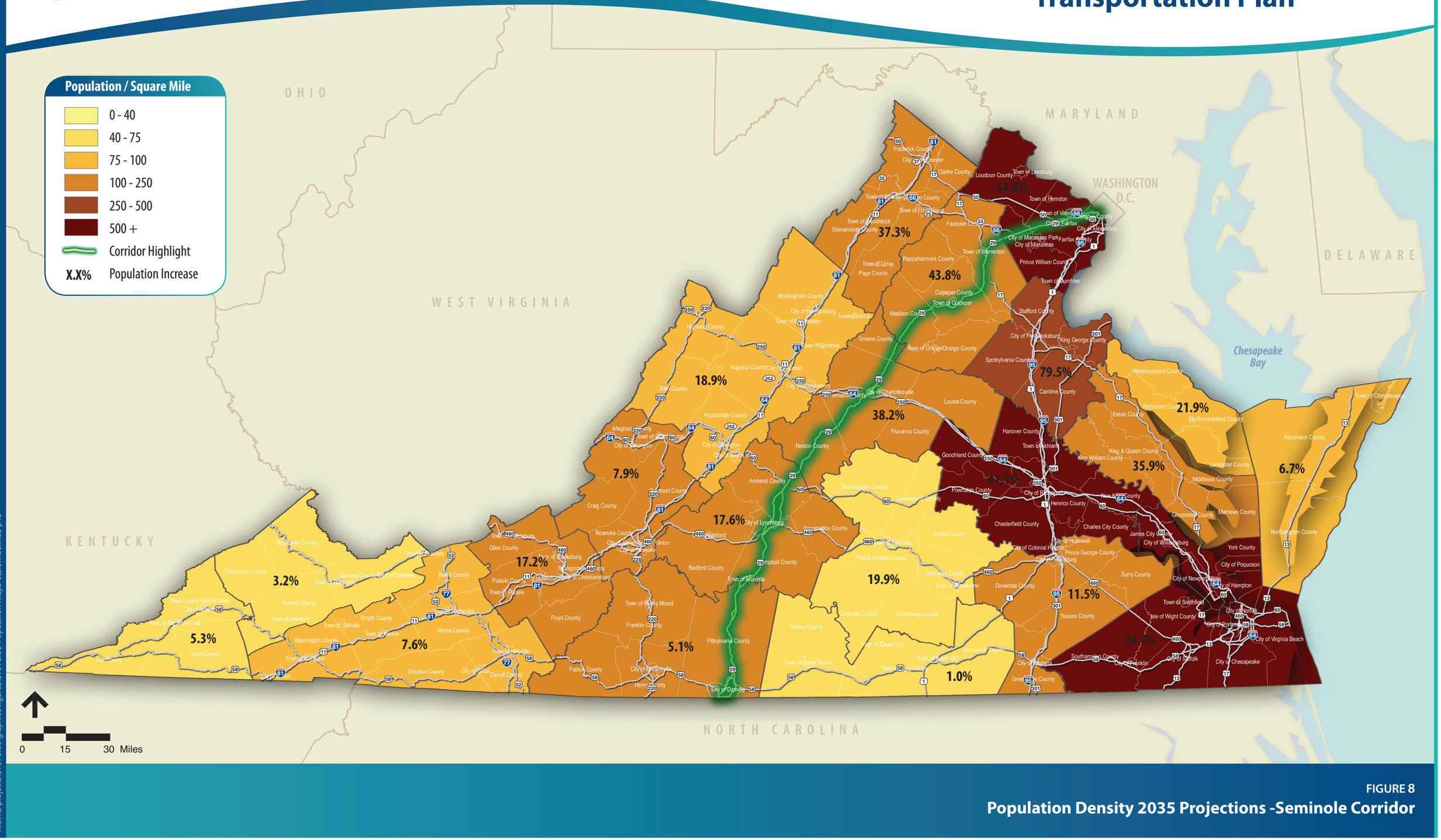


FIGURE 8
Population Density 2035 Projections -Seminole Corridor

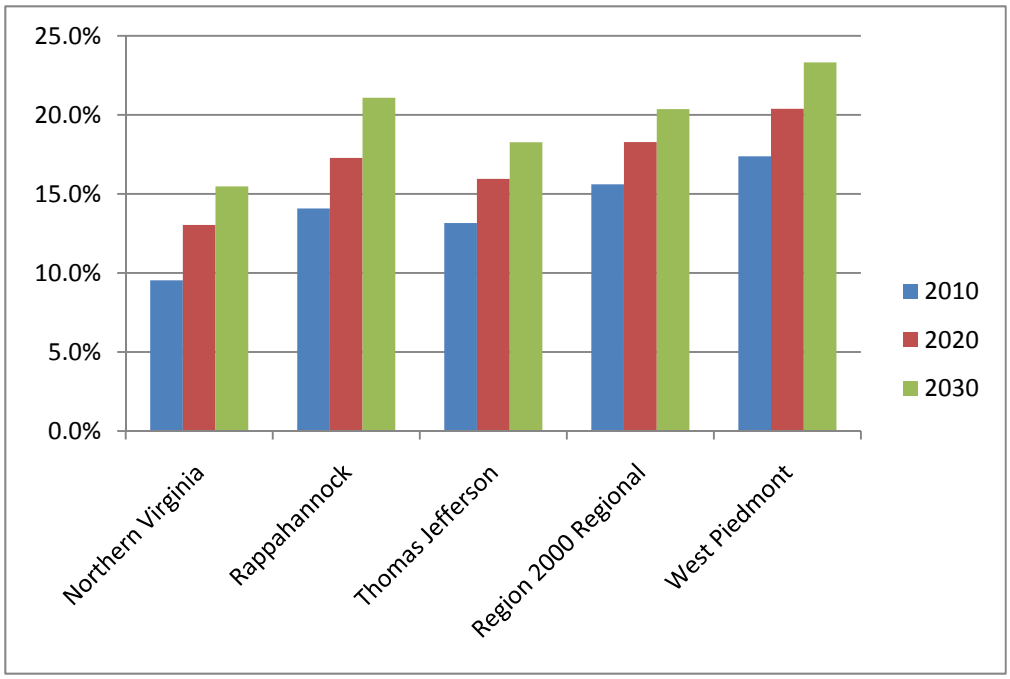
2.3.2 Population Over Age 65

In addition to general population projections, VTRC projected the ages of the population, broken down in five-year increments for a total of 18 categories. The percentage of population that is over age 65 was calculated based on these projections, and this information is available in Figure 9 for the years 2010, 2020, and 2030. The percentages were calculated for each Planning District along the Seminole Corridor.

As seen in this figure, the percentage of the population over age 65 is expected to increase in all Planning Districts, with the total population over age 65 expected to exceed 20 percent in the Rappahannock, Region 2000 Regional, and West Piedmont PDCs. In Northern Virginia and the Thomas Jefferson PDC, the over age 65 population is expected to exceed 15 percent.

As the older population increases, it is likely that the population that does not have access to a vehicle will increase as well, leading to a need for other modes of transportation, especially transit. While transit is available in Northern Virginia, Charlottesville, Lynchburg, and Danville, there are few, if any, transit options in the rural areas north and south of these urban centers. As the population ages, increased demand response transit for the elderly and disabled should be investigated and implemented.

Figure 9 Percentage of Population over Age 65 (Projections)



2.3.3 Levels of Service

Figures 10 shows the existing levels of service (LOS) along the Seminole Corridor, with red areas indicating undesirable LOS (i.e., LOS 'E' or LOS 'F'). All areas not marked in red currently have acceptable LOS (i.e., LOS 'A' through LOS 'D'). As seen in Figure 10, the only areas of deficiency under existing conditions are short sections in Northern Virginia, including in Arlington County near the Washington, D.C. border, just west of the City of Fairfax, and in Gainesville near the I-66 junction. In addition, there are areas with undesirable LOS in and around Charlottesville, including a longer stretch just north of Charlottesville. This area of the corridor is generally a four-lane section, with multiple traffic lights and heavy traffic, which acts as a local arterial and not as a through highway.

Figure 11 shows the future LOS along the Seminole Corridor, with the same color coding. As seen in the figures, levels of service are expected to degrade in various locations. In Northern Virginia, the stretches of roadway with undesirable LOS are projected to be longer and more numerous than under existing conditions and are expected to be present through most of Fairfax County and Prince William County. Around Charlottesville, the deficient areas are expected to be slightly longer, especially in the Charlottesville. In addition, short stretches with undesirable LOS are expected along two short stretches in the Lynchburg area and one short stretch in the Danville area.

The future levels of service take into account projects along the roadway that are planned by the Virginia Department of Transportation. Even with planned expansions of the roadway and other programmed improvements, the highway facilities of the corridor are expected to degrade in the urban areas and in the areas where the corridor runs concurrently with other corridors. To combat this, localities, PDCs, and MPOs should identify the worst areas and plan for improvements to these areas.

2.3.4 High-Crash Rate Areas

Figure 12 illustrates areas along U.S. 29 that have been identified as high-crash rate areas, according to the Virginia Department of Transportation. As seen in the figures, the high-crash rate areas are mostly concentrated in certain regions of the corridor, such as Northern Virginia, where there are multiple high-crash rate areas as the Seminole Corridor parallels I-66 (though there are more along I-66 than along U.S. 29). There are also multiple high-crash rate areas south of the I-66 junction in Gainesville along the corridor into Fauquier County. The other area with a high concentration of these high-crash rate areas is the Charlottesville region, especially in the northern part of the region in Albemarle County, north of the City of Charlottesville. This is the same section that currently experiences undesirable LOS. There are also clusters of high-crash rate areas in Nelson County and northern Pittsylvania County, although outside Northern Virginia and Charlottesville, high-crash rate areas are rare.

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WASHINGTON D.C.
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WINCHESTER MPO
CLARKE
LOUDOUN
NORTHERN VIRGINIA PORTION OF THE METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS
ARLINGTON
FAIRFAX
PRINCE WILLIAM
STAFFORD
SHENANDOAH
WARREN
FAUQUIER
RAPPAHANNOCK
CULPEPER
ROCKINGHAM
PAGE
MADISON COUNTY
HARRISONBURG-ROCKINGHAM MPO
HIGHLAND
AUGUSTA
GREENE
ORANGE
SPOTSYLVANIA
FREDERICKSBURG AREA MPO
KING GEORGE
BATH
CHARLOTTESVILLE-ALBEMARLE MPO
CAROLINE
LOUISA
ESSEX
ROCKBRIDGE
ALBEMARLE
FLUVANNA
NELSON
HANOVER
KING & QUEEN
GOOCHLAND
KING WILLIAM
RICHMOND AREA MPO
AMHERST
POWHATAN
NEW KENT
BUCKINGHAM
HENRICO
LYNCBURG AREA MPO
APPOMATTOX
CHESTERFIELD
CHALRES CITY
BEDFORD
AMELIA
CAMPBELL
PRINCE EDWARD
NOTTOWAY
TRI-CITIES AREA MPO
PRINCE GEORGE
DINWIDDIE
CHARLOTTE
LUNENBURG
SUSSEX
BRUNSWICK
PITTSYLVANIA
HALIFAX
SOUTHAMPTON
MECKLENBURG
GREENSVILLE
DANVILLE MPO
81
66
29
95

0 7.5 15 Miles

Legend
- Over Capacity
- County Line
- MPO Area
- Planning District

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FIGURE 10
Seminole Corridor Existing Conditions

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PAGE
CULPEPER
MADISON COUNTY
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KING GEORGE
SPOTSYLVANIA
BATH
CHARLOTTESVILLE-ALBEMARLE MPO
CAROLINE
LOUISA
ESSEX
ROCKBRIDGE
ALBEMARLE
NELSON
FLUVANNA
HANOVER
KING & QUEEN
GOOCHLAND
KING WILLIAM
RICHMOND AREA MPO
AMHERST
POWHATAN
NEW KENT
BUCKINGHAM
HENRICO
LYNCBURG AREA MPO
APPOMATTOX
CHESTERFIELD
CHALRES CITY
BEDFORD
CAMPBELL
AMELIA
PRINCE EDWARD
NOTTOWAY
TRI-CITIES AREA MPO
PRINCE GEORGE
DINWIDDIE
CHARLOTTE
LUNENBURG
SUSSEX
PITTSYLVANIA
HALIFAX
BRUNSWICK
SOUTHAMPTON
MECKLENBURG
GREENSVILLE
DANVILLE MPO
81
66
29
95

0 7.5 15 Miles

Legend
- Over Capacity
- County Line
- MPO Area
- Planning District

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FIGURE 11
Seminole Corridor Future Conditions

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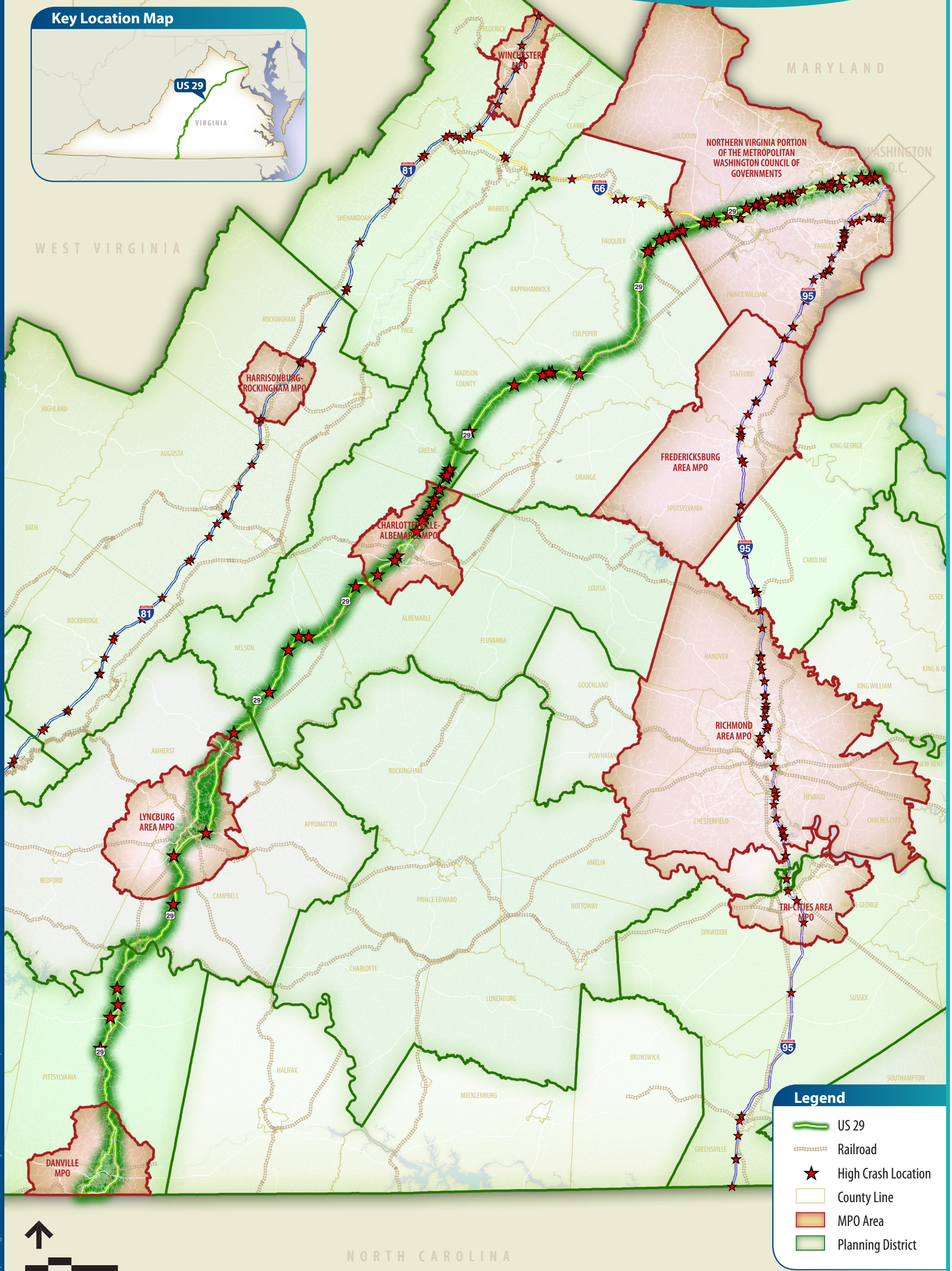

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FIGURE 12
Seminole Corridor High-Crash Rate Locations Map

2.3.5 Tourism

U.S. 29 is defined as a National Scenic Highway. Figure 13 shows the tourist facilities along the Seminole Corridor, including forests, parks, and other destinations. As seen in this figure, the corridor provides access to the Jefferson National Forest, Shenandoah National Park, Manassas National Battle Park, and Appomattox-Buckingham State Forest. In addition, it provides access to the historic City of Charlottesville, which includes Monticello, the home of Thomas Jefferson, Ashlawn, the home of James Monroe, and the University of Virginia.

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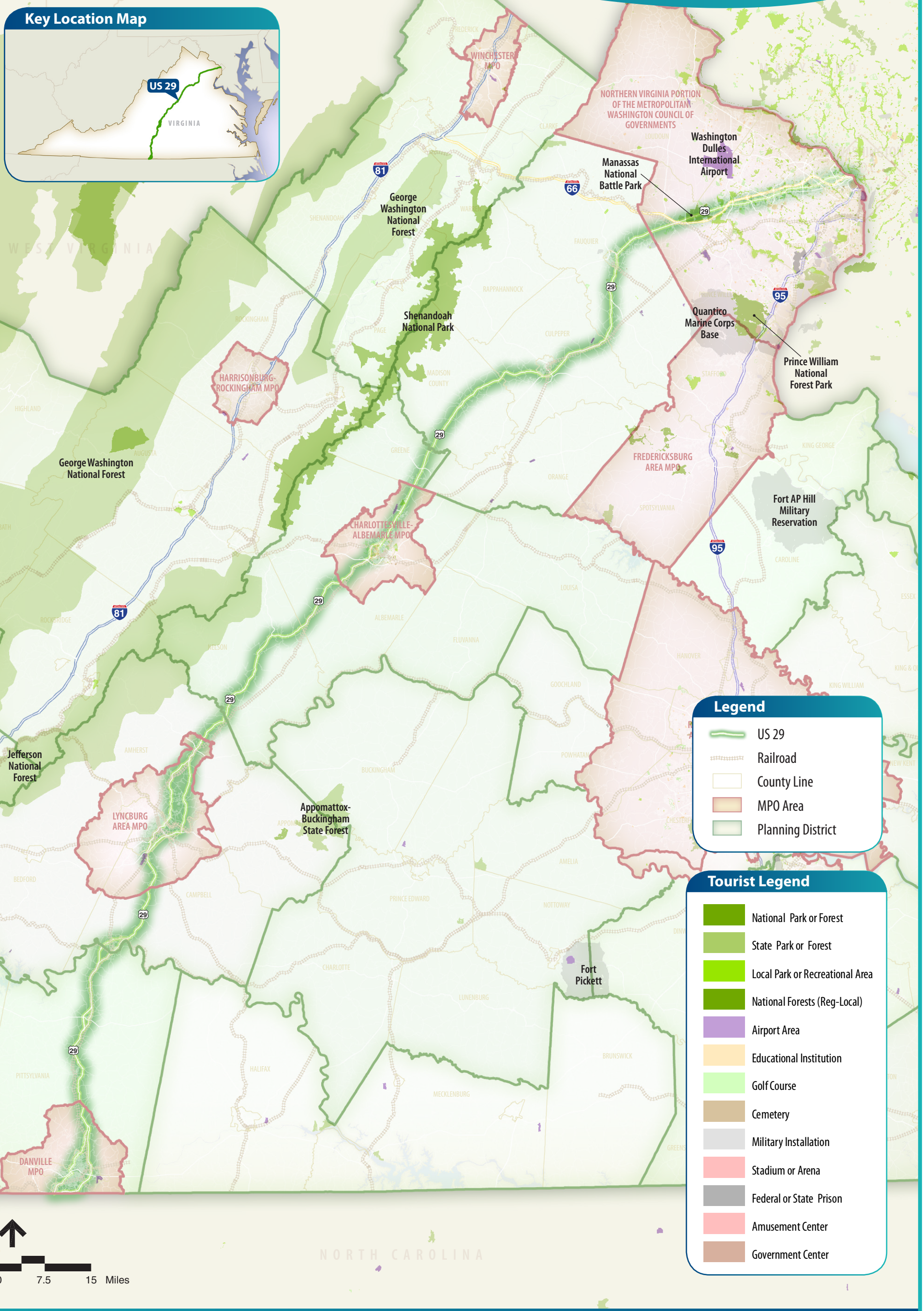

FIGURE 13
Seminole Corridor Tourist Area Map

3

Corridor Strategies

This section discusses the general corridor strategies for the Seminole Corridor into the future. They have been formulated to improve safety, mobility, and capacity along the corridor. The functions of the Seminole Corridor are listed below, and Figure 14 presents a matrix that shows how the strategies relate to each function.

Functions of Seminole Corridor:

- *Connection between Northern Virginia, Charlottesville, Lynchburg, Danville*
- *Local traffic*
- *Commuter route feeding Northern Virginia and other urban areas*
- *Freight alternative to I-81/I-95*
- *Cultural resource and tourism*

Strategies were formulated based on trends, system performance, issues/challenges, elements of the VDOT Six-Year Program, the Constrained Long-Range Plans for each Metropolitan Planning Organization, visions and plans for the various Planning Districts, and any available Comprehensive Plan visions and strategies for each county and jurisdiction within each corridor. A Regional Planning Forum was held in the spring of 2009 with transportation representatives from across Virginia, including VDOT, Planning Districts and MPOs, transit agencies, the Virginia Airport Authority, the Port of Virginia, and other stakeholders in the Virginia transportation system. Public meetings were held in four locations in June and July of 2009 (Northern Virginia, Richmond, Hampton Roads, and Roanoke). Corridor deficiencies and what could be done to alleviate these deficiencies were discussed, with this information playing a major role in the formulation of these strategies. These strategies are part of a continuing planning process and are designed to be used as a guide for future transportation plans along the corridor within Virginia. They are not the explicit policy of the Commonwealth Transportation Board (CTB), though they are designed to assist the CTB, state and local transportation agencies, and local planning organizations in their planning efforts along the corridor. Specific corridor strategies and improvement recommendations will ultimately be developed as part of subsequent planning analyses at the State and local level.

Figure 14 - Seminole Corridor Strategies vs. Functions Matrix

	Functions				
Strategies	**Connection between Urban Centers**	**Local Traffic**	**Commuter Route**	**Freight Alternative**	**Cultural Resources/ Tourism**
Improve capacity in urban areas through traffic management, access management, development of parallel routes and grid streets to separate local and through traffic, and possible use of ITS technologies.	●	●	●	●	◎
Increase capacity through intersection improvements, construction of interchanges, and signal coordination at strategic locations.	●	●	●	●	◎
Increase freight rail capacity and continue to allow for passenger rail service.	●		◎	●	⊙
Improve safety by addressing high crash rate areas and making necessary improvements.	●	●	●	●	●
Improve transit, especially in rural areas, by expanding existing fixed-route services and offering increased demand response services for the elderly and disabled.	●	⊙	◎		⊙
Increase park and ride capacity by expanding existing lots and adding new facilities at strategic locations.	●	⊙	●		
Increase transit options and transit capacity in the Northern Virginia region.	◎	●	●		⊙
Improve ground access to airport facilities.	◎			◎	⊙

● Strong Correlation ◎ Medium Correlation ⊙ Some Correlation

3.1 Strategies for Seminole Corridor

Strategy: Improve urban capacity through traffic management, access management, development of parallel and grid streets to separate local and through traffic, and possible use of ITS technologies.

Access management along U.S. 29 has been identified by numerous comprehensive plans, MPO plans, and at the Regional Planning Forum as a deficiency for the corridor. While there are numerous limited-access bypasses around towns and cities, much of U.S. 29 has little access management. There are driveways to residences and businesses directly along the highway, and numerous other streets of various size and importance cross U.S. 29 at median crossovers. In addition, in the urban areas there are now numerous traffic signals, which slow down traffic through the corridor. Through traffic and local traffic are mixed throughout the corridor, and there is a push by many jurisdictions to allow through traffic between Northern Virginia, Charlottesville, Lynchburg, and Danville to travel more efficiently. This would be beneficial to freight traffic and would allow greater accessibility to cultural resources and tourist areas.

It is recommended that, where feasible, U.S. 29 become a limited-access highway, with access points at interchanges. Additional bypasses around denser areas may need to be constructed to achieve this. However, where this is not feasible, it is recommended that the only access points along the corridor be at major secondary facilities, and that parallel routes to U.S. 29 and systems of grid streets be constructed or improved to carry more local traffic. In addition, land use decisions should be coordinated with access management along the highway in mind. ITS technologies could also be employed to assist in traffic management along the highway facilities of the corridor.

Strategy: Increase capacity through intersection improvements, construction of interchanges, and signal coordination at strategic locations.

There are capacity issues throughout the Seminole Corridor, especially in Northern Virginia, north of Charlottesville, and around Lynchburg. These areas have been identified through various comprehensive plans, as well as the Regional Planning Forum. Where bypasses and limited-access facilities cannot be constructed (see previous strategy), capacity can be improved through construction of interchanges at approptaite locations, intersection improvements, including additional turn lanes and signalization, and signal coordination and re-timing in denser areas. Local traffic and through traffic would benefit from these improvements.

Strategy: Increase freight rail capacity and continue to allow for passenger rail service.

There is currently freight rail service along Norfolk Southern rail lines throughout the corridor, and U.S. 29 is an important freight rail corridor. In addition, Amtrak operates routes along these rail lines, providing passenger rail to the region. However, the Virginia Statewide Rail Plan calls for increased capacity and improvements to the Norfolk Southern Crescent Corridor, one major line of which runs along the Seminole Corridor, to increase capacity, which would move more freight to rail lines and add more freight capacity to the corridor. Improvements include expansion of single tracks to double tracks, adding and expanding passing sidings (allowing longer, modern trains to pass each other), curve realignments to improve speed, connection improvements, additional track switches, and additional signal systems. All of these proposed improvements would add to the freight capacity of the rail system along this corridor.

The TransDominion Express (TDX) is a proposed passenger rail service that will run on existing tracks throughout Virginia. Phase I includes service between Lynchburg and Washington, D.C., and this service started in October 2009. This service runs directly along the Seminole Corridor. If ridership and revenue goals are met and additional funding is identified, the Commonwealth will advance the next phases of the project. This will include expansion to Roanoke and Bristol, as well as necessary rail infrastructure improvements to support this initiative.

In addition, increased capacity due to Norfolk Southern's improvements would also provide more passenger rail capacity along the corridor. Expansion of passenger rail service along the Seminole Corridor would help to alleviate highway traffic and allow for more rail connections between Northern Virginia, Charlottesville, Lynchburg, and Danville. This would also remove some through traffic from the larger urban areas, assisting in local traffic movement.

Strategy: Improve safety by addressing high crash rate areas and making necessary improvements.

County comprehensive plans and VDOT identify the need to address high crash rate areas and make safety improvements along the Seminole Corridor. These areas should be further identified, along the highway, at intersections, and at the interchange ramps and junction points. Roadway safety audits should be completed for these areas, and improvements should be recommended and implemented to ensure better safety. Improved safety could also include automated speed enforcement where excessive speed is determined to be a major cause of safety issues. Improved safety will enhance travel for both passengers and freight, assisting all functions of the corridor.

Strategy: Improve transit, especially in rural areas, by expanding existing fixed-route services and offering increased demand response services and services for the elderly and disabled.

There are urban areas, such as Northern Virginia, Charlottesville, Lynchburg, and Danville that are served by local transit systems with extensive fixed-route schedules. However, in some rural areas along the Seminole Corridor, access to transit is limited, if not non-existent. Many county, city, and town Comprehensive Plans call for the need for more modal options and less use of single-occupant vehicles. They

discuss the need for demand response service to more rural areas for those without vehicles. The elderly and disabled will require services to shuttle them to medical facilities. While fixed route services are likely not feasible in most of these areas, increased demand response services can help to fill this need.

Strategy: Increase park and ride capacity by expanding existing lots and adding new facilities at strategic locations.

As U.S. 29 becomes more of a commuting corridor for those traveling to employment centers in Northern Virginia from places such as Prince William County, Fauquier County, and even Culpeper County, there will be a need for more park and ride lots within the Seminole Corridor. Comprehensive plans for these areas identify the need for park and ride facilities. In addition, transit services to and from Northern Virginia should utilize these lots as a major hub for their service. Having park and ride lots available would likely increase transit use and carpooling, thereby improving U.S. 29 as a commuting corridor and improving capacity along the northern sections of the corridor. This would, in turn, assist with through traffic for both passengers and freight.

Strategy: Increase transit options and transit capacity in the Northern Virginia region.

VRE currently runs into Prince William County to Manassas and Broad Run, and studies have been conducted of operating a spur from the Manassas station to three other stations: Sudley Manor, Gainesville, and Haymarket. In addition, there are calls by localities and residents to expand VRE service into Fauquier County, and there is potential for expansion into Culpeper County. This expansion would utilize Norfolk Southern rail lines, which are currently used for both freight and passenger service. This would increase capacity along the commuting corridor portion of U.S. 29 and allow for faster movement for freight along the highway facilities and for through traffic.

In addition, there is the potential for expansion of Metrorail's Orange Line past the current end point in Vienna into Centreville along the Seminole Corridor and for Bus Rapid Transit along I-66, parallel to the Seminole Corridor. Existing transit facilities, such as buses and Metrorail trains and tracks should also be refurbished to ensure maximum efficiency and capacity. Capacity along existing routes should also be expanded in accordance with demand to further increase total passenger movement along all modes in the Seminole Corridor in Northern Virginia.

Strategy: Improve ground access to airport facilities.

Ground access to the various airport facilities, including Manassas Regional Airport, a reliever facility, Charlottesville Albemarle Airport, a commercial service facility, and Culpeper Regional Airport, a general aviation facility, should be improved to ensure maximum usage of these airports. Ground access to airports has been identified as a weakness across the Virginia. In addition, the long distance from certain areas of Virginia to airports with commercial service has been identified as a major issue. Increases in capacity to the highway facilities and provision of other modal options along each corridor could potentially assist in alleviating this problem.

3.2 Strategies vs. VTrans2035 Goals

The corridor strategies relate to the seven goals of VTrans2035, and Figure 15 illustrates this relationship. A discussion of each of the goals is below.

- **Goal 1: Safety and Security—Provide a safe and secure transportation system.** Many of the strategies relate to the safety and security of the roadway, especially the strategy that deals directly with improving safety throughout the corridor. Also, better access management directly leads to safer roadways, especially for turning vehicles. Increasing rail capacity will lessen the truck load along the Seminole Corridor, which will greatly improve safety, as will improved transit options in Northern Virginia and beyond.
- **Goal 2: System Maintenance and Preservation—Preserve and maintain the condition of the existing transportation system.** All of the strategies help to achieve this goal, as the existing transportation system is maintained and preserved, and in many cases, improved. While capacity may be increased along the rail lines or along the highway facilities, park and ride lots constructed, safety improved, or access to airports improved, the existing transportation facilities are maintained and preserved.
- **Goal 3: Mobility, Connectivity, and Accessibility—Facilitate the easy movement of people and goods, improve interconnectivity of regions and activity centers, and provide access to different modes of transportation.** All of the strategies promote increased mobility, connectivity, and accessibility. Any increase in capacity along the corridor, whether it is along the highway facilities, the rail facilities, or an increase in transit capacity assists in achieving this goal. Improved ITS, improved airport access, and an increase in safety will promote this goal.
- **Goal 4: Environmental Stewardship—Protect the environment and improve the quality of life for Virginians.** Increases in rail capacity, which will remove large trucks from the roadway, as well as expansion of park and ride lots and increases in transit capacity help to achieve the goal of environmental stewardship. In addition, any increase in roadway capacity that minimizes the amount of time vehicles are on the roadway, leading to fewer emissions, will assist in achieving this goal.

- **Goal 5: Economic Vitality—Provide a transportation system that supports economic prosperity.** There is the potential for further economic development along the Seminole Corridor, and an increase in rail service as well as increases in rural transit could potentially spur development along the rural areas of the corridor. The construction of park and ride lots along less developed areas of the corridor could assist in this goal. Also, additional freight rail development could potentially lead to an increase in freight movement and an increase in distribution centers and warehouses.

- **Goal 6: Coordination of Transportation and Land Use—Facilitate the effective coordination of transportation and land use to promote livable communities.** One strategy deals directly with this goal, as it calls for better access management along U.S. 29 and for coordination between land use and transportation decisions. In addition, widening, interchange modifications, and interchange construction should be accomplished in coordination with land use decisions in the areas they are constructed; any new park and ride lots constructed should be constructed by coordinating with land use decisions in the area; and any increase in transit, including demand response services, should be coordinated with land use. Local planning efforts should protect airspace and ensure that airports are not compromised by encroachment of incompatible land uses.

Figure 15 - Seminole Corridor Strategies vs. Goals Matrix

	Goals					
Strategies	**Safety and Security**	**System Maintenance and Preservation**	**Mobility, Connectivity, and Accessibility**	**Environmental Stewardship**	**Economic Vitality**	**Coordination of Transportation and Land Use**
Improve capacity in urban areas through traffic management, access management, development of parallel routes and grid streets to separate local and through traffic, and possible use of ITS technologies.	●	●	◎		◎	●
Increase capacity through intersection improvements, construction of interchanges, and signal coordination at strategic locations.	◎	●	●	◎		⊙
Increase freight rail capacity and continue to allow for passenger rail service.	◎	●	●	●	●	
Improve safety by addressing high crash rate areas and making necessary improvements.	●	●	◎			
Improve transit, especially in rural areas, by expanding existing fixed-route services and offering increased demand response services for the elderly and disabled.	◎	◎	●	●	⊙	⊙
Increase park and ride capacity by expanding existing lots and adding new facilities at strategic locations.	⊙	◎	●	●	⊙	◎
Increase transit options and transit capacity in the Northern Virginia region.	◎	●	●	●	◎	◎
Improve ground access to airport facilities.	⊙	◎	●	⊙	⊙	

● Strong Correlation ◎ Medium Correlation ⊙ Some Correlation