
Northern Virginia

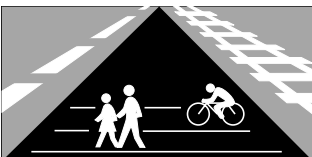
2020

Transportation Plan

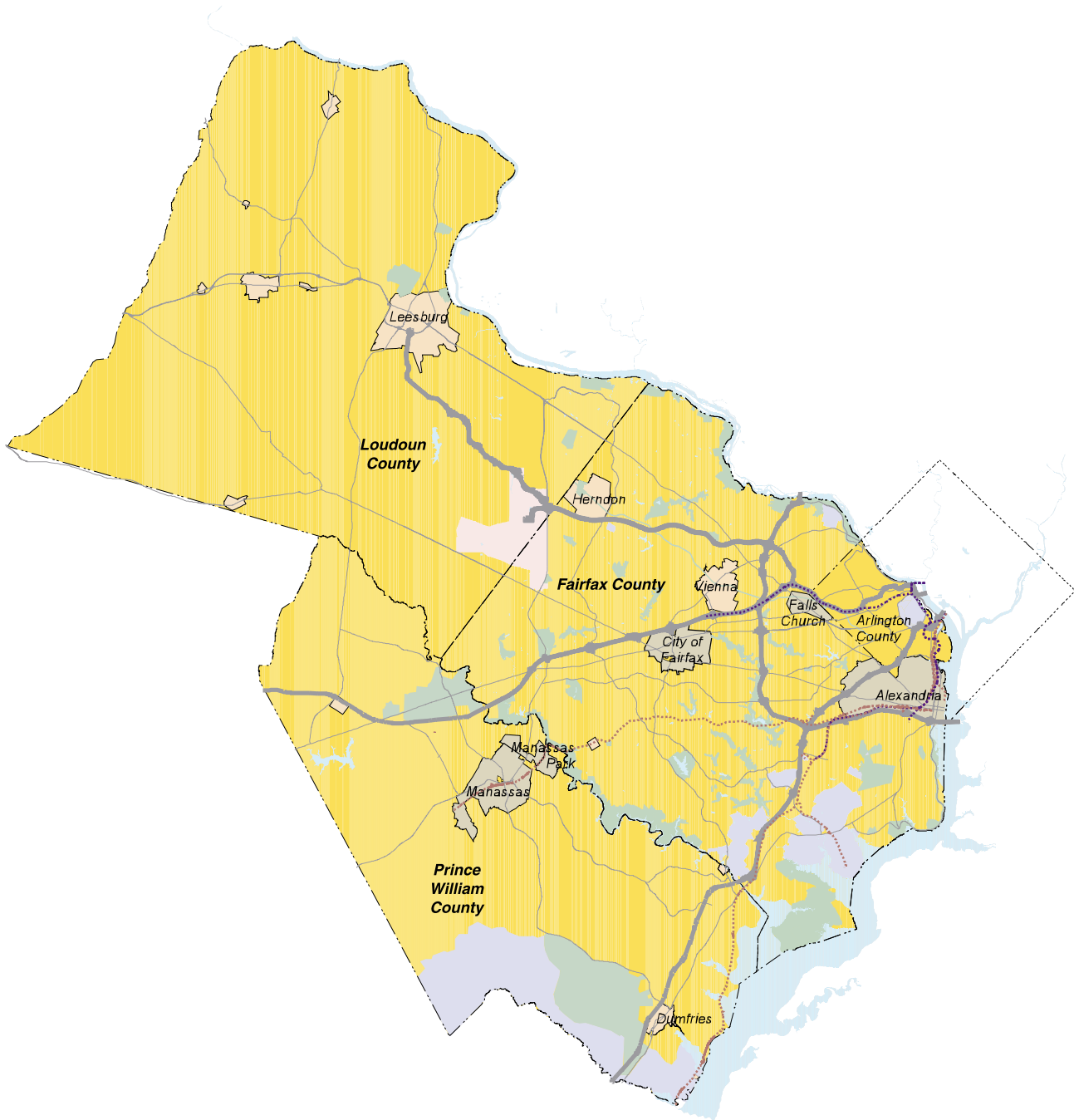


*Summary
Report*

NORTHERN VIRGINIA



TRANSPORTATION
COORDINATING COUNCIL



Northern Virginia

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Introduction

Northern Virginia is a vibrant, diverse and growing part of the Commonwealth. Past decisions made in developing our transportation system helped shape this area and the system is currently struggling to serve the traveling needs of residents and countless others traveling in Northern Virginia for commerce or pleasure. Decisions made today will lead to continued expansion, enhancement and repair of the transportation system that will undoubtedly continue to shape the growth and economic vitality of this area. The Northern Virginia area forms the northern corner of the Commonwealth, and consists of the counties of Arlington, Fairfax, Loudoun and Prince William; the independent cities of Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park; and the towns of Dumfries, Herndon, Leesburg and Vienna.

Northern Virginia's transportation network is truly multi-modal, consisting of roads, transit service, bicycle/pedestrian

facilities, two major airports and many other facets related to moving people and goods. To serve this mobility both now and in the future, Northern Virginia needs a safe and efficient transportation system, and one that better connects the places people want to go with a broader range of choices. *The Northern Virginia 2020 Transportation Plan, developed by the Transportation Coordinating Council (TCC) of Northern Virginia, is the first step to realizing such a transportation system.*

TODAY:

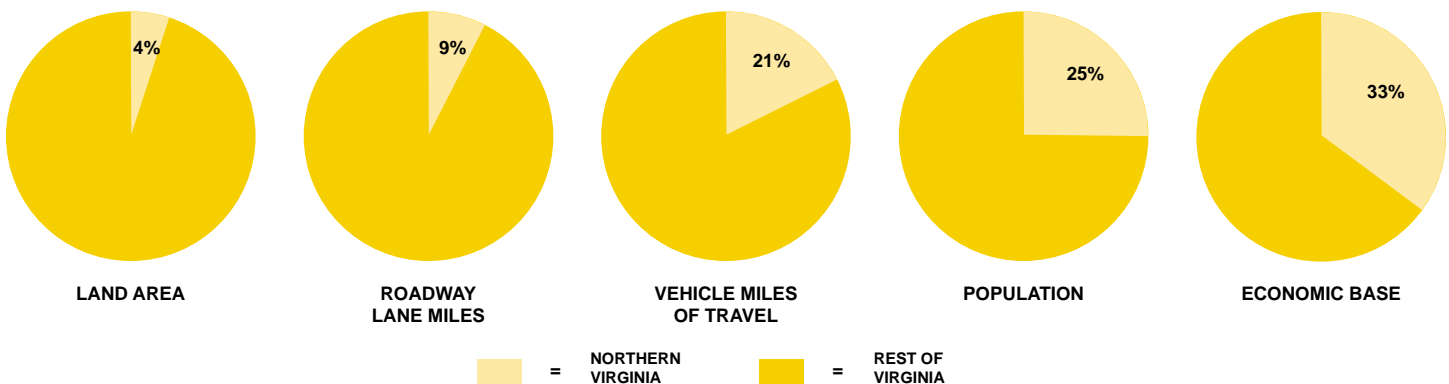
- 1.8 million people (greater than 13 states!) make Northern Virginia their home
- Over 1 million people work in Northern Virginia

Context

Northern Virginia as Part of the Commonwealth

Northern Virginia is the most densely settled area of the Commonwealth. Within this context are challenges to serve the mobility needs of Northern Virginians and others alike. The transportation system in Northern Virginia is unique to the Commonwealth in many ways, beyond the extensive use of highways. Most dramatically, Northern Virginia's participation in the regional Metrorail system and support for the Virginia Railway Express is a harbinger of the broadening of transportation alternatives and choices over the next twenty years.

Northern Virginia has 4% of the land area and 25% of the population, but provides more than 33% of the Commonwealth's economic base

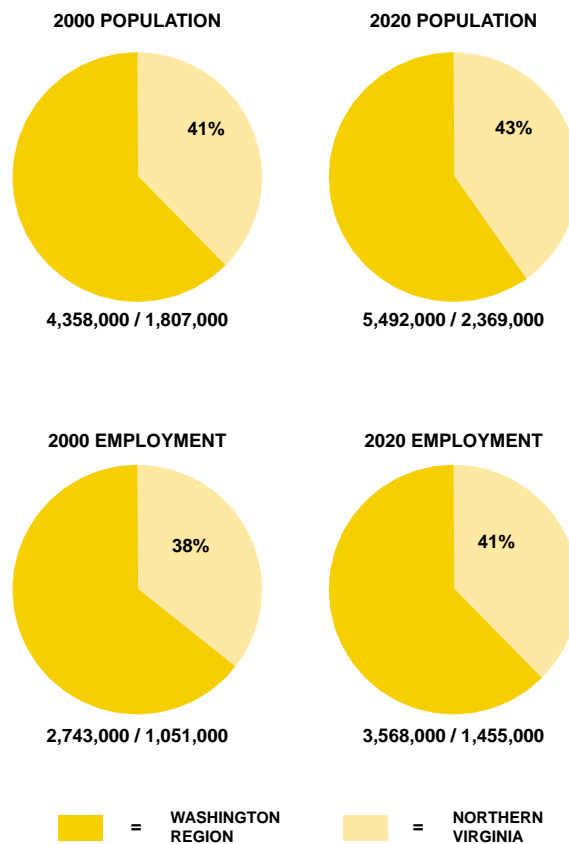


Source: 2020 Plan, 1999.

Northern Virginia as Part of the Washington Region

Northern Virginia is an integral part of the growing economy of the Washington region. Transportation systems within the region are important to maintain economic vitality. Northern Virginia participates in transportation and air quality planning to support the regional system through the National Capital Region Transportation Planning Board (TPB) and the Metropolitan Washington Air Quality Committee (MWAQC). By federal law, the TPB develops a long range plan that is fiscally constrained and meets federal air quality requirements to protect the public. All 2020 Plan improvements must be placed on the regional long range plan before they can move toward implementation.

- Northern Virginia's share of regional population and employment is growing
- The region is served by a radial "Hub-and-Spoke" transportation network
- All major transportation connections from Virginia to the rest of the region are between the American Legion Bridge and the Woodrow Wilson Bridge



Source: Round 6.1 Cooperative Forecasts, MWCOG, 1999.

Northern Virginia

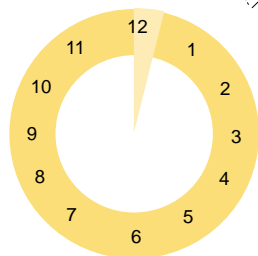
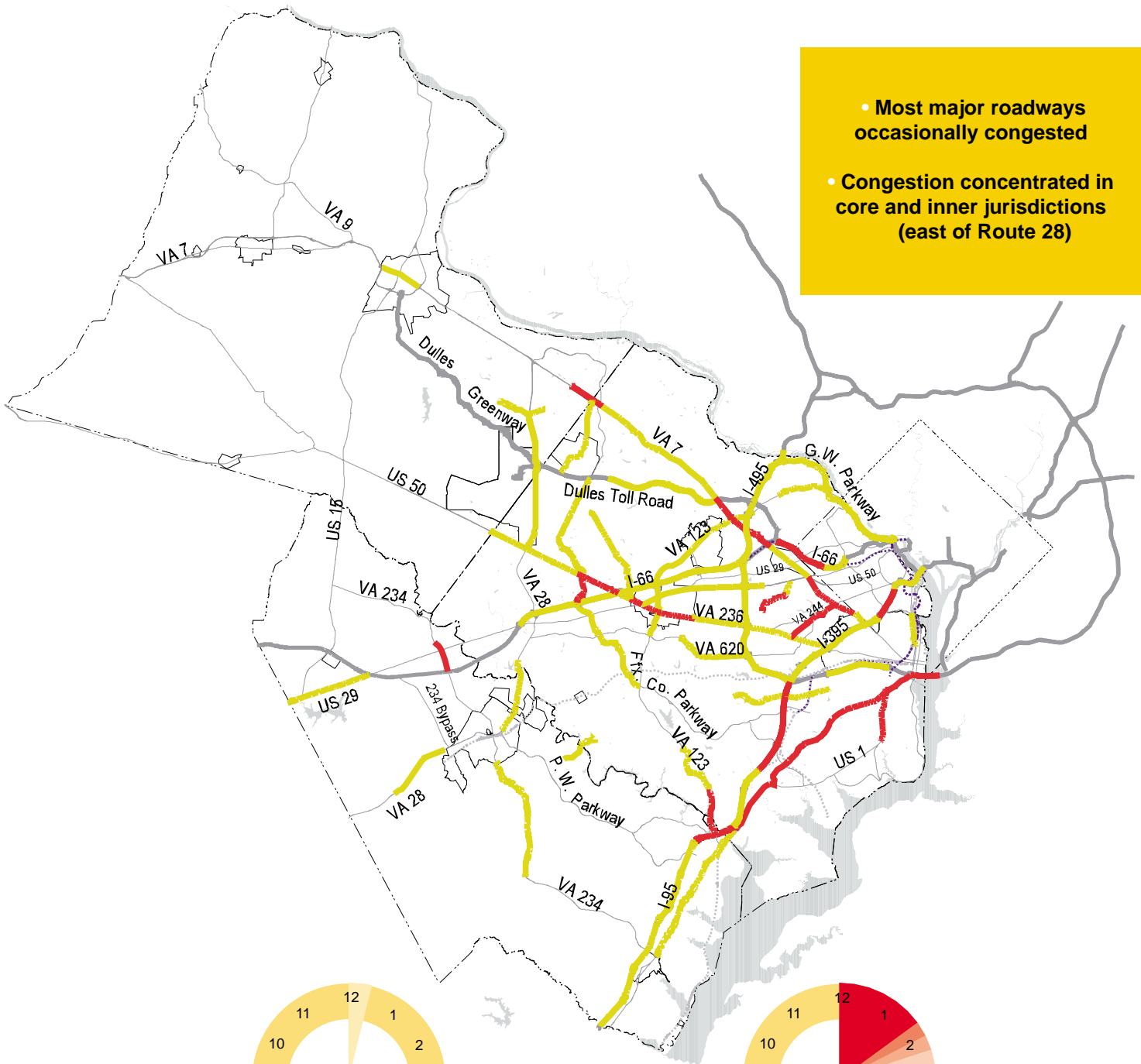
Historically, Northern Virginia has developed along the major travel corridors or by expanding out from early settlements such as Alexandria, City of Fairfax, Leesburg or Manassas. Construction of the Beltway and the Washington Dulles International Airport in the 1960's, along with the start of planned communities such as Reston, have influenced the way Northern Virginia looks and functions today. Employment centers have also emerged and grown to reflect land use changes and a transportation system/ infrastructure available to serve it.

- Development today is concentrated inside the Beltway and along major roadway corridors
- 18 employment centers in Northern Virginia currently contain approximately 60% of Northern Virginia's total employment

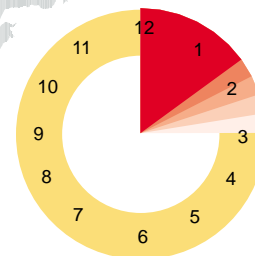
Current System Performance

1999 Highway System

- Most major roadways occasionally congested
- Congestion concentrated in core and inner jurisdictions (east of Route 28)



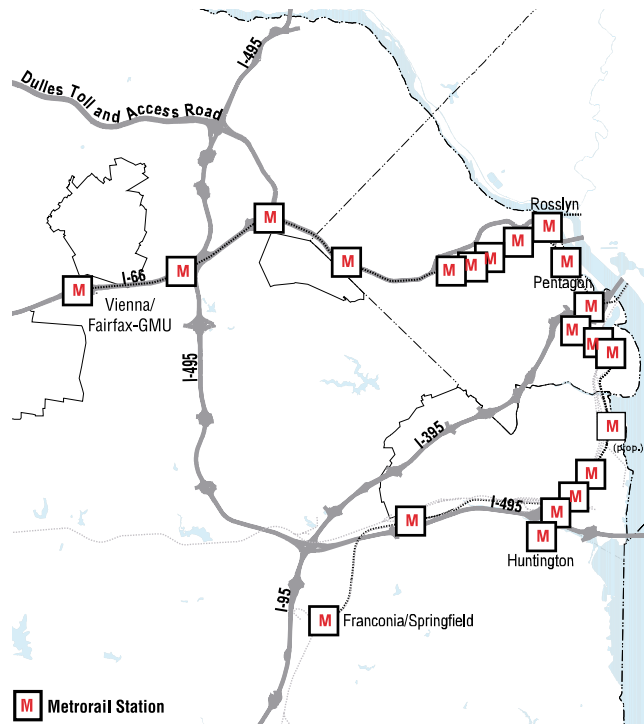
OCCASIONAL STOP-AND-GO TRAFFIC



ONE HOUR OR MORE OF STOP-AND-GO TRAFFIC

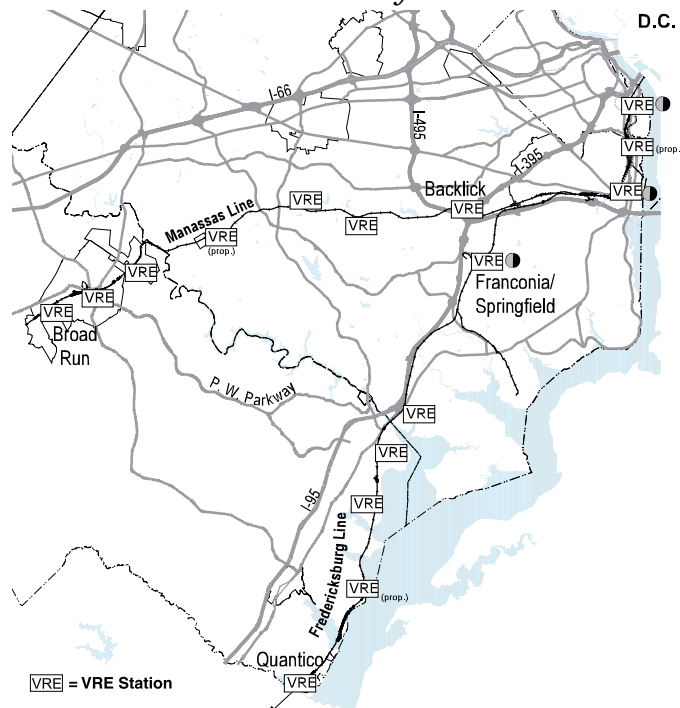
Note: Represents peak hour, modeled conditions. Acceptable conditions are shown as gray.
Source: 2020 Plan, 1999.

1999 Metrorail System

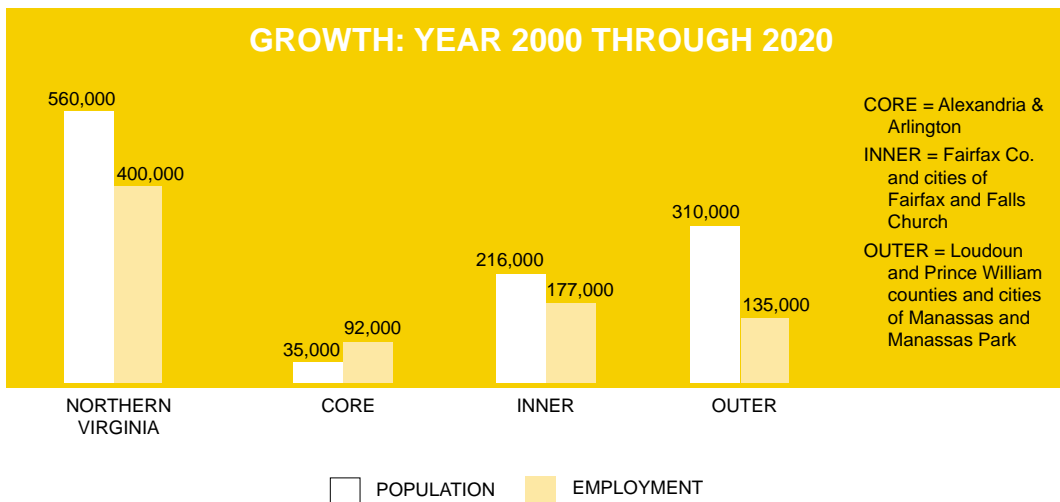


- More than 275,000 daily average weekday entries/exits on Metrorail
 - More than 65,000 average weekday boardings on Metrobus
 - More than 8,000 average weekday boardings on VRE
 - Limited and not well-connected trail network

1999 VRE System



Forecast Growth to Year 2020



Source: Round 6.1 Cooperative Forecasts, MWCOG, 1999.

- Almost twice as much employment growth in core and inner jurisdictions than outer jurisdictions
- Strongest population growth in outer jurisdictions
- Northern Virginia will realize 38% employment growth and 31% population growth

Challenges

- Better connect activity centers and provide choices
- Improve travel conditions in severely congested corridors
 - Work toward “Spider Web” design of future system
- Air quality non-attainment status must be considered
 - Aging infrastructure requires investment
- Funding

2020 Plan

Plan Vision, Goals & Strategies

The 2020 Plan followed traditional planning practices and was further shaped by surrounding plans, such as the Transportation Vision adopted by the TPB for the Washington region.

Vision

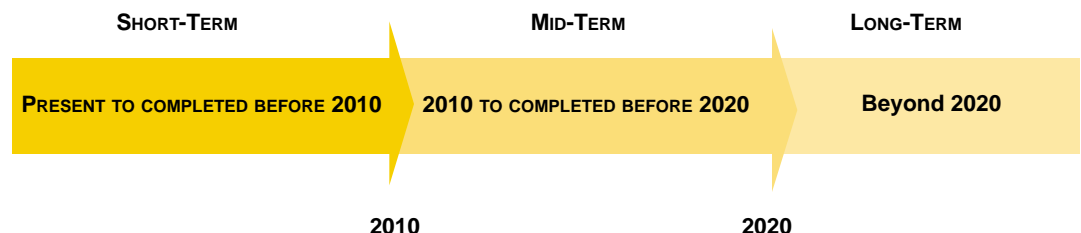
“In the 21st century, Northern Virginia will develop and sustain a multi-modal transportation system that supports our economy and quality of life. It will be fiscally sustainable, promote areas of concentrated growth, manage both demand and capacity, and employ the best technology, joining rail, roadway, bus, air, water, pedestrian and bicycle facilities into an interconnected network.”

Public Participation

More than 1,200 Northern Virginians actively participated in the 2020 Plan process, either by attending public meetings held by local governments or by submitting comments on the draft plan. Public involvement will continue to be important as the plan is continually reviewed and refined.

Timeframes

Three timeframes were selected and carried through the planning process. Improvements have been identified for these timeframes:



Goals

The goals developed for the 2020 Plan build on goals from the year 2010 Plan and the goals/objectives in the regional vision. Examples include:

- Improving and maintaining our transportation system
- Protecting the environment
- Improving the link between transportation and land use
- Recognizing the benefits of technology

Strategies

The 2020 Plan strategies led to development of the transportation improvements in the plan. These include:

- Providing increased rail/transit capacity to the core area
- Improving connections between activity centers
- Operating our system more efficiently by implementing technological advances
- Continuing high level maintenance of our existing system

This participation also was critical to the jurisdictional meetings held in Fall 1999, which ultimately led to the plan being endorsed by the local jurisdictions and adopted by the TCC.

Transit Improvements

Bus

The plan includes enhancements to existing bus service and new service in a few corridors, whether it is priority bus or express bus.

- **Priority Bus - Package of improvements to reduce travel times, increase reliability and enhance user comfort will be implemented in several arterial corridors (VA 7, U.S. 50, VA 236 and Columbia Pike)**
- **Express Bus - New or expanded service along freeway or HOV corridors to move people to employment destinations**

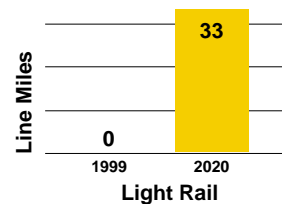
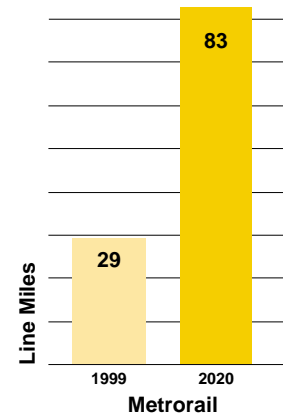
Highway Improvements

The plan proposes roadway improvements in all the major travel corridors. These improvements are focused on increasing capacity/efficiency of existing roads. Examples of new roadways include the Tri-County Parkway and extension of the Route 234 bypass north of I-66. *The major roadway improvements are shown on the enclosed map.*

By the year 2020, the plan also proposes an eastern crossing (I-95 bypass) of the Potomac River, connecting to the U.S. Route 301 corridor in Maryland, and the Western Transportation Corridor from I-95 to I-270 in Maryland.

Rail

Rail extensions and new rail systems have been identified for several corridors. Some rail extensions, like those proposed in the Dulles Corridor and I-66 Corridor, have already been studied in detail. Others rail proposals are conceptual and require more study, such as Beltway rail from the Dunn Loring station to Maryland and to Prince William County along the I-95 corridor, as well as light rail systems on Route 7/Columbia Pike, U.S. Route 1 in Alexandria/Arlington and Route 28. Providing these rail connections and extensions will provide additional travel capacity in those corridors and provide more travel choices. *The rail improvements are highlighted on the enclosed map.*



Source: 2020 Plan, 1999.

- **Two new Potomac River crossings completed by 2020**
- **Most roadway improvements are to existing roadways**
- **New roadways identified to serve emerging growth areas**

Bicycle/Pedestrian Improvements

Multi-use trails and comfortable walking environments are an important element of the transportation system. The 2020 Plan highlights extensions of existing trails, trail connections between activity centers, and connections to better use the existing network. Bicycle and pedestrian improvements should continue to be evaluated during planning for other travel modes.

Examples of bicycle/pedestrian improvements in the plan include:

- **VA 7 bikeway (between Tysons Corner and Loudoun County line)**
 - **US 50 bicycle route throughout Northern Virginia**
 - **W&OD trail connection from Leesburg to White's Ferry**
 - **VA 234 trail**
 - **Sidewalk improvements**

Technology

The 2020 Plan identified three areas for adding or monitoring the benefits of technological advances to our transportation system.

- Intelligent Transportation Systems (ITS)
- Telecommuting
- Monitoring of technology, particularly relating to transit systems.

Improvements and programs have been identified for these areas. For ITS, specific short term projects for transportation management systems, incident management, transit operations, and electronic payment have been identified. Enhancements to telecommuting programs are also in the Plan. Refer to the enclosed map for specific details on technology improvements.

INTELLIGENT TRANSPORTATION SYSTEMS

- **Transportation Management Systems**
 - **Incident Management and Safety**
- **Transit Operation and Fleet Management**
 - **Vehicle Management and Operations**
 - **Traveler Information**
 - **Electronic Payment**

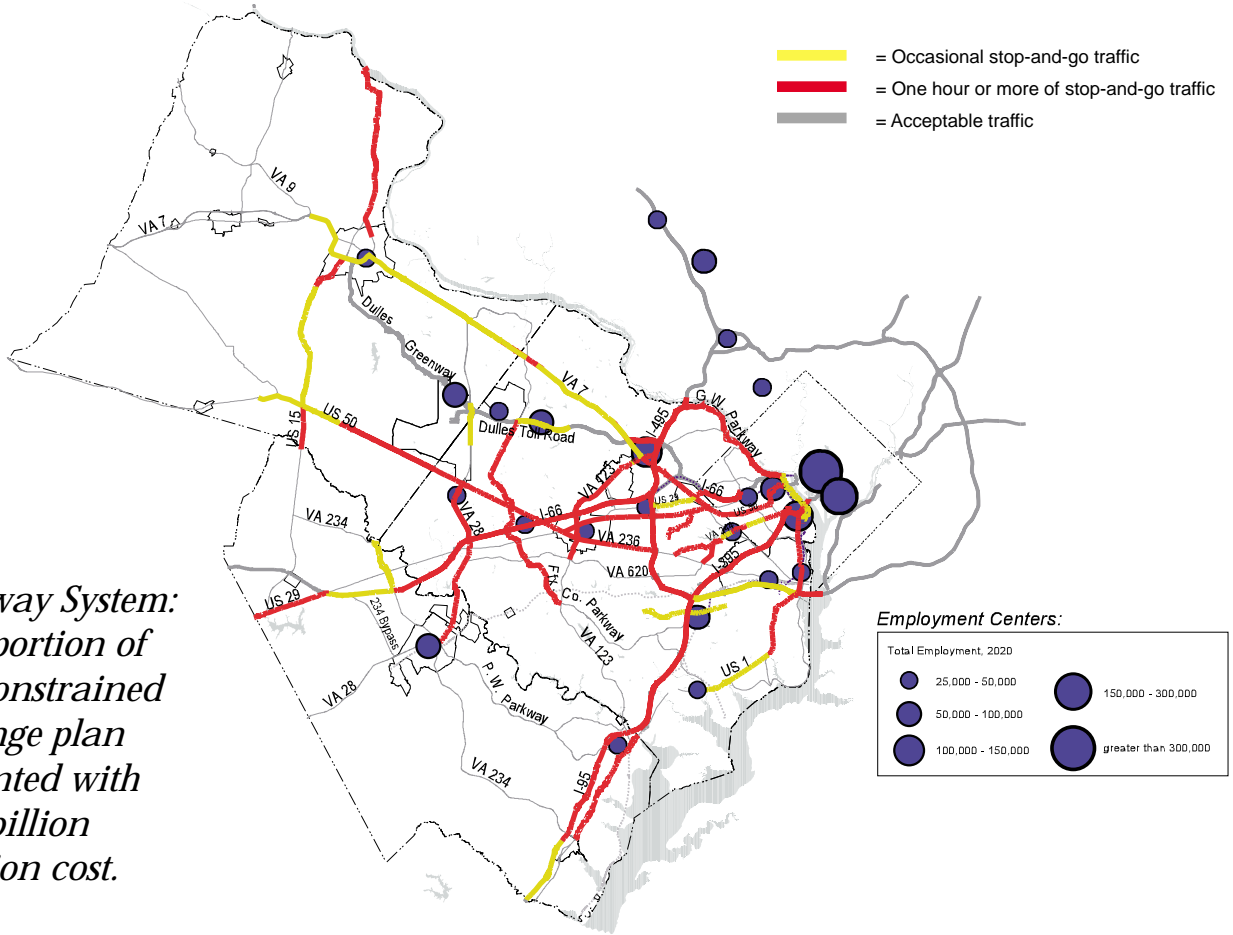
Additional Challenges

Despite the addition of 560,000 new residents and 400,000 new jobs, travel conditions in most corridors improve by implementing the plan, but some challenges remain. Future performance of the transportation system is shown on pages 10 and 11. (A detailed technical report supports the analysis of these improvements.)

Several congested areas remain in Northern Virginia including Route 123 from the City of Fairfax to Tysons Corner, I-395 and I-66 inside the Beltway. Future updates to the Plan should revisit these areas to reevaluate travel conditions and possible alternatives.

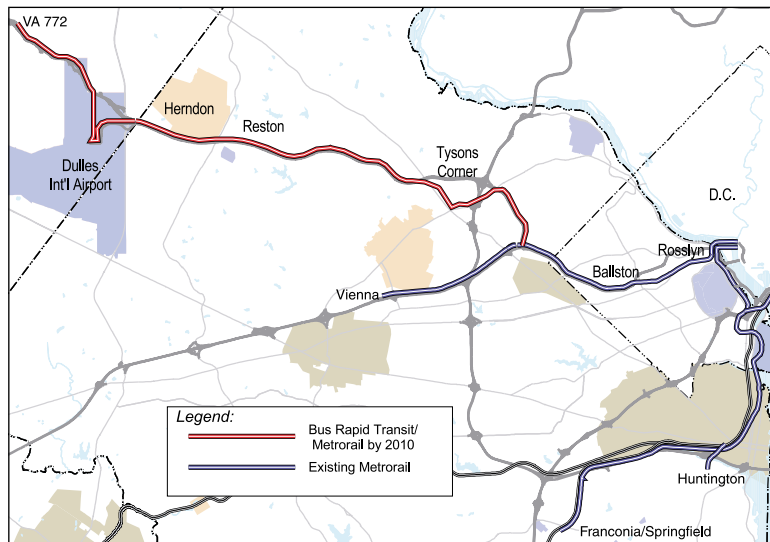
Future Performance

Current Regional Plan Performance in 2020



2020 Highway System:
 Virginia portion of regional constrained long range plan implemented with \$4.0 billion expansion cost.

Source: 2020 Plan, 1999.



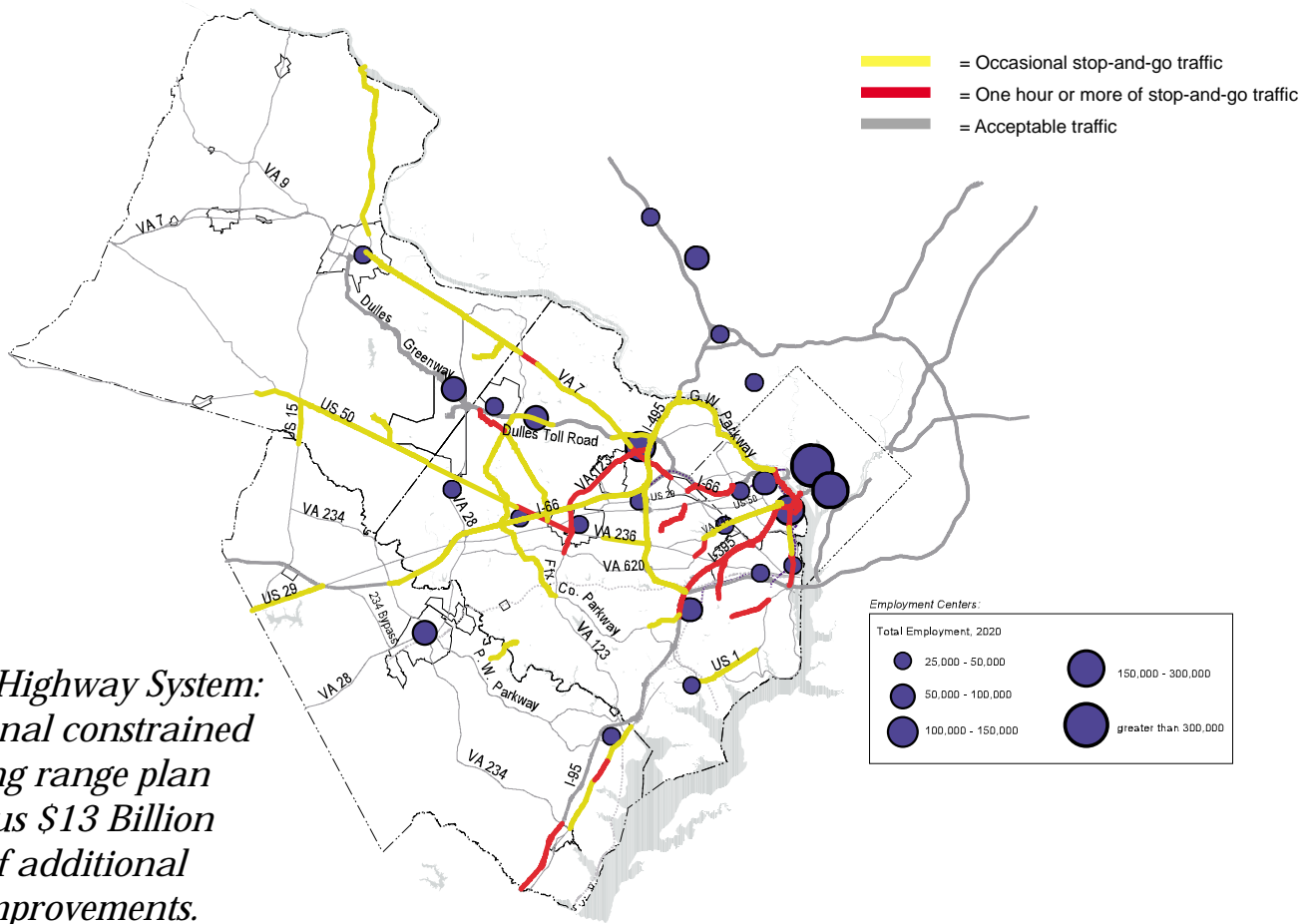
2020 Rail System – Current Plan.

Source: 2020 Plan, 1999.

VRE IMPROVEMENTS

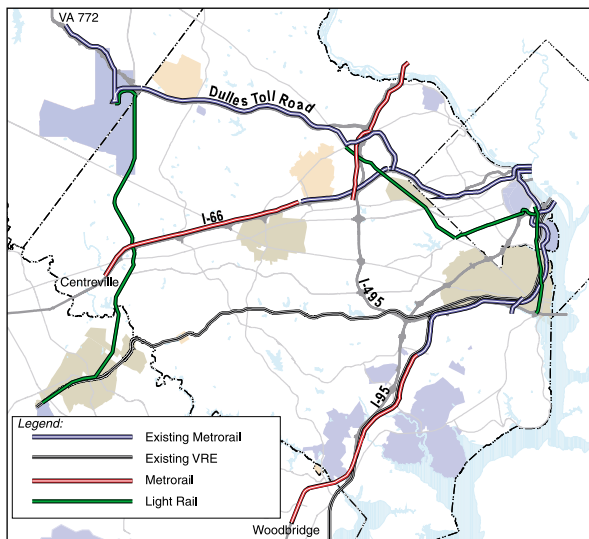
- Cherry Hill Station with parking
- Potomac Yards and Western Fairfax stations
- VRE service increase

2020 Plan Performance



*2020 Highway System:
Regional constrained
long range plan
plus \$13 Billion
of additional
improvements.*

Source: 2020 Plan, 1999.



VRE IMPROVEMENTS

- Increased service frequency
- Increased park-and-ride capacity, if needed

2020 Rail System – Current plan plus additional systems.

Source: 2020 Plan, 1999.

Costs Estimates

Estimates for the 2020 Plan improvements not currently in the regional plan were prepared, and added to the cost estimates of the improvements in the current regional plan. Operation and maintenance costs are included for all improvements.

	System Expansion	Operation/ Preservation	
Current Plan (Northern Virginia Portion of Region's CLRP)⁽¹⁾			
Total Cost (1997 - 2020)	\$ 4.0 Billion	\$ 11.8 Billion	= 15.8 Billion
<u>Yearly Cost⁽²⁾</u>	<u>\$ Million</u>	<u>\$ Million</u>	
Roadway	\$130	\$215 ⁽³⁾	
Transit	\$35	\$270 ⁽³⁾	
Bike/Pedestrian	\$1	\$5	
Total Yearly Cost (1997 - 2020)	\$166	\$490	
Northern Virginia 2020 Plan Improvements Added to Current Plan			
Total Cost (2000 - 2020)	\$ 13.1 Billion	\$ 1.2 Billion⁽⁴⁾	= 14.3 Billion
<u>Yearly Cost⁽²⁾</u>	<u>\$ Million</u>	<u>\$ Million</u>	
Roadway	\$307	\$2	
Transit	\$312	\$55	
Bike/Pedestrian	\$1	NA	
Technology ⁽⁵⁾	\$21	\$5	
Total Yearly Cost (2000 - 2020)	\$641	\$62	
Grand Total 2020 Plan Costs	\$ 17.1 Billion	\$ 13.0 Billion	= 30.1 Billion

Notes:

1. Source MWCOG - Financially Constrained Long-Range Transportation Plan for the National Capital Region, 1997 Update. Includes expenditures from 1997 to 1999. The ongoing year 2000 update will provide cost forecasts based on recent expenditures.
2. Yearly cost is the total cost in present dollars divided by the number of years in each Plan. Inflation and debt financing costs are not included.
3. Includes operation, maintenance, and preservation of the existing and Current Plan transportation system (roadway or transit) elements.
4. Includes 10 years of operation and maintenance costs for the projects completed by year 2010. No preservation costs were included for the additional projects.
5. Assumes a 5-year period of expansion and operation/maintenance in the total cost.

Funding

Approximately 50% of the total funding for the 2020 plan can be "reasonably expected" over the next 20 years, as these capital improvements and other funding to keep the system operating are in the current plan (CLRP). The remainder, or about \$14 billion, needs to be secured through other mechanisms. It is generally agreed that to fund all of the 2020 Plan improvements, a funding stream of various sources will be required. Projects in the Plan's year 2020 timeframe could also be accelerated if funding becomes available sooner.

For illustrative purposes, the following chart shows revenues that could be generated through several mechanisms.

<i>Potential Revenue Sources</i>	
RATE/SOURCE	NORTHERN VIRGINIA REVENUES (PER YEAR)
5 cents per gallon gas tax	\$40-\$45 million
\$1 toll per trip on new highway facility (illustrative example – Tri-County Parkway)	\$20-\$40 million per facility
1 percent increase in sales tax	\$160-\$180 million
1/2 percent increase in sales tax	\$80-\$90 million
1 percent increase in income tax	\$400-\$450 million
1/2 percent increase in income tax	\$200-\$225 million
<p><i>Note: Amounts assume participation of all Northern Virginia jurisdictions. Public comment on this item mentioned "bonds" as the preferred mechanism to fund the 2020 Plan. The items above could be used to support bonds for transportation improvements. Source: MWCOG/TPB Vision Outreach, 1999, and other sources.</i></p>	

- **\$700 million per year in new funding will be needed to implement the 2020 Plan**
- **Funding sources must be arranged to satisfy this need**

NextSteps

The adoption of the Plan by the TCC represents the first step in making the 2020 Plan a reality. More work is needed to further study improvements, analyze the associated costs and benefits, and secure funding for needed improvements to ensure our mobility. The following are a few of the immediate next steps:

- **Share Northern Virginia needs with General Assembly - January 2000**
- **Input to regional long range plan update for year 2000 - Winter 2000**
- **Additional Northern Virginia discussion on priorities/funding - Year 2000**
- **Input to statewide 2020 Transportation Plan**
- **Jurisdictions update comprehensive plans - Year 2000 and beyond**

The About TCC

The Transportation Coordinating Council of Northern Virginia (TCC) is an advisory group of locally elected officials that serves as a Northern Virginia caucus on recommending regional transportation priorities and funding allocations. There are 27 members from 13 Northern Virginia jurisdictions, and 10 additional members of the Virginia General Assembly that comprise the TCC membership. The chairman of the TCC's Citizens Advisory Committee, the Director of the Virginia Department of Rail & Public Transportation, and the District Administrator of the Virginia Department of Transportation's Northern Virginia District are ex-officio members. The Northern Virginia representative to the Commonwealth Transportation Board (CTB) is the TCC Chairman.

During the 1999 Virginia General Assembly session, Senate Joint Resolution No. 434 was passed calling on the TCC to complete the 2020 Plan evaluation and provide a final report to the year 2000 session.

TRANSPORTATION COORDINATING COUNCIL MEMBERSHIP:

CHAIRMAN: J. Kenneth Klinge*, Commonwealth Transportation Board
Northern Virginia

NORTHERN VIRGINIA LOCAL ELECTED OFFICIALS:

ALEXANDRIA Mayor Kerry J. Donley
Council Member Lois L. Walker
ARLINGTON Chairman Paul Ferguson
County Board Member Jay Fisette
County Board Member Christopher Zimmerman
DUMFRIES Mayor Christopher K. Brown
FAIRFAX COUNTY Chairman Katherine K. Hanley (At-Large)
Supervisor Sharon Bulova (Braddock District)
Supervisor Gerald Connolly (Providence District)
Supervisor Penelope Gross (Mason District)
Supervisor Gerald Hyland (Mt. Vernon District)
Supervisor Dana Kauffman (Lee District)
Supervisor Elaine McConnell (Springfield District)
Supervisor Stuart Mendelsohn (Dranesville District)
CITY OF FAIRFAX Mayor John Mason
FALLS CHURCH Mayor David Snyder
HERNDON Mayor Thomas Rust
LEESBURG Mayor James Clem
LOUDOUN Chairman Dale Polen Myers (At-Large)
Supervisor David McWatters (Broad Run District)
MANASSAS Council Member Harry J. (Hal) Parrish, II
MANASSAS PARK Council Member William Wren
PRINCE WILLIAM Chairman Kathleen K. Seefeldt (At-Large)
Supervisor Hilda M. Barg (Woodbridge District)
Supervisor Maureen S. Caddigan (Dumfries District)
Supervisor John D. Jenkins (Neabsco District)
VIENNA Mayor Charles A. Robinson, Jr.

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Senator John H. Chichester
Senator Joseph V. Gartlan, Jr.
Senator Patricia S. Ticer
Senator Mary Margaret Whipple
Delegate L. Karen Darner
Delegate William J. Howell
Delegate Gladys B. Keating
Delegate Marian Van Landingham
Delegate Linda T. "Toddy" Puller
Delegate John A. "Jack" Rollison, III

CITIZENS ADVISORY COMMITTEE:

James H. Offutt, Interim Chairman*

VIRGINIA DEPARTMENT OF RAIL AND PUBLIC TRANSPORTATION:

Leo J. Bevon, Director*

VIRGINIA DEPARTMENT OF TRANSPORTATION:

Thomas F. Farley, Northern Virginia District Administrator*

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