The Financially Constrained

Long-Range Transportation Plan

for the National Capital Region

Adopted July 18, 2012

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What Is the TPB?

The National Capital Region Transportation Planning Board (TPB) is the entity responsible for coordinating transportation planning at the regional level in the Washington metropolitan area. The TPB is staffed by the Department of Transportation Planning of the Metropolitan Washington Council of Governments (COG).

Members of the TPB include representatives of the transportation agencies of the states of Maryland and Virginia, and the District of Columbia, local governments, the Washington Metropolitan Area Transit Authority, the Maryland and Virginia General Assemblies, and non-voting members from the Metropolitan Washington Airports Authority and federal agencies.

The TPB was created in 1965 by local and state governments in the Washington region in response to federal highway legislation requiring the formation of Metropolitan Planning Organizations (MPOs) for metropolitan areas with populations greater than 50,000 people. The TPB became associated with the Metropolitan Washington Council of Governments in 1966, serving as COG's transportation policy committee. In consultation with its technical committee, the TPB directs a continuing transportation planning process carried on cooperatively by the states and local communities in the region.

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Context for the Plan

Development of the 2012 CLRP

The Financially Constrained Long-Range Transportation Plan (CLRP) identifies and describes all regionally significant transportation projects and programs that are planned in the Washington metropolitan area between 2012 and 2040. Over 800 projects are included, ranging from simple highway landscaping to billion-dollar highway and transit projects. Of these projects, about 110 are considered to be "regionally significant". This subset of projects is described beginning on page 16. Some of these projects will be completed in the near future, while others are only in the initial planning stage.

In October 2011, the TPB issued its annual "Call for Projects" to solicit from each agency a list of projects to be added to the CLRP. Project submissions were due at the end of December 2011. Several new highway and transit projects were submitted for both DC and VA. On January 12, 2012, the TPB released the list of proposed additions for a 30-day public comment period.

Following the comment period, the TPB approved the project submissions for inclusion in the air quality conformity analysis on February 15. This analysis was conducted to make sure the proposed changes would not impact the region's ability to meet federally designated air quality standards.

On June 14, 2012, the TPB released drafts of the CLRP, the FY 2013-2018 Transportation Improvement Program (TIP) and the related Air Quality Conformity Assessment for a 30-day public comment period. The TPB reviewed and responded to the public comments before approving the CLRP, TIP and Conformity Assessment on July 18, 2012.

Public Involvement

Federal regulations require that the TPB develop and use a public participation plan that provides "reasonable opportunities" for interested parties to comment on the CLRP and TIP. The TPB adopted a formal Participation Plan in December 2007 that outlines public involvement activities for constituencies with different levels of understanding and interest in regional transportation planning processes.

In addition, the TPB is regularly advised by two citizen-led committees that report directly to the Board: the Citizens Advisory Committee (CAC) and the Access for All Advisory Committee (AFA).

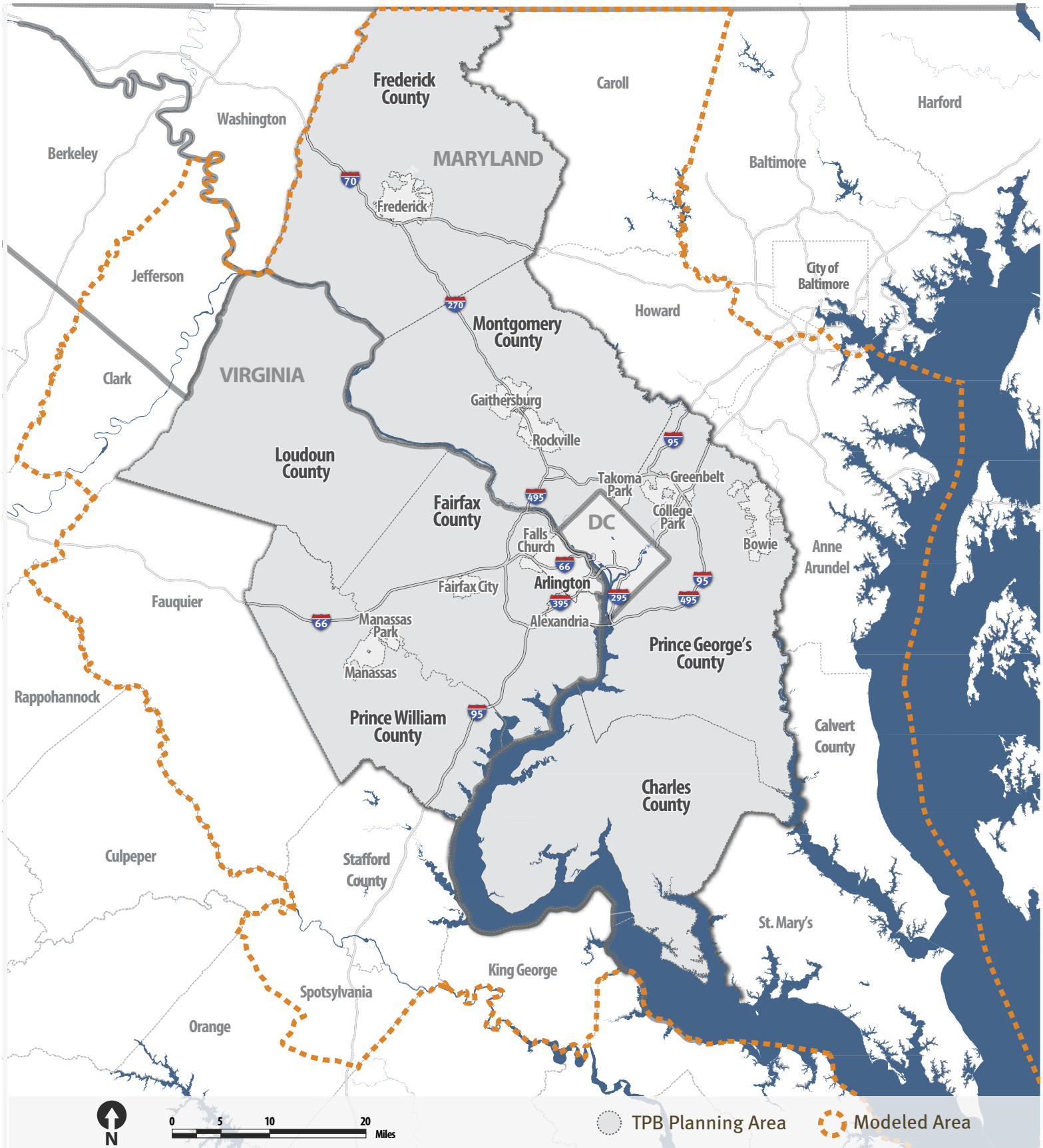
The CAC promotes public involvement in the region's transportation planning efforts, and provides independent, region-oriented citizen advice to the TPB on transportation plans, programs and issues. Its members include individual citizens and representatives of environmental, business, and civic interests concerned with regional transportation matters.

To ensure ongoing participation from low-income and minority communities and people with disabilities, the TPB created the Access for All Advisory (AFA) Committee to advise the Board on transportation issues, programs, policies and services that are important to these communities, and to ensure their concerns are being addressed by the TPB process.

TPB Planning Area

The TPB's planning area covers the District of Columbia and surrounding jurisdictions in Northern Virginia and Suburban Maryland. This area reflects the membership of the TPB. While the TPB's travel demand models look at a much larger area ("Modeled Area") the analyses detailed later in this document will refer specifically to the TPB Planning Area shown in Figure 1.

Figure 1: TPB Modeled and Planning Areas



G. Edward Johnson

Context for the Plan

The TPB Vision

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"The Vision" is the guiding policy document of the TPB, laying out eight broad goals and several objectives and strategies to shape the region's transportation investments. The Vision was unanimously approved in 1998 by the TPB after an extensive public outreach and consensus-building effort that lasted three years.

The objectives and strategies included in the TPB Vision provide policy guidance for achieving the broad goals for the region. The Vision is not a plan with maps or lists of specific projects. Instead, it is a policy guide for long-range planning at the system level. The various jurisdictions in the region are expected to pursue policies and projects that contribute to its specific elements.

Amid the diverse needs and opinions in the region, The Vision emphasizes the commonality of values and is a symbol of regional consensus.

TPB Vision Goals

1. The Washington metropolitan region's transportation system will provide reasonable access at reasonable cost to everyone in the region.
2. The Washington metropolitan region will develop, implement, and maintain an interconnected transportation system that enhances quality of life and promotes a strong and growing economy throughout the entire region, including a healthy regional core and dynamic regional activity centers with a mix of jobs, housing and services in a walkable environment.
3. The Washington metropolitan region's transportation system will give priority to management, performance, maintenance and safety of all modes and facilities.
4. The Washington metropolitan region will use the best available technology to maximize system effectiveness.
5. The Washington metropolitan region will plan and develop a transportation system that enhances and protects the region's natural environmental quality, cultural and historic resources, and communities.
6. The Washington metropolitan region will achieve better inter-jurisdictional coordination of transportation and land use planning.
7. The Washington metropolitan region will achieve an enhanced funding mechanism(s) for regional and local transportation system priorities that cannot be implemented with current and forecasted federal, state, and local funding.
8. The Washington metropolitan region will support options for international and interregional travel and commerce.

TPB Planning Activities

Development of the CLRP is directly influenced by many planning activities that are conducted by the TPB and its sub-committees. Some of these planning activities have led to the inclusion of new programs and projects in the CLRP. The Street Smart safety program, for instance, was developed by the TPB's Bicycle and Pedestrian Subcommittee. Other activities don't correlate specifically to any program or project, but are just as crucial in addressing the performance of the region's long-range plan for transportation.

Transportation & Land-Use Coordination

Coordinating transportation and land-use provides congestion, air quality, and quality of life benefits for the region. Coordination of transportation and land-use planning in the Washington metropolitan region is achieved through three major efforts. First, the Cooperative Forecasting Program at COG enables local and regional planning to be coordinated by using common assumptions about future growth and development. Secondly, a composite land-use and transportation map of the region identifies areas of the region called regional activity centers that are intended to have a mix of jobs, housing and services in a walkable environment, and is integral to scenario planning efforts undertaken by the TPB. Thirdly, through the Transportation/Land-Use Connections (TLC) program, the TPB offers assistance to local jurisdictions that are addressing the "how-to" challenges related to improving transportation/land-use coordination.

Human Service Transportation Coordination

Our regional transportation system must serve the needs of all who rely on it. Some transportation-disadvantaged groups—especially persons with disabilities, older adults, individuals with income limitations, and those with limited English proficiency—have specialized needs that require focused planning and coordination efforts. The TPB has taken the lead in the Washington region to improve coordination on behalf of these transportation-disadvantaged groups through its Human Service Transportation Coordination Task Force. Between 2007 and 2012, the TPB awarded 59 grants totaling approximately $21 million through the Job Access Reverse Commuter (JARC) and New Freedom programs to provide needed services to these populations.

Air Quality Planning

In the same way that the CLRP must be financially constrained, it must also, under federal law, conform to air quality improvement goals. Each update of the CLRP must be tested to ensure the projects in the plans, when considered collectively, meet general regulatory requirements as well as the requirements of each of the states' State Implementation Plans (SIPs) as called for by the 1990 Clean Air Act Amendments.

Transportation Demand Management

Transportation Demand Management (TDM) strategies seek to lessen the demand on our region's transportation systems by reducing the number of vehicle trips in the region, total vehicle miles of travel, or both. These measures reduce roadway congestion and vehicle emissions by promoting alternative modes of transportation like ridesharing, public transit, bicycling and walking, and teleworking. TPB's Commuter Connections program uses a variety of marketing and outreach efforts to assist employees and employers with alternate commute options.

Rachel Ponder

Congestion Management and Operations

Efficiently and effectively using existing and future transportation facilities can reduce the need for highway capacity increases for single occupancy vehicles (SOVs). Congestion management and operations are achieved through two major efforts. First, the TPB established a Congestion Management Process (CMP) to provide information on transportation system performance, and to consider alternative strategies to alleviate congestion and enhance the mobility of persons and goods. Second, the TPB's Management, Operations, and Intelligent Transportation Systems (MOITS) program studies ways in which transportation technology can offer short-term operational improvements that can be included in the CLRP and implemented to help reduce congestion.

Wikimedia.org/Ben Schumin

TPB Planning Activities

Freight Planning

Freight transportation – the movement of goods into, through, or out of our region – has a significant impact on both our regional economic competitiveness and infrastructure. The TPB is committed to giving full consideration to freight and goods movement needs in the overall regional transportation plan, through coordinated freight planning, stakeholder outreach and input, and identifying critical freight needs. The TPB's National Capital Region Freight Plan (2010), the first regional freight plan ever adopted by the TPB, describes the planning context for freight and the TPB's freight program, current and future freight conditions in the region, land-use and environmental factors, and safety and security considerations. The National Capital Region Freight Project Database, compiled in conjunction with the report, contains projects beneficial to freight movement within the region.

Ground Access to Airports

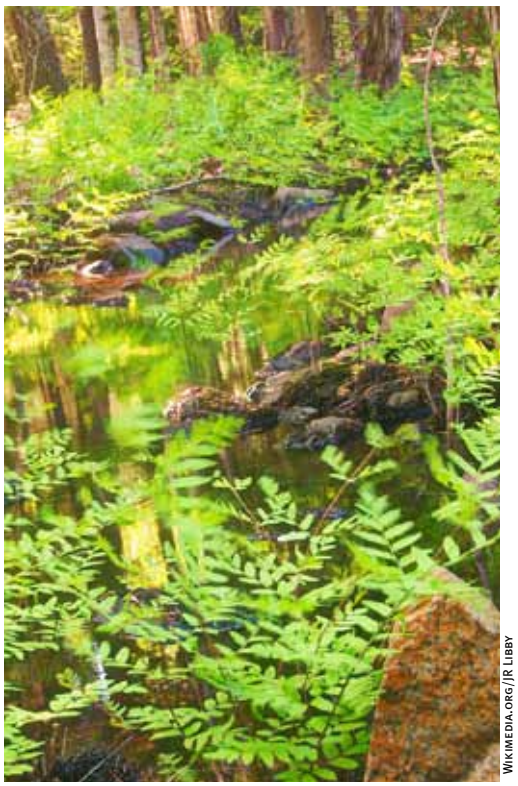
The need to maintain convenient access to the region's airports for local residents, business travelers, visitors, and freight carriers is important to a growing region. Accordingly, the TPB has developed a Ground Access Element to be included in the Regional Airport System Plan that provides analysis of current and forecast ground access concerns at all three commercial airports, integrates airport system ground access and facility planning into overall regional transportation planning, and develops recommendations for essential highway and transit improvements needed to maintain efficient and convenient ground access to the region's airports in the future.

Climate Change Mitigation

In addition to ensuring that federally mandated conformity requirements are met for air quality, the TPB also analyzes carbon dioxide (CO_2) emissions as a performance measure with each update of the CLRP. In 2010 the TPB compiled the "What Would it Take" (WWIT) scenario, the first major climate change and transportation study for the Washington region. The study focused on the transportation sector to understand what could be done to reduce mobile source CO_2 emissions throughout the region.

Environmental Consultation

The TPB consults with natural resource, conservation, environmental protection, and historic preservation agencies regarding the development of the CLRP. These agencies provide comments on the plan, contacts for future engagement, and environmental GIS data. These regional data are used to create maps of environmental and/or culturally sensitive areas for comparison with the CLRP. This comparison helps identify potential activities to moderate the environmental impacts of the long range transportation plan. Moving forward, the level of coordination between the TPB and environmental experts will increase in order to pursue advanced mitigation strategies related to transportation planning.



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TPB Planning Activities

DDOT

Bicycle & Pedestrian Planning

Recognizing the congestion, health, environmental, and other benefits of bicycle and pedestrian projects to the region's transportation system, the TPB engages in two primary planning efforts to promote the expansion of bicycle and pedestrian facilities. The Bicycle and Pedestrian Plan provides a detailed overview of the existing bicycle and pedestrian facilities in the region and identifies both funded and unfunded priority projects. Additionally, each year the TPB's Bicycle and Pedestrian Subcommittee selects a short list of unfunded or partially funded high-priority bicycle and pedestrian projects which are recommended for inclusion in the Transportation Improvement Program (TIP). The TIP lists projects and programs that will be funded in the region in the next six years.

Bus Planning

High-quality regional bus service depends on successfully linking different services, routes, stops, and stations in ways that make bus travel easier for passengers to use, and it requires linking operating facilities, maintenance shops, and storage yards in ways that make bus service more efficient and cost-effective for public agencies to provide. Supplying customer information where and when needed and facilitating transfers within and among the services of multiple transit operators and other travel modes are also essential. The TPB's bus planning efforts, spearheaded by the Regional Bus Subcommittee, seek to facilitate the regional coordination required in order to provide such high-quality services. In February 2010, the TPB was awarded $58.8 million in Transportation Investment Generating Economic Recovery (TIGER) grants that will help implement a regional Bus Priority Network.

John Deamond

Transportation Safety

Over 280 people die and 36,000 are injured in traffic crashes every year in the Washington region. Improving safety for all modes is critical to improving quality of life and improving access for all of the region's residents. In pursuit of this goal, the TPB Vision calls on member jurisdictions to provide safer transportation facilities for pedestrians, bicyclists, and persons with special needs, ensure better enforcement of traffic laws and motor carrier safety regulations, and achieve national targets for seatbelt use and appropriate design of facilities. The TPB also conducts a semi-annual "Street Smart" campaign to raise awareness and promote safer behavior among drivers, pedestrians, and bicyclists.

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FEMA/BARRY BAHLER

Emergency Preparedness & Transportation Security

Every day, transportation agencies handle incidents such as crashes and breakdowns on their systems. But in incidents that become large-scale, such as those necessitating an official declaration of an emergency from a chief official, transportation becomes one of a number of support functions critical to a public safety agency-led response. TPB coordinates with COG's public safety and emergency management committees to ensure that the region's transportation systems work in concert with other regional systems that are essential to emergency response, coordination, and recovery for a major emergency.

What's In the CLRP?

New Projects and Significant Changes

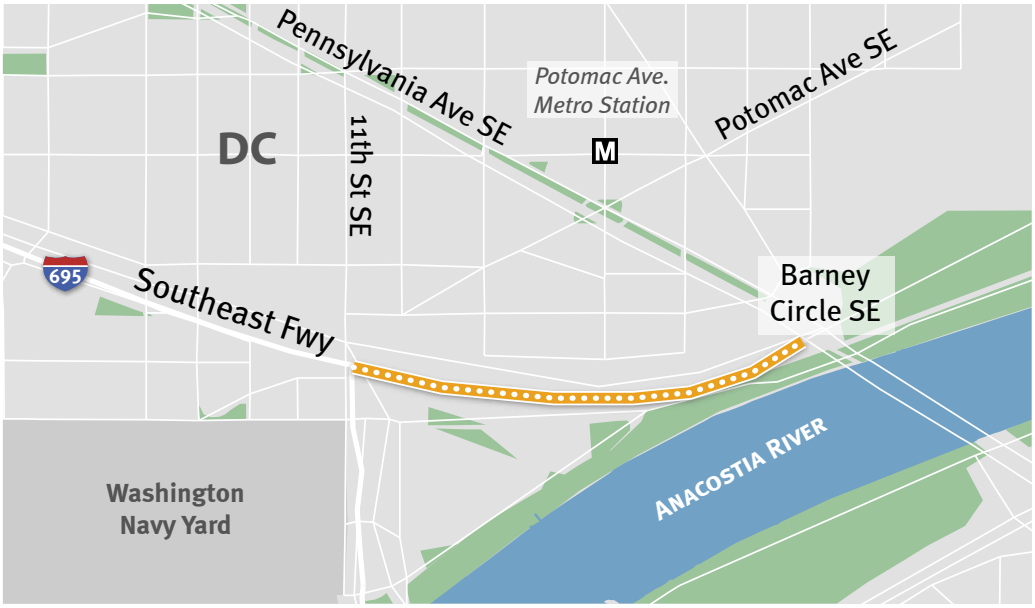
While the programs described in the previous section seek to make the most out of the investments the region has made in its existing transportation system, there is also a continuing need for new roadway and transit capacity in the region. This section describes the investments in new capacity the region is planning to make over the next thirty years. The following projects and changes were approved for addition into the 2012 CLRP, as approved by the TPB on July 18, 2012.

1. Southeast Boulevard from 11th Street Bridge to Barney Circle

AAROADS.COM

Once the 11th Street SE Bridge fully connects I-695 (Southeast Freeway) and I-295 in both directions in 2013, the segment between 11th Street SE and Barney Circle/ Pennsylvania Avenue will become obsolete. This project proposes to convert that segment of the Southeast Freeway to an urban boulevard, connected to Barney Circle with an at-grade intersection.

Complete:	2015
Length:	0.5 mile
Cost:	$80 million
Funding:	Federal, Local and Private

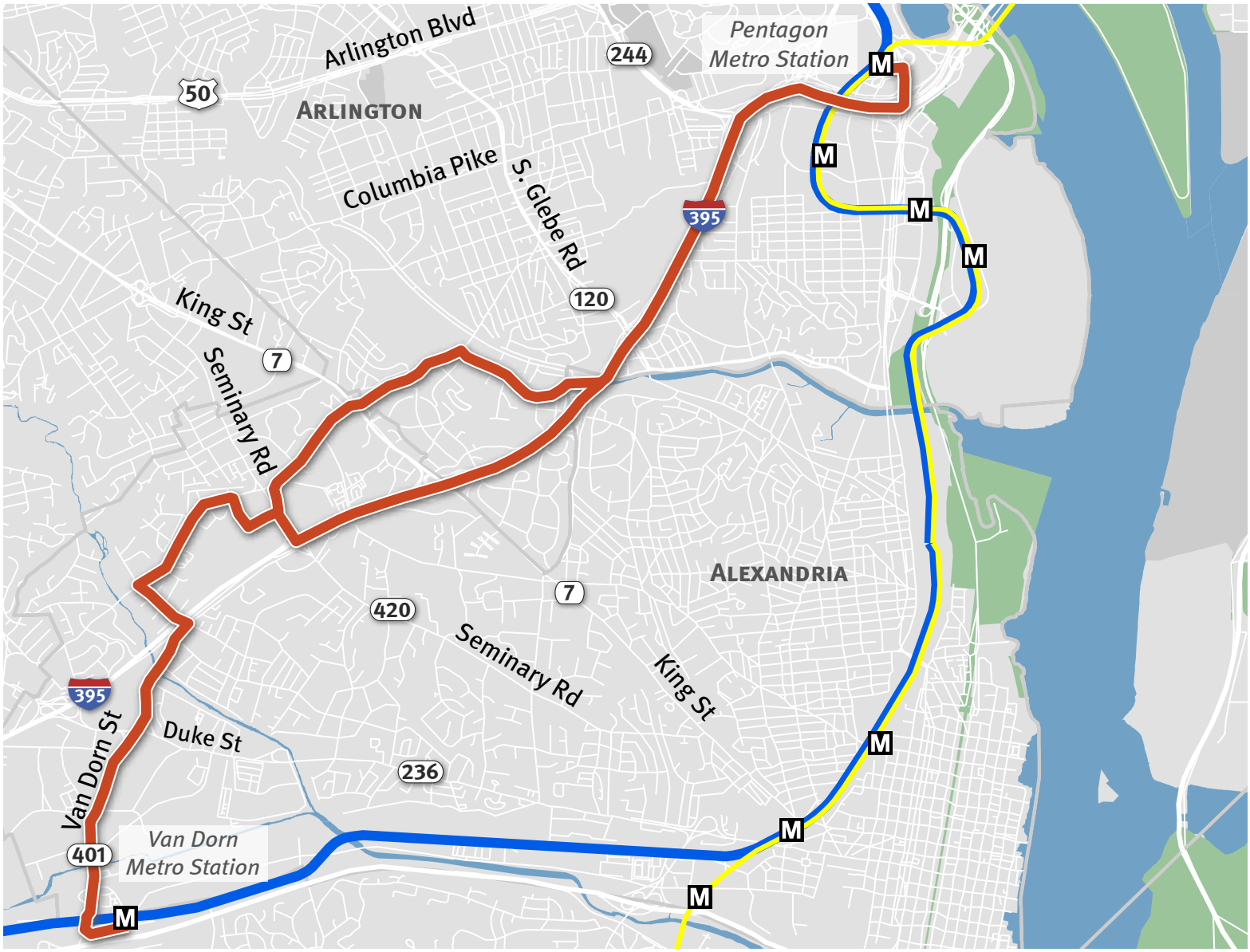


2. Bus Rapid Transit from the Van Dorn Metro Station to the Pentagon Metro Station

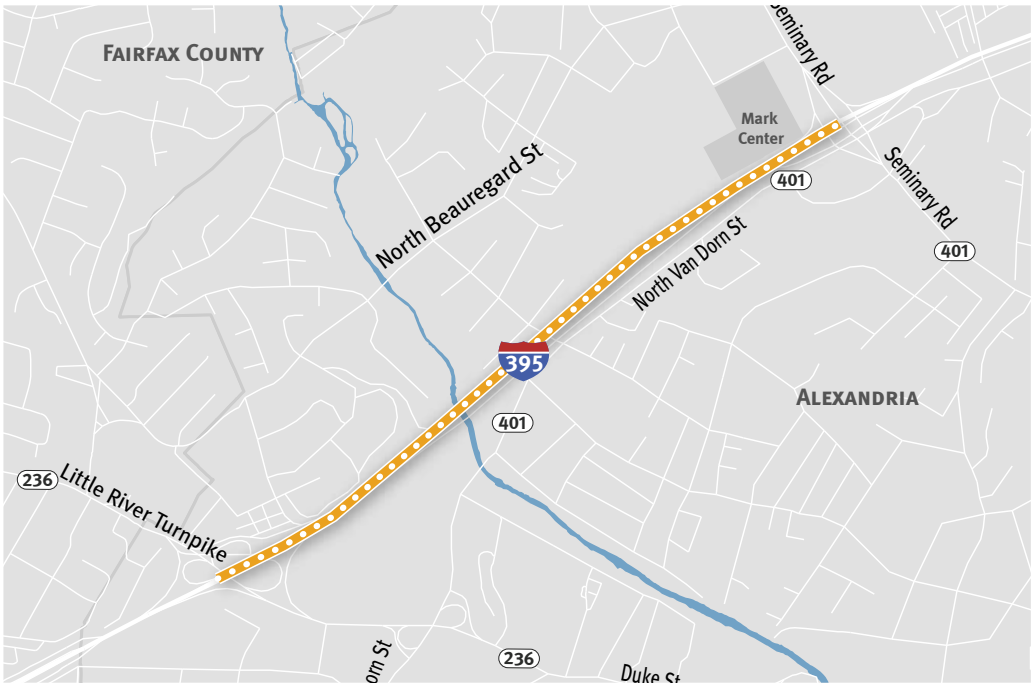
This project will construct and operate a Bus Rapid Transit (BRT) service that will connect the Van Dorn Metro Station to the Pentagon Metro Station via the Mark Center. The line will split into two spurs at the Mark Center. The BRT spur will continue north on Beauregard Street, serving the Northern Virginia Community College at Braddock Road, turn east on S. Arlington Mill Drive to serve the Shirlington Transit Center, then continue on I-395 to the Pentagon. A separate rapid bus spur will travel on the I-395 HOV lanes from the Mark Center directly to the Pentagon.

The BRT alignment will operate in dedicated lanes where possible, and may include additional elements such as pre-board payment, transit signal priority, improved bus shelters/stops, and branded vehicles. The rapid bus alignment will contain some of the same features as BRT but will operate in shared lanes. Buses will run every 7.5 minutes during peak periods.

Complete:	2016
Length:	6.5 miles
Cost:	$100 million
Funding:	Federal, Local and Private



3. I-395 Auxiliary Lane, Northbound from Duke Street to Seminary Road

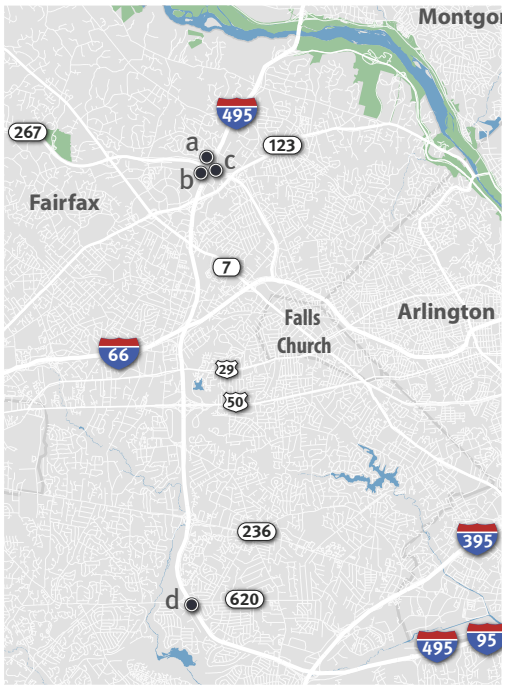


This project will construct an auxiliary lane on northbound I-395 connecting the Duke Street on ramp to the off ramp at Seminary Road.

Complete: 2015
Length: 1 mile
Cost: $20 million
Funding: Federal and State

Alex Nitzman

4. Date Change on I-495 HOT Lanes Interchanges



The 2011 CLRP includes the widening of the Capital Beltway (I-495) to include a system of HOT lanes from the American Legion Bridge to the Backlick Road underpass. As part of the larger I-495 HOT lanes project, VDOT is proposing to advance the completion dates of four interchanges from 2030 to 2013:

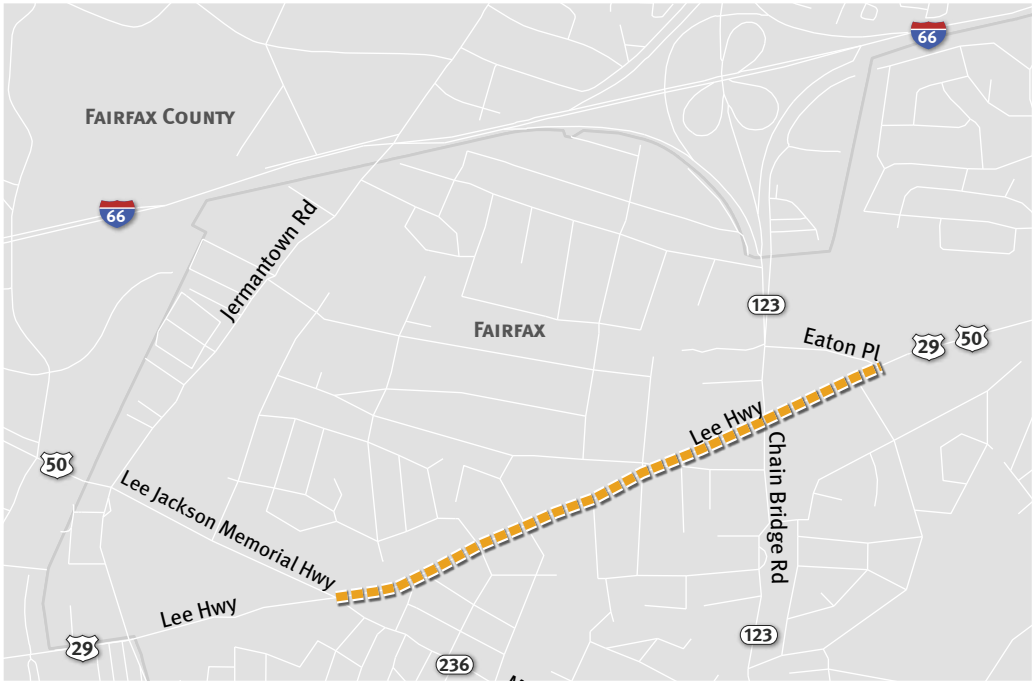
a & b: Two interchanges at VA-267 Dulles Toll Rd
c: One interchange at Dulles Airport Access Highway
d: One interchange at VA-620 (Braddock Rd)

Mario Roberto Durán Ortiz

5. Remove Widening of US 29 from US 50 to Eaton Place

The 2011 CLRP includes the widening of US 29, Lee Highway from four to six lanes in the City of Fairfax between US 50 and Eaton Place. VDOT proposes to remove this project from the CLRP.

~~Complete: 2013~~
~~Cost: $30.2 million~~



6. Manassas National Battlefield Park Bypass

This project will construct a four-lane bypass for US 29 to the north of the Manassas National Battlefield Park. Two segments of the project are already included in the plan:

- a portion of the Tri-County Parkway (improvements to Pageland Lane), and
- widening of VA 234, Sudley Road.

The remaining portion will construct a new four-lane facility from Sudley Road to east of the intersection of US 29 and Paddington Lane. Once the Bypass is complete, about four miles of US 29 and three miles of Sudley Road located inside the Park will be closed.

Complete: 2035
Length: 9 miles
Cost: $305 million
Funding: Federal, State and Local

What's In the CLRP?

Major Highway Improvements

District of Columbia

1. I-295, reconstruct interchange at Malcolm X Blvd, 2014
2. I-395, remove 3rd St SB exit ramp, reconfigure 3rd St SB entrance and 2nd St NB exit ramps, reconnect F St bet. 2nd and 3rd St, 2016
3. 11th Street Bridge reconstruction, 2013
4. **Southeast Boulevard, downgrade and construct urban boulevard, 2015**
5. South Capitol St./Bridge Reconstruction, including intersection with Martin Luther King Jr. Blvd, 2015, 2016
6. Wisconsin Ave, reconfigure from 4, 6 lanes to 4 lanes with a continuous left-turn lane, 2012

Maryland

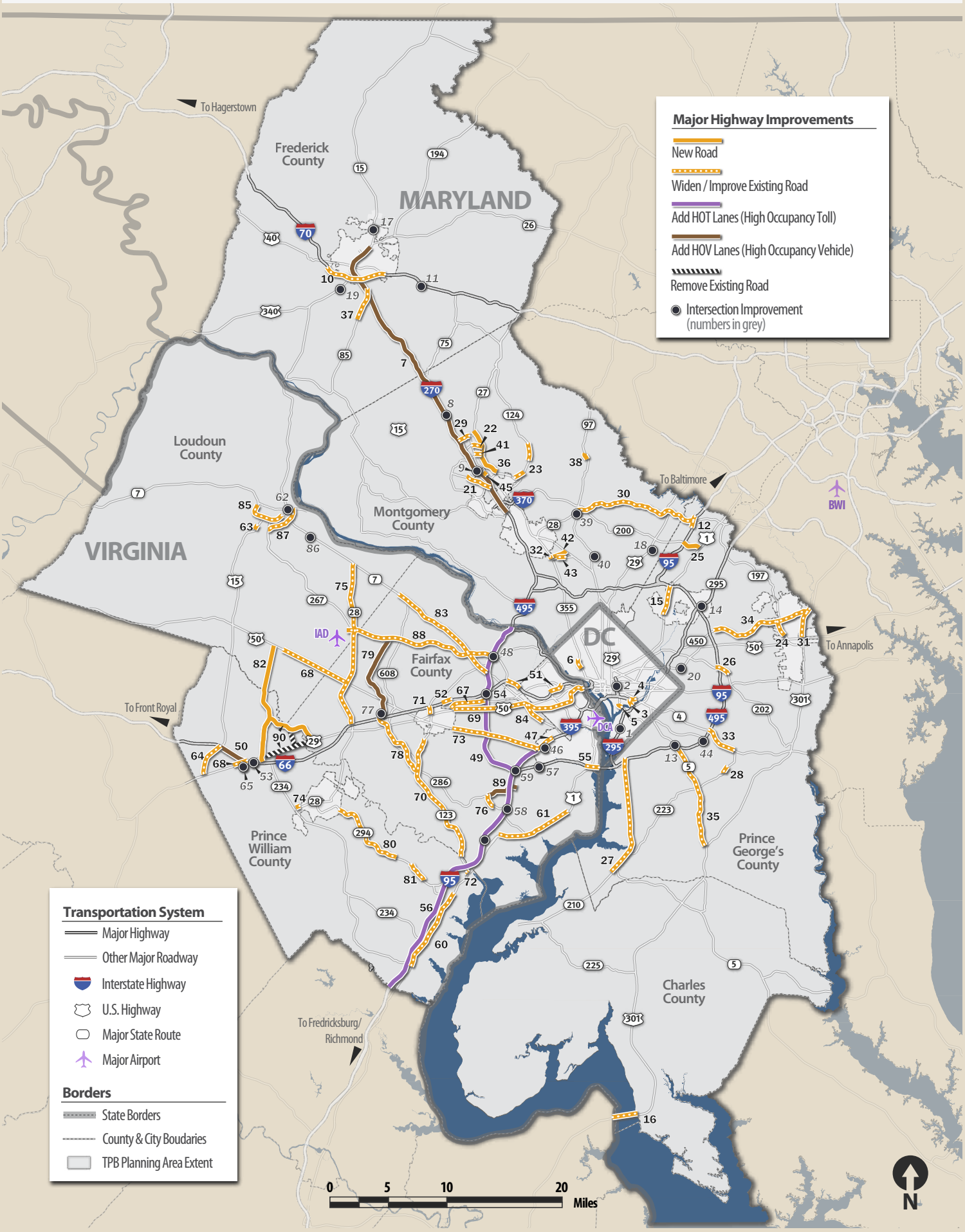
7. I-270/US 15 Corridor, Shady Grove to Biggs Ford Rd., widen and HOV, 2030
8. I-270, reconstruct interchange at MD 121, 2016
9. I-270, interchange at Watkins Mill Rd. Ext., 2016
10. I-70, widen to 6 lanes, 2020
11. I-70, interchange at Meadow Rd, 2020
12. I-95, interchange and CD lanes at Contee Road , 2016
13. I-95/495: Branch Avenue Metro access improvements, construct 8 lanes, 2020
14. Baltimore Washington Parkway at MD 193, Intersection Improvement, 2025
15. US 1, widen to 6 lanes reconstruct 4 lanes, 2020
16. US 301 From Charles County, MD to King George County, VA, 2030
17. US 15, reconstruct at Monocacy Blvd, 2016
18. US 29 at Musgrove/Fairland Rd, 2025
19. US 340/US 15, interchange at Jefferson Tech Park, 2016
20. US 50, westbound ramp to Columbia Park Road , 2025
21. MD 117, widen to 4 lanes, 2025
22. MD 118 (Germantown Rd.), widen to 4 lanes, 2020
23. MD 124, widen to 6 lanes, 2020
24. MD 197, widen to 4/5 lanes, 2025
25. MD 200, Intercounty Connector (ICC) Between I-95 and Baltimore Ave. (US 1), 2014
26. MD 202, reconstruct 6 lanes, 2020
27. MD 210, upgrade 6 lanes and interchange improvement, 2020, 2030
28. MD 223, widen to 4 lanes, 2020
29. MD 27, widen to 6 lanes, 2020
30. MD 28/MD 198, widen to 4, 6 lanes, 2025
31. MD 3, widen to 6 lanes, 2030
32. MD 355, construct 6 lanes, interchange at Montrose/Randolph Road, 2015, 2020
33. MD 4, widen to 6 lanes, upgrade with interchanges at Westphalia Road and Suitland Parkway, 2016, 2020, 2035
34. MD 450, widen to 4 lanes, 2016
35. MD 5, upgrade, widen to 6 lanes, including interchanges, 2016, 2025
36. MD-83, construct 4, 6 lanes, 2020
37. MD 85, widen to 4, 6 lanes, 2020
38. MD 97, construct 2 lanes, 2020
39. MD 97, upgrade intersection at MD 28, 2030
40. MD 97, upgrade intersection at Randolph Road , 2015
41. Middlebrook Road Extended, widen, construct 4 lanes, 2020
42. Montrose Parkway East, construct 4 lanes, 2015
43. Randolph Road, widen to 5 lanes, 2014
44. Suitland Parkway, interchange at Rena/ Forestville Road, 2025
45. Watkins Mill Road Extended, construct 6 lanes, 2012

Virginia

46. I-395 HOV lanes reversible ramp at Seminary Rd., 2015
47. **I-395 Auxiliary Lanes northbound Duke St. on ramp to Seminary Rd. off ramp, 2015**
48. **I-495 HOT lanes interchange at VA-267 (Dulles toll Rd.) and Dulles Airport Access Rd., 2013**
49. I-495 High Occupancy/Toll (HOT) lanes, Transit Service, 2013
50. I-66 HOV, includes interchange reconstruction at US 15, 2018
51. I-66, construct 3 lanes, 2020
52. I-66, construct HOV ramps to access Vienna Metro Station, 2014
53. I-66, reconstruct interchange at US 29, 2014
54. I-66/I-495, reconstruct interchange, 2013
55. I-95, construct approaches to Woodrow Wilson Bridge, 2013
56. I-95/395 HOT Lanes, widen, construct 1, 2 additional lanes and bus service, 2015
57. I-95/495, reconstruct interchange at VA 613, 2025
58. I-95/Fairfax County Parkway, enhanced interchanges for improved access to Fort Belvoir, 2013, 2015, 2020
59. I-95/I-395/I-495, interchange access ramps to I-495 HOV, 2013
60. US 1, widen to 6 lanes, 2012, 2014, 2025
61. US 1, widen to 6 lanes, 2020, 2025
62. US 15 Bypass, interchange at Edwards Ferry Road, 2035
63. US 15, widen to 4 lanes, 2015
64. US 15, widen to 4 lanes, 2040
65. US 29, interchange at VA 55, 2014
66. US 29, widen to 5, 6 lanes, 2014
67. US 29, widen to 6 lanes, 2012, 2013
68. US 50, widen to 6 lanes, 2014, 2025
69. US 50, widen/reconstruct 6 lanes including interchanges, 2013, 2015, 2025
70. VA 123, widen 6 lanes, 2025
71. VA 123, widen to 6 lanes, 2014
72. VA 123, widen to 6 lanes, 2017
73. VA 236, widen to 6 lanes, 2025
74. VA 28, widen to 6 lanes, 2017
75. VA 28, widen to 8 lanes with interchanges, 2025
76. VA 286 (VA 7100), construct 4, 6 lanes with interchanges at Franconia Pkwy. and Boudinot Dr., 2012, 2013, 2025
77. VA 286 (VA 7100), interchange at Fair Lakes Parkway, 2013
78. VA 286 (VA 7100), widen to 6 lanes, 2020
79. VA 286 (VA 7100), Fairfax County Parkway HOV, widen and upgrade to 6, 8 lanes, 2035
80. VA 294, widen to 6 lanes, 2015
81. VA 294, widen to 6 lanes, 2040
82. VA 411 Tri-County Parkway, construct 4 lanes, 2035
83. VA 7, Leesburg Pike, widen to 6, 8 lanes, 2014, 2025, 2030
84. VA 7, widen to 6 lanes, 2025
85. VA 7/US 15 Bypass, widen to 6 lanes, 2040
86. VA 7, intersection improvements at Belmont Rigde Rd., 2015
87. Battlefield Parkway, construct 4 lanes, 2012, 2020
88. Dulles Access Road, widen to 6 lanes including interchange reconstruct at I-495, 2017
89. Franconia/Springfield Parkway HOV with interchange at Neuman St., 2020, 2025
90. **Manassas Battlefield Bypass, 2035**

Note: Projects in **bold** are new to the 2012 CLRP

Figure 2: Major Highway, HOV and HOT Improvements



What's In the CLRP?

Major Transit Improvements

District of Columbia

1. Anacostia Street Car Project Phase I, 2012, 2016
2. DC Streetcar - H St/Benning Rd NE, 2013, 2016
3. K Street Transitway, 2015
4. Tiger Grant Bus Priority Improvements (not mapped: DC, MD, VA)

Maryland

5. Purple Line, Bethesda to New Carrollton, 2020
6. I-270/US 15 Corridor, Shady Grove to Biggs Ford Rd., widen and HOV or HOT, 2030
7. Corridor Cities Transitway, from Shady Grove to COMSAT, 2020
8. MD 586 (Viers Mill Rd.) Busway, from Weaton Metrorail Station to Rockville Metrorail Station, 2020

Virginia

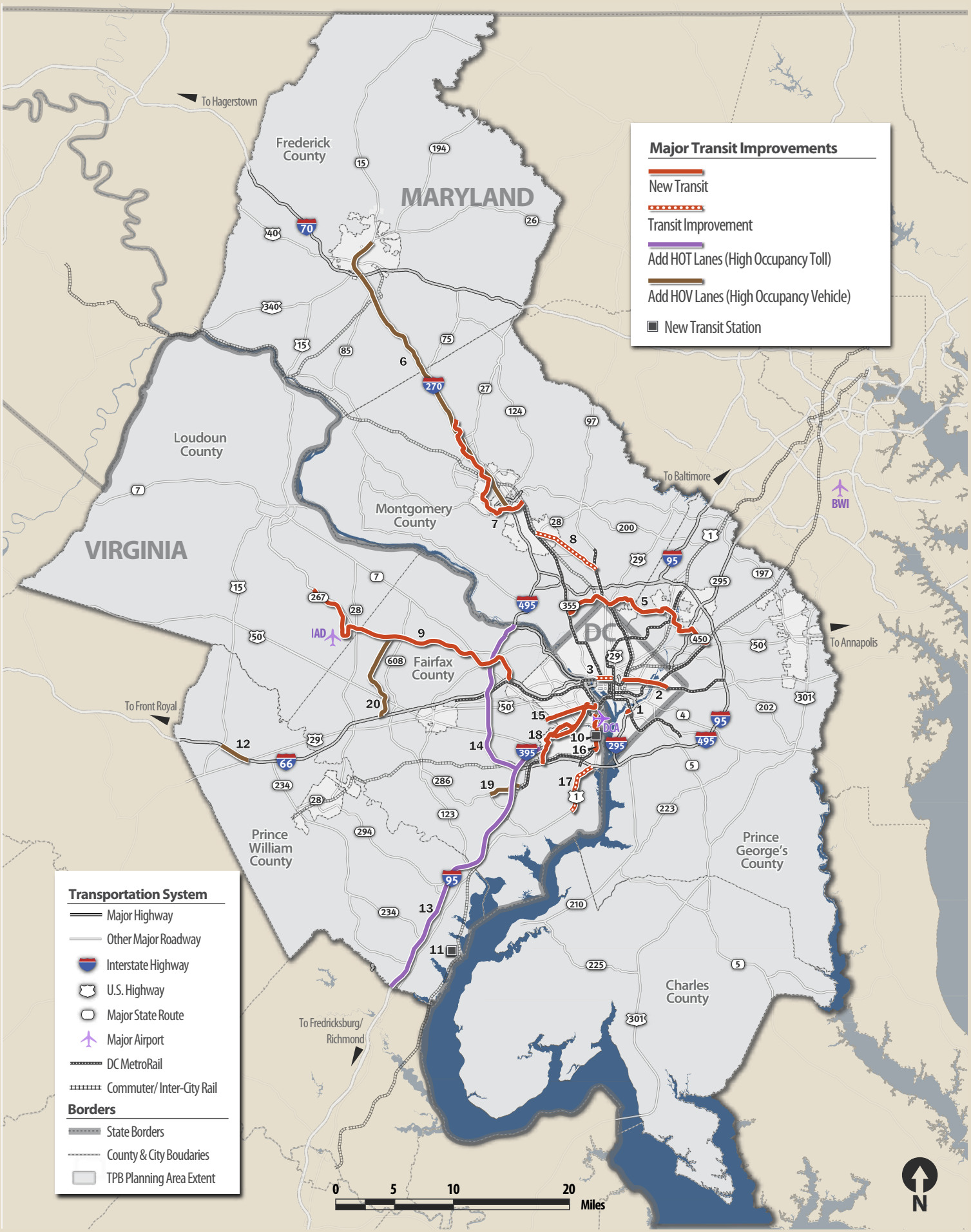
9. Dulles Corridor Metrorail, 2013, 2016
10. Potomac Yard Metro Station, 2017
11. Cherry Hill VRE Station, 2015
12. I-66 HOV, includes interchange reconstruction at US 15, 2018
13. I-95/395 HOT Lanes, widen, construct 1, 2 additional lanes and bus service, 2015
14. I-495 High Occupancy/Toll (HOT) lanes, Transit Service, 2013
15. VA 244 (Columbia Pike) Streetcar from Pentagon City to Skyline, 2017
16. Crystal City Potomac Yard Bus Way and US 1 Street Car, 2013, 2019
17. US 1 bus right turn lanes, 2035
18. **BRT from Van Dorn St. Metrorail station to Pentagon Metrorail station, 2016**
19. Franconia/Springfield Parkway HOV with interchange at Neuman St., 2020, 2025
20. VA 286 (VA 7100), Fairfax County Parkway HOV, widen and upgrade to 6, 8 lanes, 2035

Note: Projects in **bold** are new to the 2012 CLRP

Wikimedia.org/Ben Schumin

John Deamond

Figure 3: Major Transit, HOV and HOT Improvements



What's In the CLRP?

Selected Project Highlights

1. Dulles Corridor Rapid Transit

- Covers a 23.1-mile extension of the Metrorail system from Fairfax County to Washington Dulles International Airport.
- Cost: $5.6 billion
- Completion: 2013 and 2016

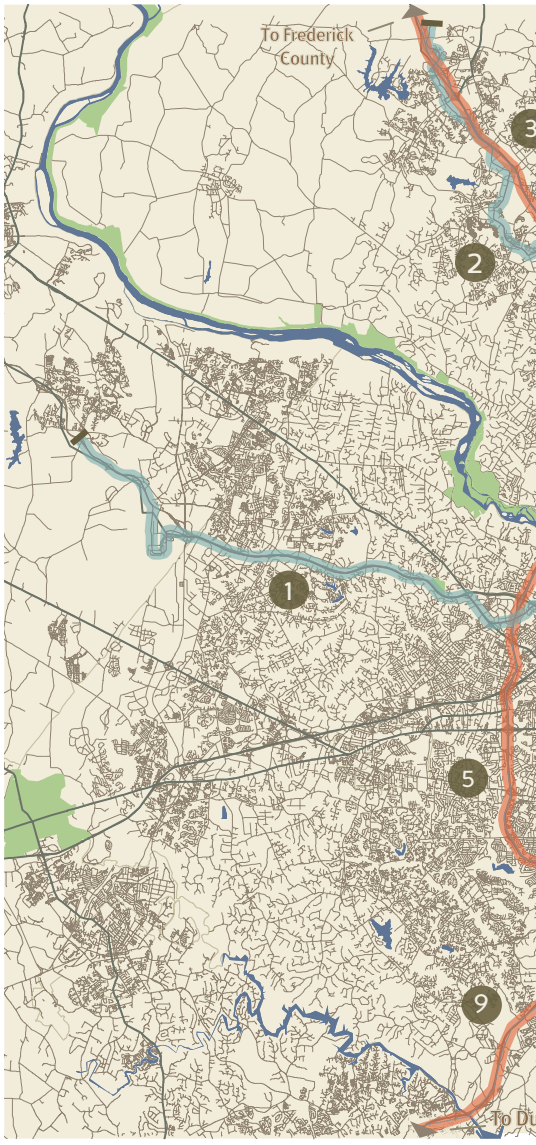
2. Corridor Cities Transitway

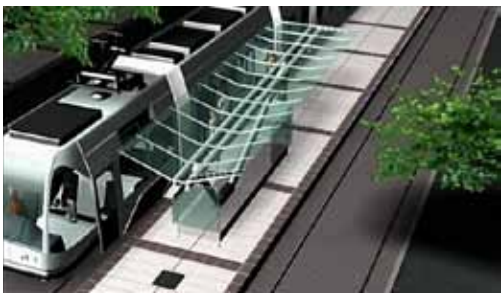
- Covers a 14-mile corridor from Rockville to Clarksburg, and will be an LRT or BRT line.
- Cost: $1.2 billion
- Completion: 2020

3. I-270/US 15 Corridor

- Widen I-270 from Shady Grove Metro Station to Biggs Ford Road, possibly including HOV and/or express toll lanes.
- Cost: $3.4 billion
- Completion: 2030

Figure 4: Highl

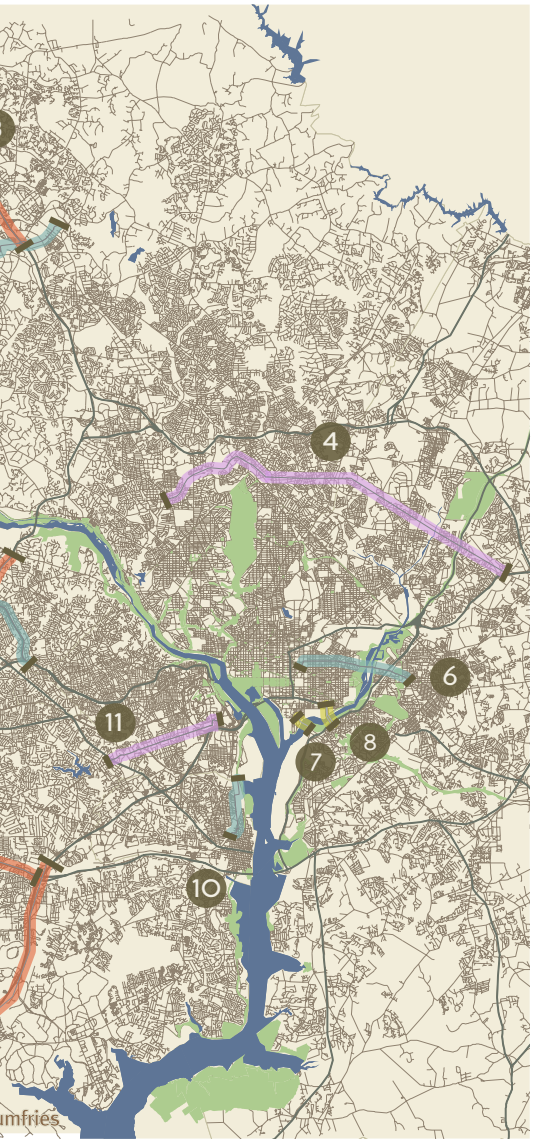




4. Purple Line

- A 16-mile light rail line from the Bethesda to New Carrollton Metro Stations.
- Cost: $1.79 billion
- Completion: 2020

IGHTED PROJECTS



MARIO ROBERTO DURÁN ORTIZ

5. Capital Beltway HOT Lanes

- Widen I-495 to 12 lanes with 4 HOT lanes for 15 miles from VA 193 connecting to I-95/I-395 at the Springfield Interchange.
- Cost: $1.6 billion
- Completion: 2013, 2030

6. DC Streetcar Project

- Construct two segments: Anacostia Phase I from Firth Sterling and S. Capitol Street SE to Good Hope Road and MLK Jr. Avenue SE; H Street/ Benning Road NE from Union Station to Benning Road Metro.
- Cost: $183.8 million (capital)
- Completion: 2013, 2016

7. South Capitol Street Bridge

- Covers a 7.5-mile corridor, including four interchanges and two new bridges.
- Cost: $822.5 million
- Completion: 2015, 2016

8. 11th Street Bridge

- Upgrade of the existing 11th Street bridges and ramps, connecting the Anacostia and Southeast Freeways.
- Cost: $475 million
- Completion: 2013

9. I-95/Bus/HOT Lanes

- Reconfigure the HOV lanes between Dumfries and Turkeycock Run to include HOT lanes for 27 miles.
- Cost: $1.01 billion
- Completion: 2015

MARIO ROBERTO DURÁN ORTIZ

10. Potomac Yards Transitway

- In Alexandria, buses will run on a combination of dedicated transitway and mixed traffic between Four Mile Run and the Braddock Road Metro Station.
- Cost: $18.1 million
- Completion: 2013, 2018

11. Columbia Pike Streetcar

- 4.7 miles of new streetcar service from Skyline to Pentagon City Metro Station.
- Cost: $135 million
- Completion: 2016

Financial Analysis

The comprehensive financial plan prepared for the 2010 CLRP reviewed projected revenues from existing and planned sources that are "reasonably expected to be available" through 2040. These revenues were compared against the estimated costs of expanding and adequately maintaining and operating the region's highway and transit system over the next 30 years. The forecasts were prepared by the state and local jurisdictions, and by the state and local departments of transportation. Revenue and expenditure estimates are calculated in "year-of-expenditure" dollars to account for inflation.

The financial plan demonstrates that $222.9 billion of existing and proposed revenues is available to cover the estimated costs of expanding, maintaining, and operating the region's highway and transit systems through 2040.

Revenues

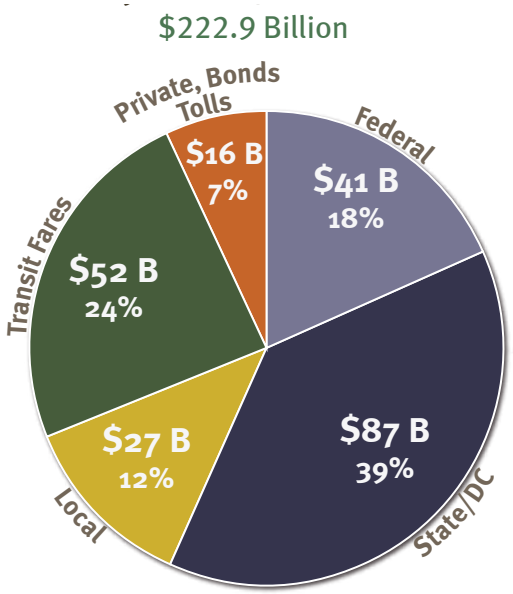
The National Capital Region is expecting $222.9 billion in revenues from a variety of sources through the year 2040 (Figure 5). The largest portion of that total—$87.3 billion—will come from the District of Columbia, the State of Maryland, and the Commonwealth of Virginia. Fares from WMATA and other state and local transit systems make up the second largest revenue source, at $52.2 billion. Federal funding ranks third with $40.7 billion projected to flow into the region through 2040. County and city governments will contribute $27 billion to the total, followed by a combination of private funding, bonds, and tolls with $16 billion.

Maryland will generate about one-third of the region's total revenue through 2040—$75 billion in federal, state, local and other funds. WMATA fares, regional grants and other non-jurisdictional sources will generate another $62 billion. The Commonwealth of Virginia will contribute $58 billion in revenues from federal, state, local and other sources, while $28 billion in federal and local funds will come from the District of Columbia.

Expenditures

After determining how much revenue would be generated from these various sources, each implementing agency reviewed its costs for construction projects as well as for maintaining and operating the transportation system through the year 2040. As shown in Figure 6, just under two-thirds of the CLRP's expenditures will be dedicated to operating and maintaining the existing and proposed transportation system. A little more than $51 billion (64%) will be spent to operate and maintain the region's highways

FIGURE 5: CLRP REVENUES 2011 TO 20140

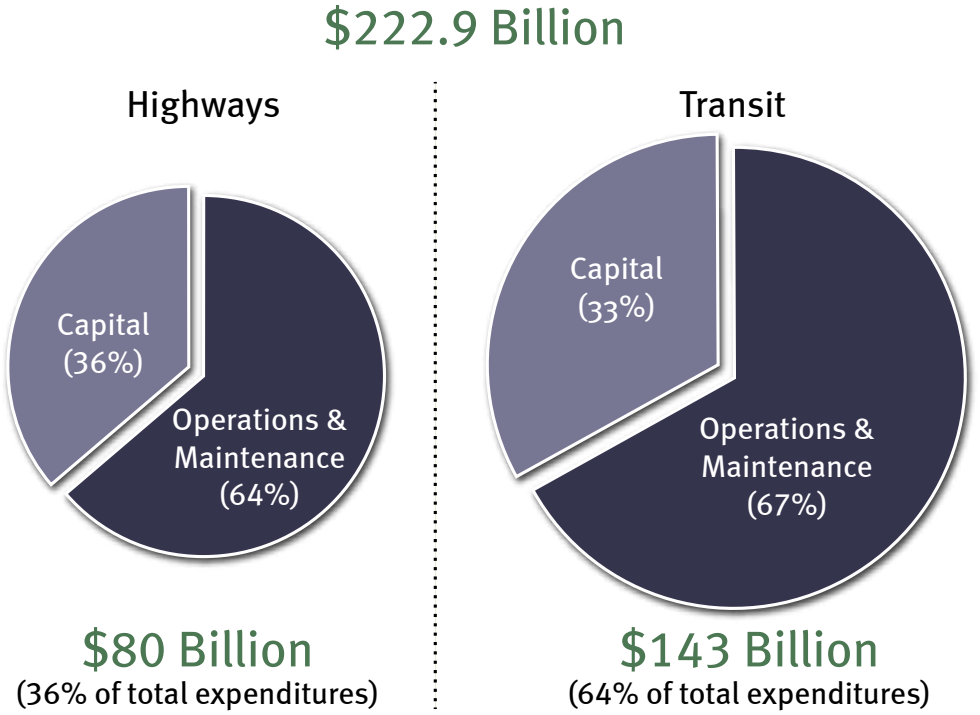


and roads, while about $96 billion (67%) will be spent to do the same for our transit system.

The remaining one-third will be spent on capital projects, with $29 billion going to highways and $47 billion to transit. This capital category includes many projects that will expand the region's road and transit systems, but also includes reconstruction and rehabilitation projects for existing facilities.

As the cost of operating, maintaining and rehabilitating the transportation system increases, less and less funding is available for new capacity improvements. With a financial constraint of $222.9 billion, some agencies were able to add new projects into the CLRP while others had to delay projects or remove them altogether. "New Projects and Significant Changes for 2012" in the third part of this chapter provides more information on new, delayed and removed projects.

Figure 6: CLRP Expenditures 2011 to 20140



Constraining Transit Ridership

Despite an increase in funding levels for WMATA, there won't be enough capacity to meet the projected ridership levels on Metrorail and Metrobus in the coming decades.

In 2008, Congress passed the Passenger Rail Investment and Improvement Act (PRIIA), which provides an additional $3 billion in revenues ($1.5 billion in federal funds and $1.5 billion from dedicated state and local sources) for WMATA's future rehabilitation and maintenance needs. This legislation is set to expire in 2020, and currently there is no federal legislation in place to extend the measure beyond 2020, nor is any agreement in place by the jurisdictions to match any future federal funds.

To address the lack of identified funding to accommodate all of the projected WMATA ridership growth through 2040, transit ridership was constrained in the most recent financial analysis so as to be consistent with the level of funding that will be available for capacity improvements.

The funding uncertainties affecting the capacity and levels of service of the Metrorail system beyond 2020 were explicitly accounted for by constraining transit ridership to or through the core area to 2020 levels. The transit constraint was also applied during the travel demand modeling portion of the air quality conformity analysis of the CLRP, meaning that any trips that would have been expected to be made via Metrorail but that exceed the capacity restraint would be redistributed to the road network.

Performance of the CLRP

By 2040, the National Capital Region will experience significant growth in population and employment. This growth will fuel a large increase in the demand for transportation–adding more cars to the road and more passengers on buses and trains. As the financial analysis on the last few pages indicated, limited portions of the CLRP's expenditures are going towards new capacity to meet this new demand. The region will see a dramatic increase in congestion both on the roads and on Metro.

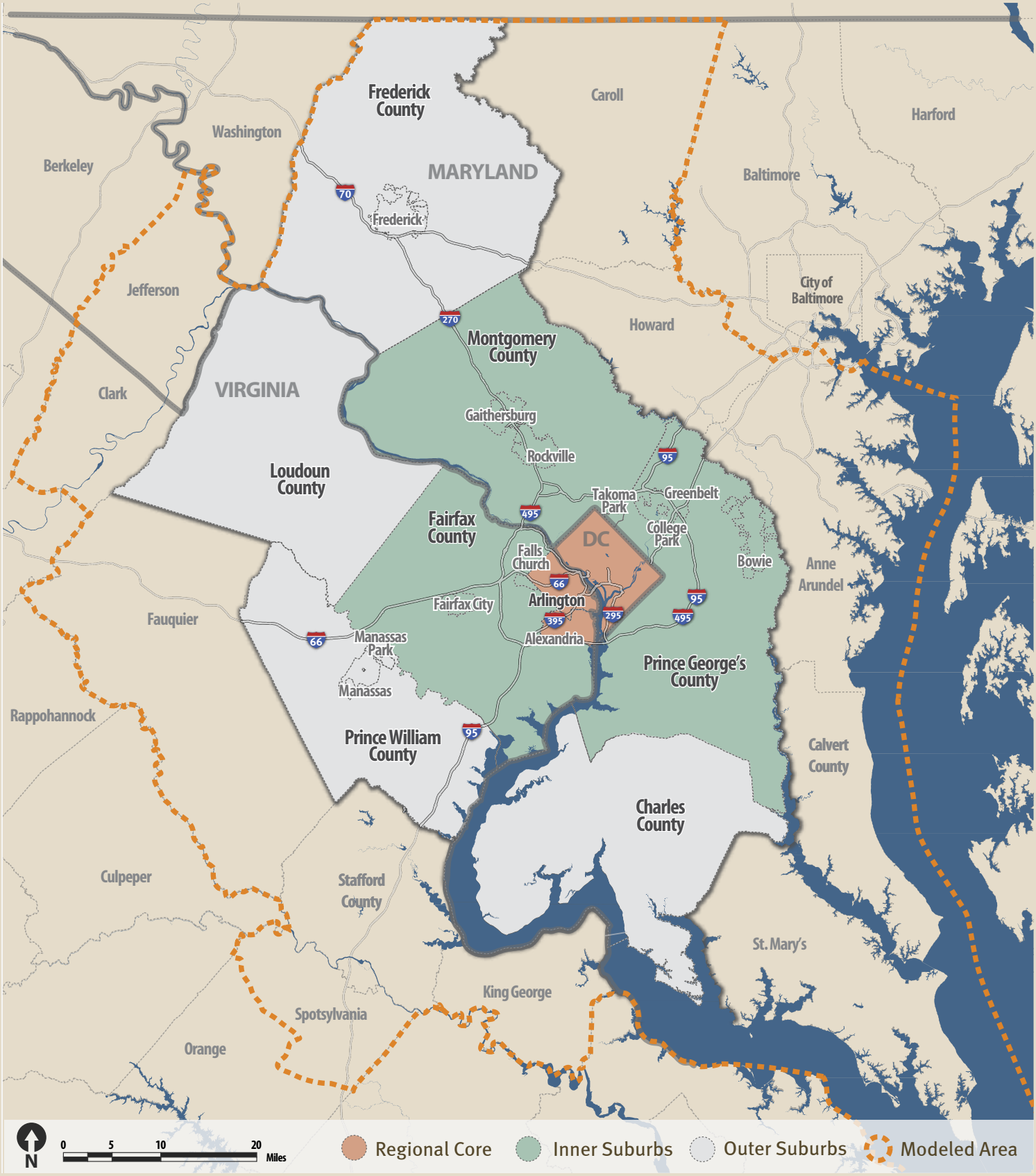
The next several pages will describe the projected patterns of this growth and its effects. Where will these new jobs and people go? How will our travel patterns change? Given the current land-use plans and planned road and transit improvements, which parts of the region will experience the most congestion? How does this congestion impact our ability to get to work? And finally, how does the plan help improve the region's air quality?

Regional transportation demand forecasts for the plan, developed from the TPB travel forecasting process, provide background information on the overall expected performance of the 2012 CLRP. The travel forecasting process utilizes land-use forecasts of households and jobs from Round 8.1 of the Cooperative Forecast*, together with a model of the expected transportation system in future years to predict the amounts and types of travel by persons and vehicles, and how well the system responds to those travel patterns. The analysis uses Version 2.3 of the MWCOG Travel Demand Model which incorporates 2007/08 Household Travel Survey inputs and summarizes travel behavior using 3,722 unique Transportation Analysis Zones (TAZs) for the modeled area. This section contains information on changes in demographics and travel characteristics, such as vehicle miles of travel (VMT), vehicle trips, transit trips, transit mode share, and accessibility measures.

The travel demand data provided in this chapter are based on travel characteristics in the TPB planning area, outlined in Figure 7. This includes all trips that originate, end, or pass through the planning area. Of all of the trips on the region's roadways, 86% both originate and end within the planning area boundaries. An addition 13% either start in one of the planning area's jurisdictions and end outside, or start outside and end inside. Only 1% of all trips captured by the travel demand data are through trips that begin and end outside of the planning area. These figures remain consistent through 2040.

* The Cooperative Forecast is collaboratively developed by the Metropolitan Washington Council of Governments and the local jurisdictions to produce a consistent set of long-range economic and demographic forecasts for use in metropolitan and local planning programs.

Figure 7: The TPB Planning and Modeled Areas

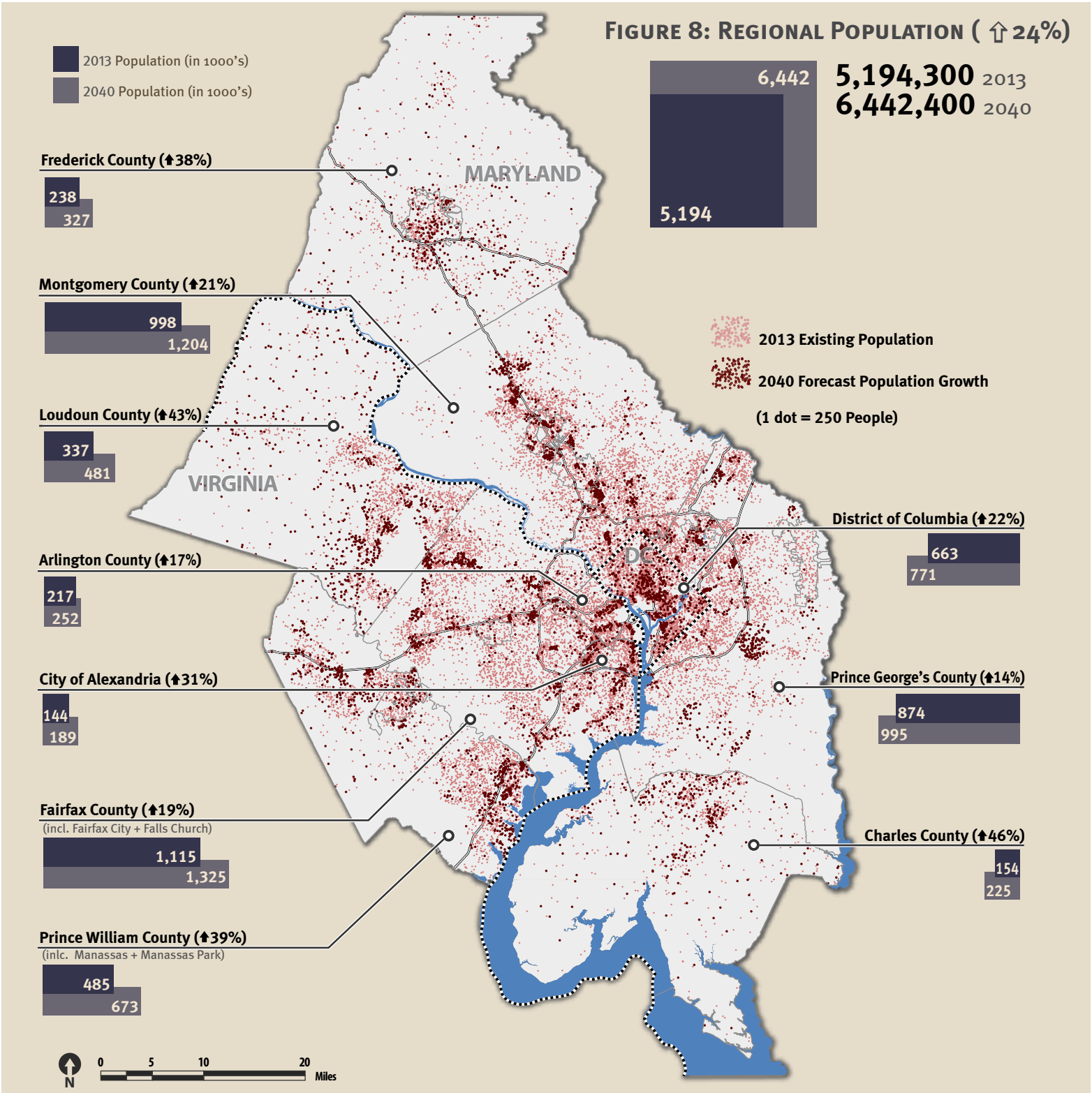


Performance of the CLRP

Population and Employment Growth 2013 -2040

Between now and 2040 the region's population will grow by 24% to almost 6.5 million people and employment is projected to grow by 36%.

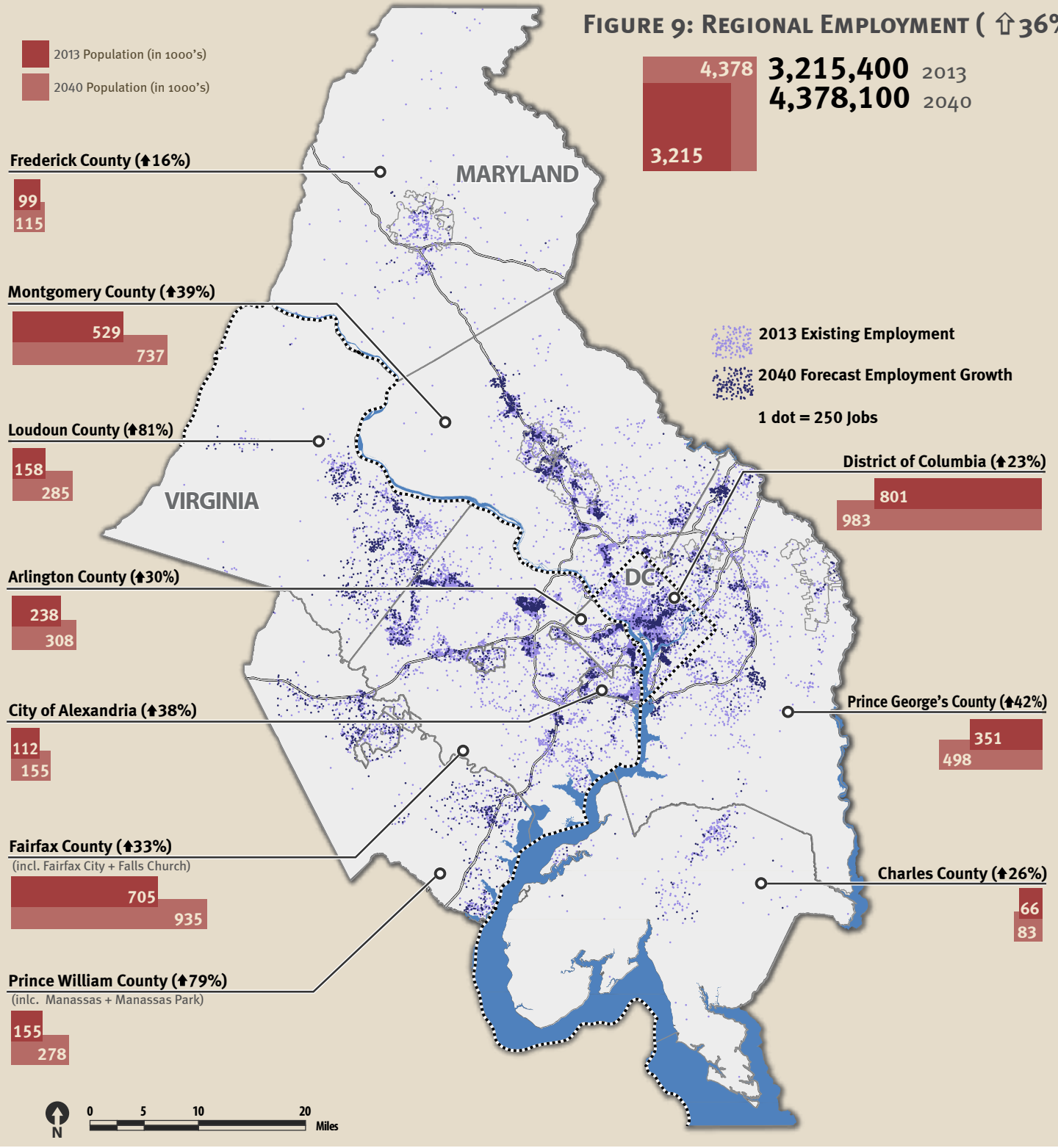
While the region will see growth as a whole, some areas will grow faster than others. The population of the outer jurisdictions is expect-



ed to grow at a faster rate than the inner jurisdictions, but the inner jurisdictions will retain the majority of the region's population in 2040. In addition, employment is expected to grow fastest in the outer jurisdictions of Virginia, but the highest concentration of jobs will be in the District of Columbia, Fairfax County, VA, and Montgomery County, MD in 2040. This means that the population will be slightly more dispersed in 2040 than it is today, and jobs will continue to concentrate toward the western side of the region.

These trends mean that greater demands will be placed on the transportation system in order to connect residents to jobs. As the region grows to accommodate more jobs and more people, many jobs and households will end up further apart. The result will be more cars squeezed onto area roads and more people squeezed into our buses and trains.

Figure 9: Regional Employment (⇧36%)



Performance of the CLRP

Travel Demand and Congestion

Over the next three decades, increasing population and job growth will lead to more vehicles, more trips, and more congestion on the region's transportation system (Figure 10). The overall amount of driving in the region – measured in vehicle-miles traveled – is expected to grow by 25%, slightly more than population, which means that VMT per capita – a measure of how much the average individual drives – is forecast to increase by about 1%.

The increase in demand on the region's roads by 2040 is expected to outpace increases in supply, leading to a significant increase in congestion. Total VMT is expected to rise 25% while funding constraints will limit the increase in new roadway capacity to 7%. That gap will result in a 78% increase in the number of lane-miles of congested roadway during the morning peak period (Figure 10).

The modes by which people choose to travel aren't expected to change much over the next three decades. Currently, 42% of

Figure 10: Change in Land Use and Travel Forecast 2013 to 20140

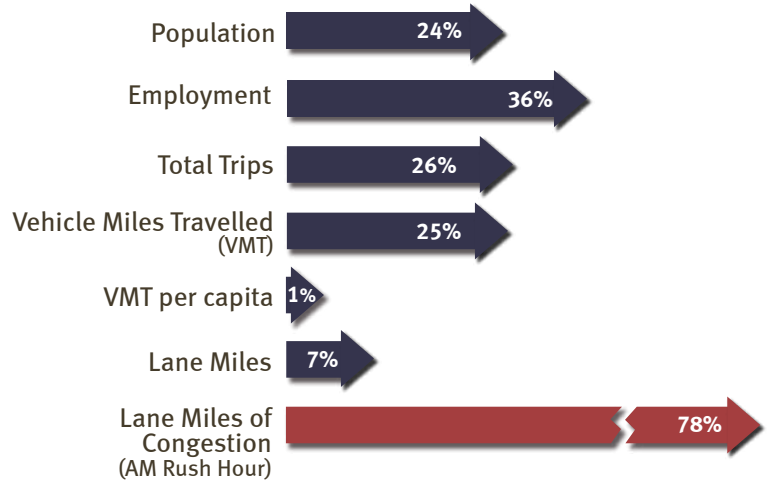


Figure 11: Mode Share - All Trips 2013 to 2040

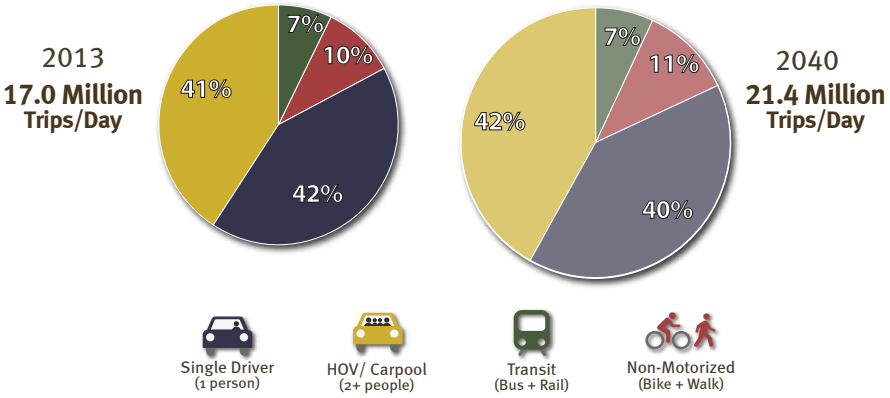


Figure 12: Travel by Mode for All Trips 2013 to 2040

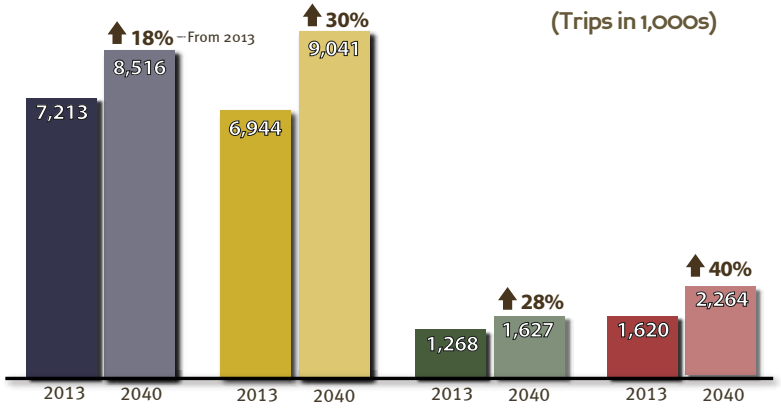


Figure 13: Mode Share - Work Trips 2013 to 2040

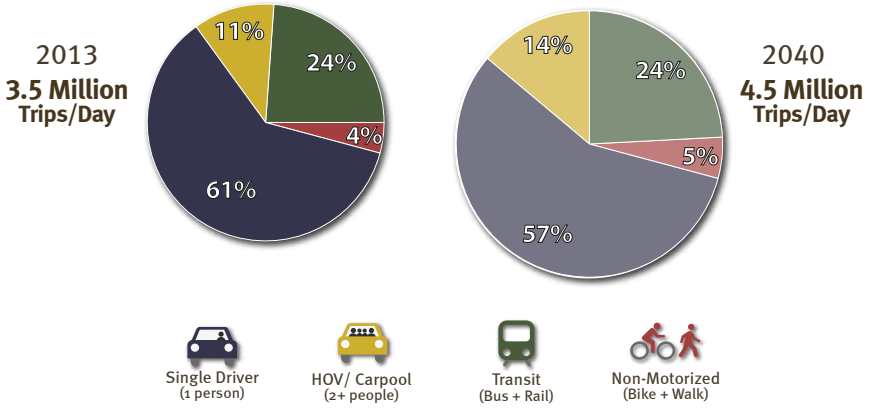


Figure 14: Travel by Mode for Work Trips 2013 to 2040

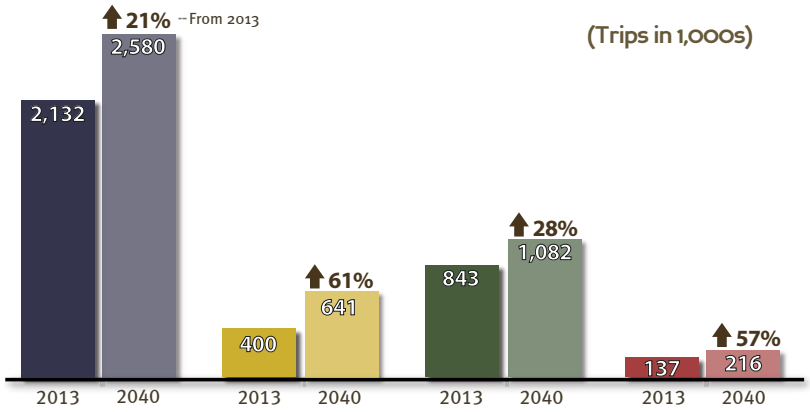


Figure 15: Travel By Purpose 2013 to 2040

		Work	Non-Work
2013	% of Trips	21%	79%
	% of VMT	40%	60%
	Avg. Trip Length	15.5 mi	6.7 mi
2040	% of Trips	21%	79%
	% of VMT	39%	59%
	Avg. Trip Length	15.4 mi	6.8 mi

all trips in the region are made by drivers of single-occupant vehicles, a share that will drop by only a few percentage points by 2040. Carpooling is forecast to become slightly more popular, growing in share from 41% to 42%. Trips made by non-motorized modes will also make up a slightly greater share of total trips in 2040 than they do today, while transit share will remain the same.

Although mode share is not forecast to change significantly, the total number of trips taken using each mode will grow. The number of transit trips will grow by 28%, or about 359,000 trips, for example. In 2040 the region's roadways and transit system will have to accommodate a much larger volume of travelers than today.

Population and job growth will also lead to an increase in the total number of commute trips in the region from 3.5 to 4.5 million by 2040 (Figure 13). By 2040, the share of work trips by carpool and non-motorized modes is

Performance of the CLRP

Travel Demand and Congestion

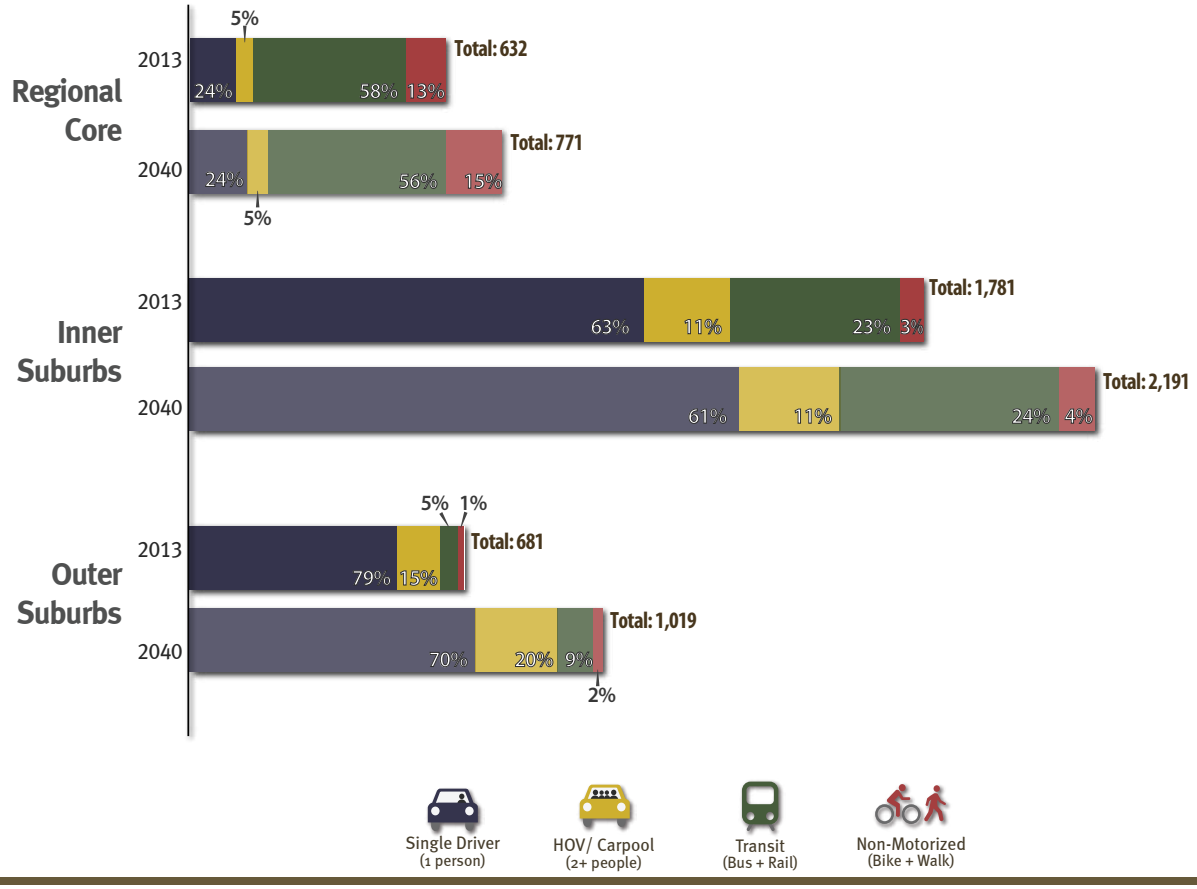
expected to increase, from 11% to 14% for carpool, and from 4% to 5% for non-motorized modes. Work trips will continue to make up around 21% of all trips, and those made by drivers will continue to account for about 40% of all vehicle-miles traveled (Figure 15).

To address the lack of identified funding for WMATA's future rehabilitation and maintenance needs beyond 2020, transit ridership to or through the core area was constrained to 2020 levels. When this constraint on transit trips is lifted, there is an increase of 31,000 transit work trips in 2040. This brings the transit mode share for work trips up to 24.5% from 24%.

Changes in travel patterns will also vary by geography, both in terms of the number of trips taken and how trips are made. Figure 16 shows that the majority of work trips today and in 2040 are or will be generated in the inner suburbs – Montgomery, Prince George's, and Fairfax counties – which are the region's most populous jurisdictions. The outer suburbs – Prince William, Loudoun, Frederick, and Charles counties – will see the most significant rates of growth in the total number of work trips, since population and employment will be growing fastest there.

In the regional core, the majority of work trips – 58% – are made on bus and rail transit, and 13% are made by walking or biking. In the inner suburbs single driver trips account for the largest share of work trips – 63% – and nearly a quarter of work

Figure 16: Work Trips by Mode and Mode Share by Regional Core, Inner, and Outer Suburbs 2013 to 2040



trips are taken by transit. Though the transit share is lower than the regional core, the number of transit work trips generated in the inner suburban counties is greater than that of the regional core. In the outer suburbs, more than 75% of work trips are made by single drivers.

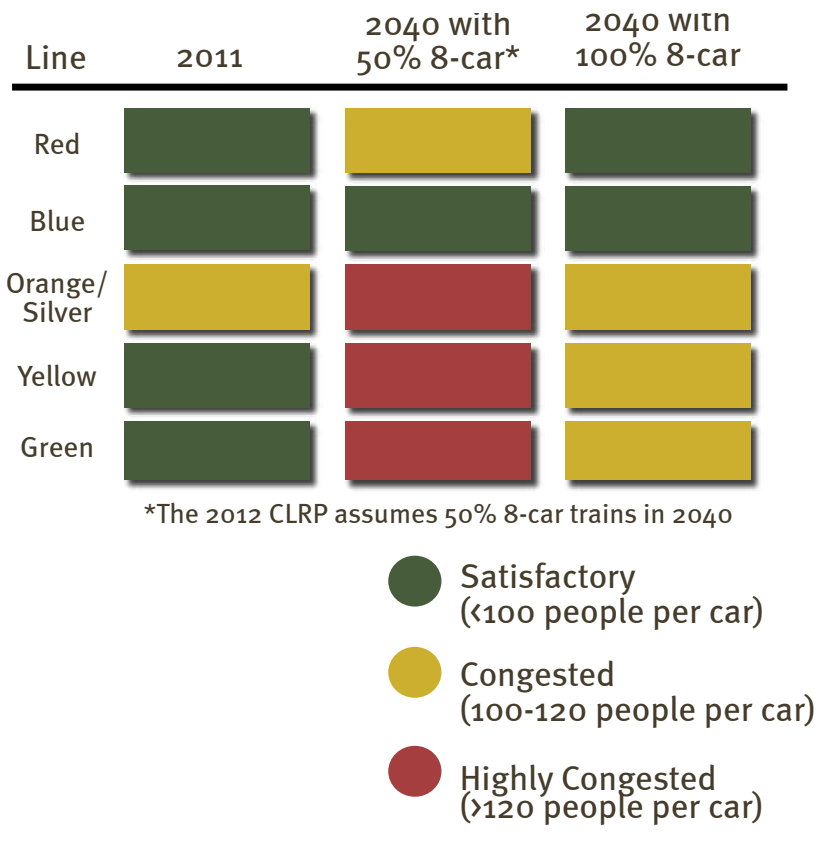
By 2040, slight changes in mode share are expected in all three areas. In the regional core, the share of transit trips is expected to drop in favor of more walk and bike trips. In the inner suburbs, single driver trips are expected to drop slightly, while both transit and non-motorized trips will increase. And in the outer suburbs single driver trips are expected to drop, while carpool and transit trips are expected to increase significantly. Projects such as the Silver line to Dulles Airport, which brings Metrorail transit to Loudoun County, and the HOT lanes projects in northern Virginia contribute to this shift.

WIKIMEDIA.ORG/BEN SCHUMIN

Transit Congestion

Due to a lack of funding for capacity enhancement projects to accommodate all of the projected transit ridership growth in the region, the Metrorail system will likely reach capacity on trips to and through the regional core. According to a WMATA study (Figure 17), without additional railcars beyond those currently funded, four out of five lines entering the core will become congested or highly congested by 2040, and the Orange/Dulles, Yellow and Green lines are forecast to be highly congested.

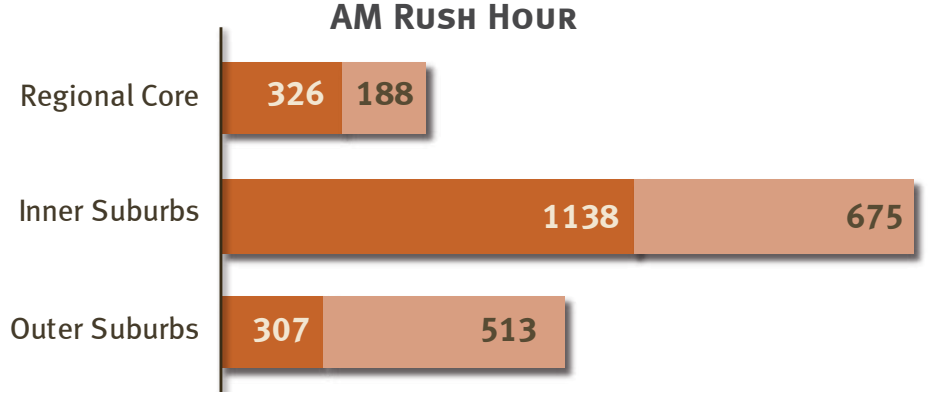
FIGURE 17: METRORAIL CONGESTION MORNING RUSH/INBOUND DIRECTION



Performance of the CLRP

Regional Highway Congestion

Figure 18: Lane Miles of Congestion AM Rush Hour



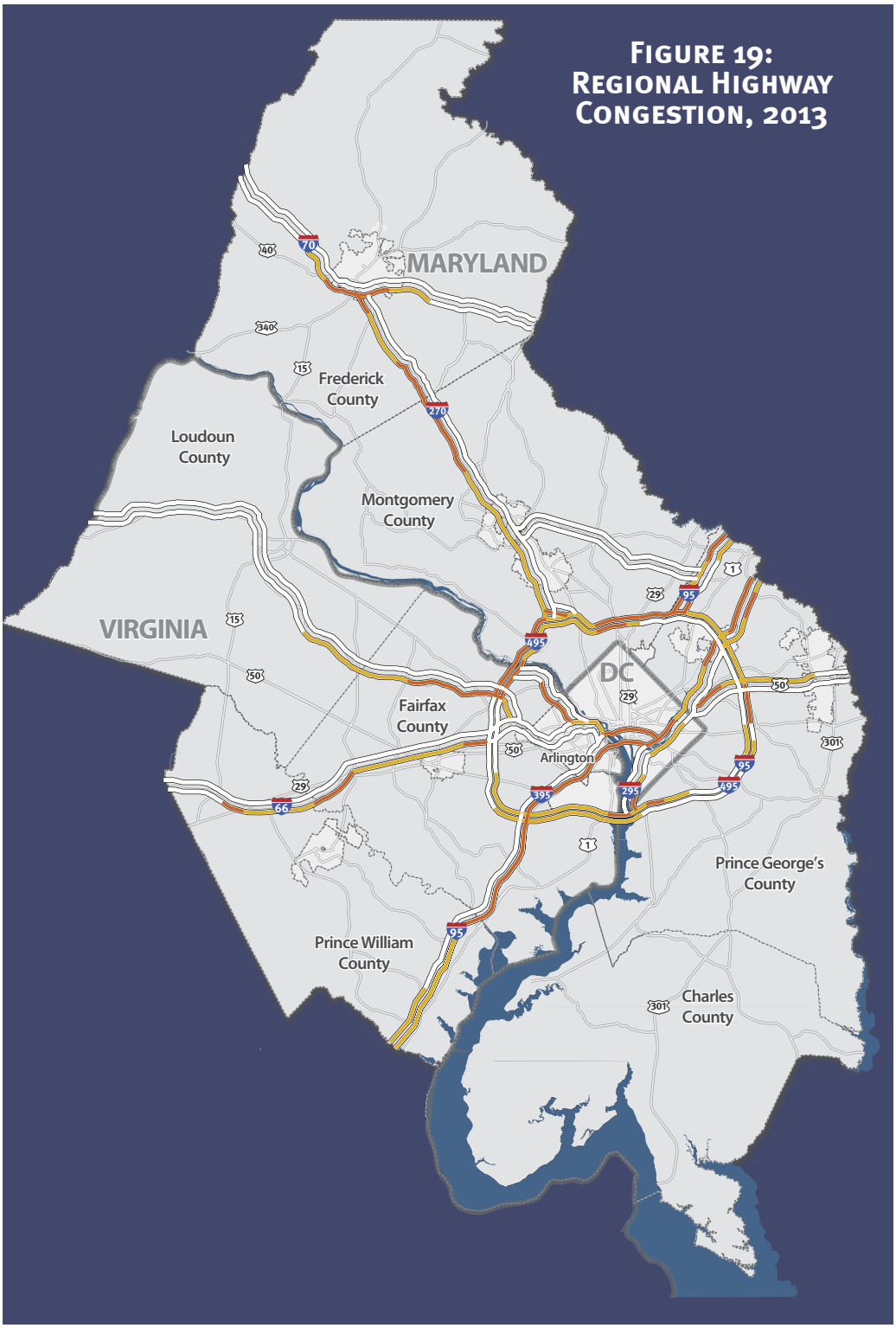


Figure 19: Regional Highway Congestion, 2013

Figure 18 shows the expected changes in morning peak-hour highway congestion between 2013 and 2040 based on improvements included in the CLRP as well as population and employment changes.

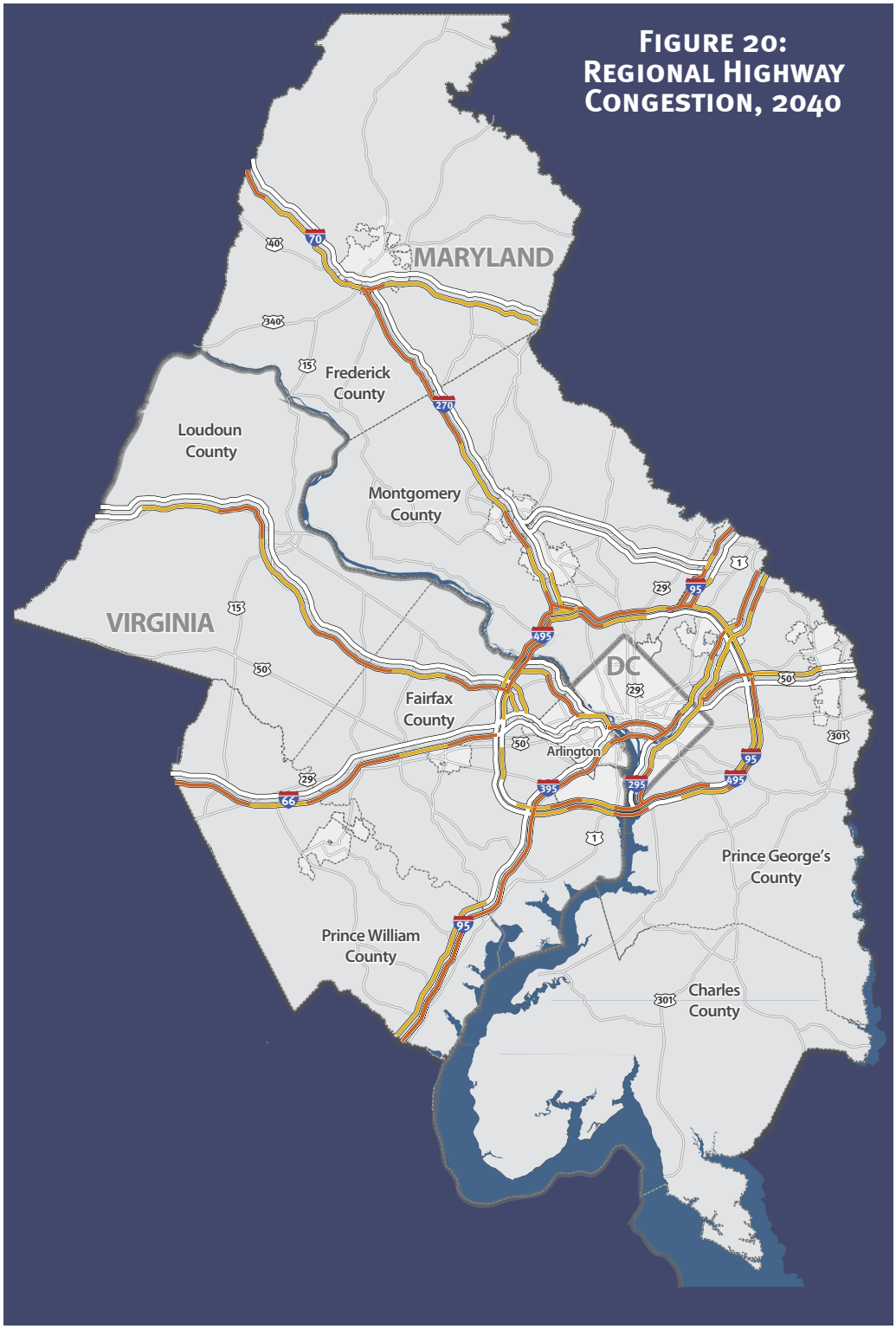
Severe stop-and-go congestion is expected to be prevalent throughout the entire region in 2040, not just in isolated areas. However, the HOT lane projects included in the 2012 CLRP are projected to relieve some of the congestion along I-495 in Virginia.

Outer suburban jurisdictions in the region will experience the greatest increase in congestion, while the already congested inner suburban jurisdictions will experience the worst overall congestion. Making matters worse, congestion will increasingly extend beyond rush-hour periods and affect off-peak weekday periods and weekends.

Legend for Figs. 19 & 20

- No Congestion
- Congested Flow
- Stop and Go Conditions

Figure 20: Regional Highway Congestion, 2040



Performance of the CLRP

Job Accessibility

Another way of assessing the performance of the CLRP is by analyzing how accessibility to jobs changes as a result of the plan and shifts in population and employment characteristics of the region. Figures 21 and 23

Figure 21: Change in Accessibility to Jobs by Auto (within 45 Minutes)

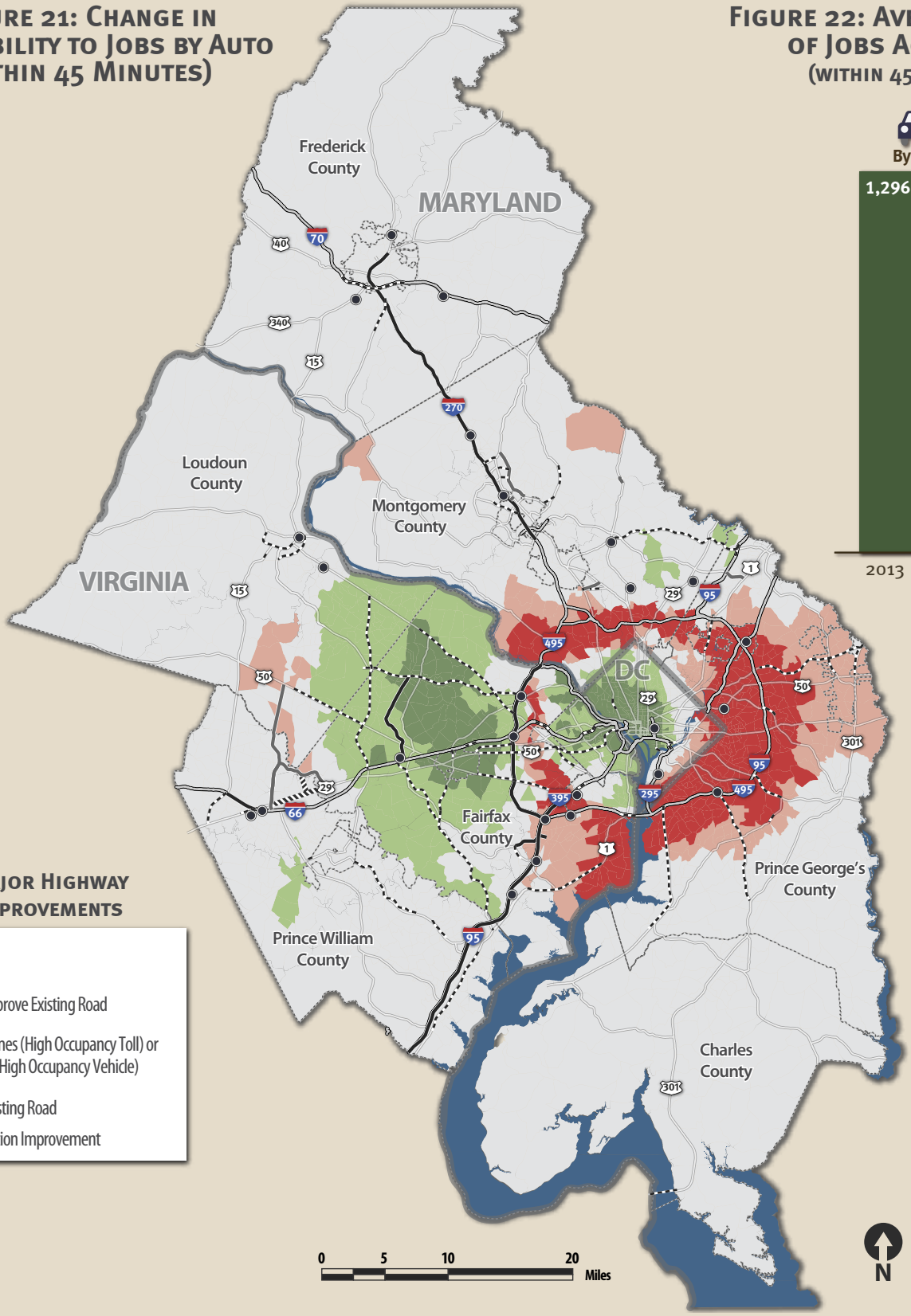
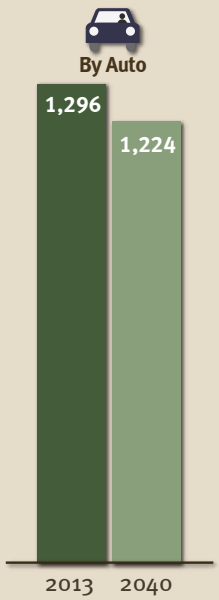


Figure 22: Average Number of Jobs Accessible (within 45 Minutes)



illustrate the change in the number of jobs that can be reached within 45 minutes by automobile and transit. The average number of jobs accessible within a 45-minute automobile commute is expected to go down slightly over the next 30 years, and the greatest reductions in job accessibility are expected to be on the eastern side of the region. This is due to a combination of projected increases in automobile congestion system-wide and the fact that the western portion of the region will see greater job growth over this period. Average accessibility by transit is forecast to increase, although overall accessibility to jobs by transit will remain significantly less than by automobile.

Figure 23: Change in Accessibility to Jobs by Transit (within 45 Minutes)

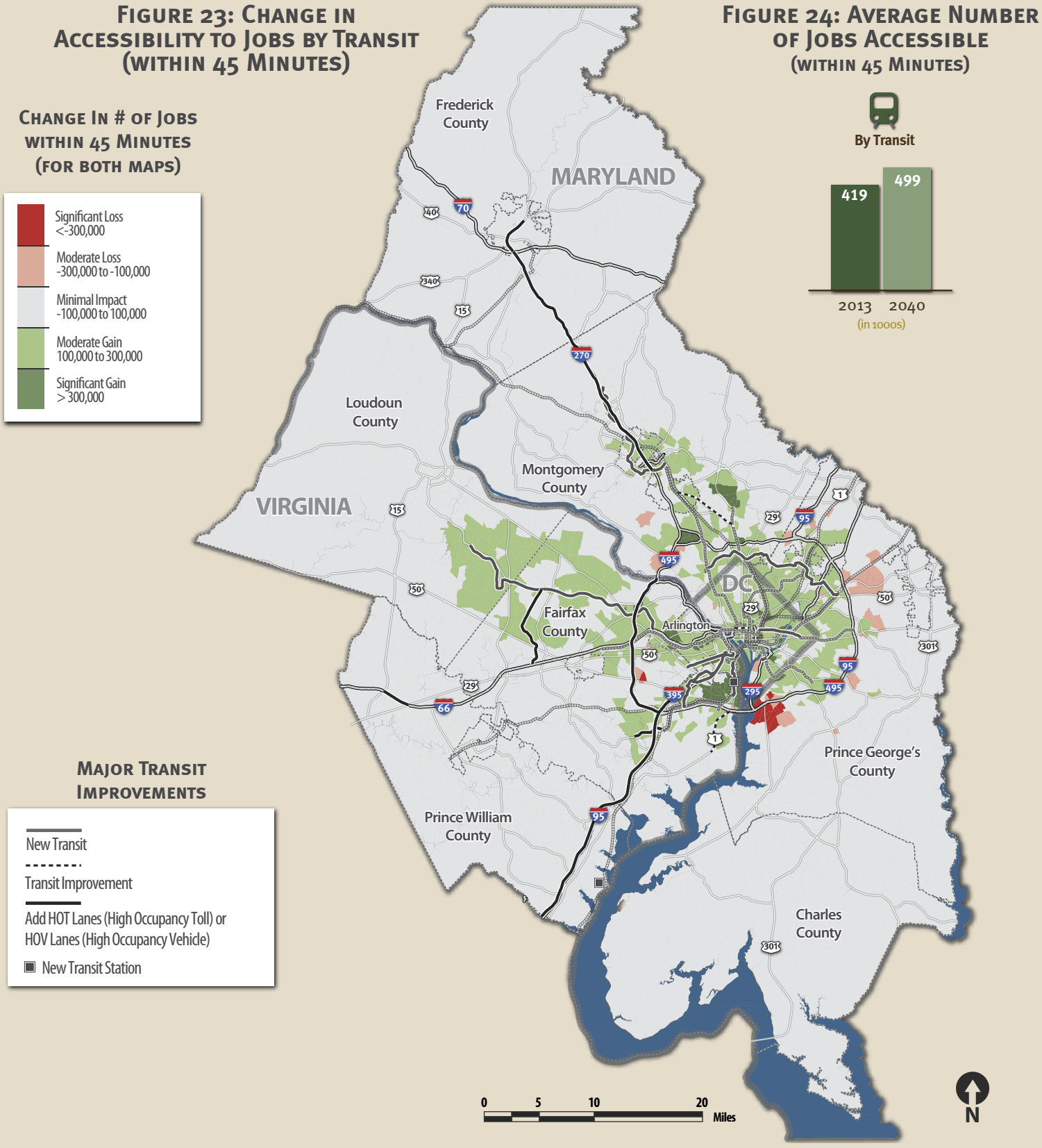


Figure 24: Average Number of Jobs Accessible (within 45 Minutes)

Performance of the CLRP

Air Quality

Under the federal Clean Air Act, the CLRP is required to conform to regional air quality improvement goals. Before the CLRP can be approved, the TPB must make a "conformity determination" showing that anticipated vehicle emissions will conform to emissions ceilings (called "mobile emissions budgets") contained in the region's air quality improvement plan. The Metropolitan Washington Air Quality Committee (MWAQC) is the body responsible for developing the regional air quality plan in close coordination with development of the CLRP.

MWAQC and the TPB have long been concerned with emissions of smog-producing Volatile Organic Compounds (VOCs) and Nitrogen Oxides (NOx). These pollutants combine in sunlight on hot summer days to form ground-level ozone. Motor vehicles are responsible for a large portion of VOC and NOx emissions in the region, but so are non-mobile sources like power plants.

In addition to NOx and VOCs, the plan also tracks and estimates emissions of particulate matter of less than 2.5 micrometers in diameter (PM2.5). PM2.5 is of special concern because these ultra-fine particles can easily lodge in the lungs of humans and cause health problems. Since concern about PM2.5 has developed relatively recently, PM2.5 was not tracked or estimated in 1990.

Figure 25: Mobile Source VOC Emissions for the 8-Hour Ozone Nonattainment Area

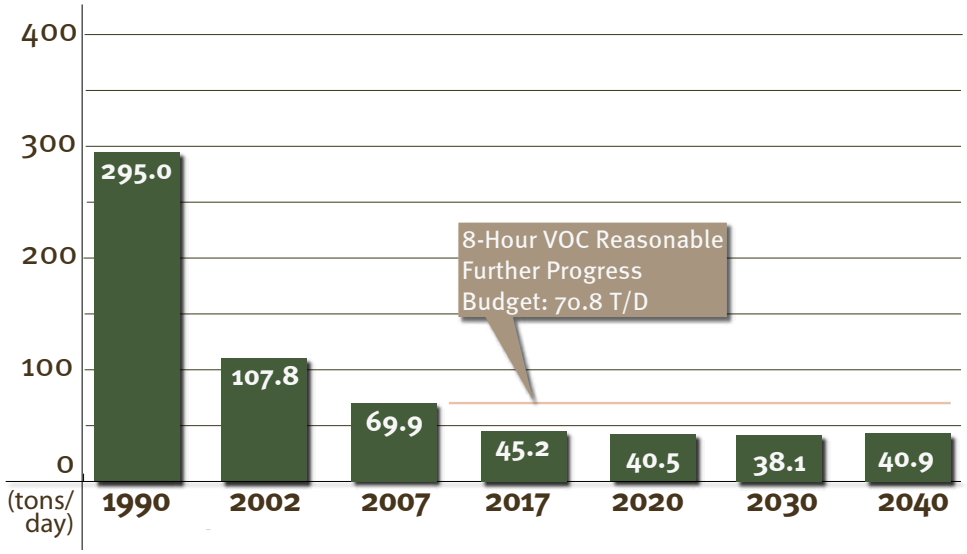
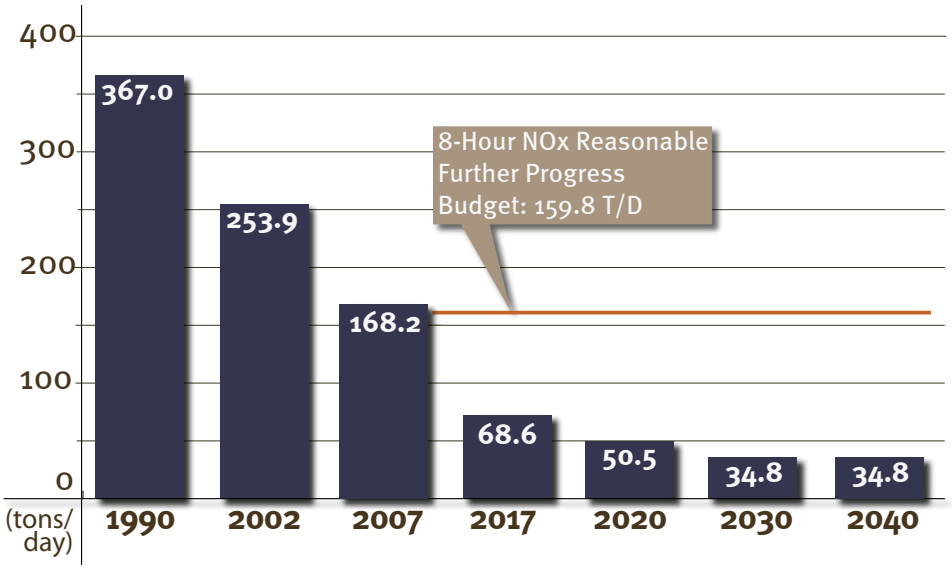


Figure 26: Mobile Source NOx Emissions for the 8-Hour Ozone Nonattainment Area



Analysis of the 2012 CLRP shows dramatic reductions of emissions of all three main pollutants between 2002 and 2020, followed by a leveling off and then a slight increase between 2030 and 2040 for some mobile source emissions. The data show that estimated emissions are well within the mobile source emissions budget for each pollutant for 2017, 2020, 2030, and 2040. These results reflect the impact of better vehicle standards, cleaner fuels, and fleet turnover, as well as travel demand and operations management and transit investments. Absent any further improvements to the vehicle fleet, however, once the fleet has undergone a complete replacement, the amount of mobile source emissions will begin to rise due to overall increases in vehicle miles of travel (VMT).

Figure 27: PM2.5 Direct and Precursor NOx Emissions

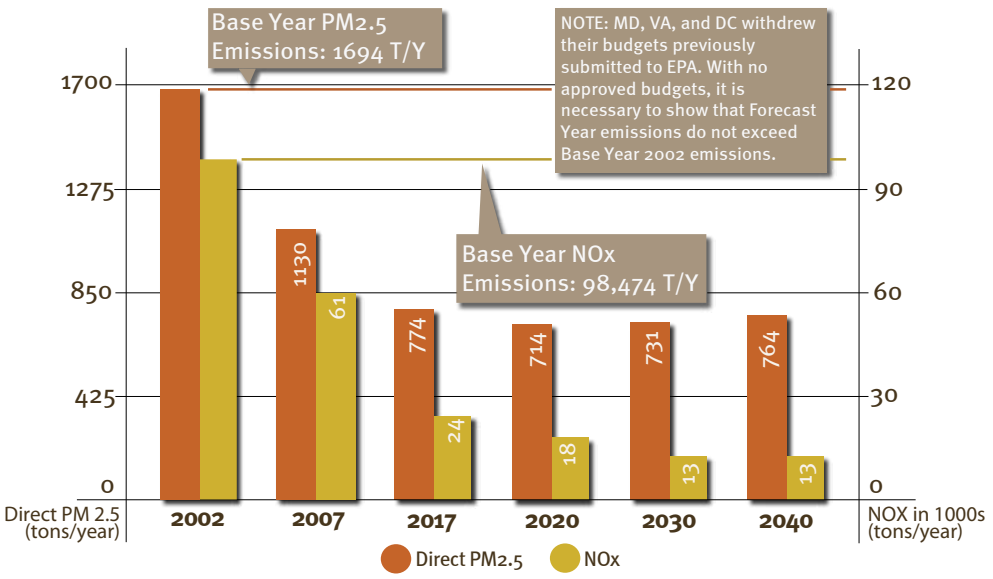
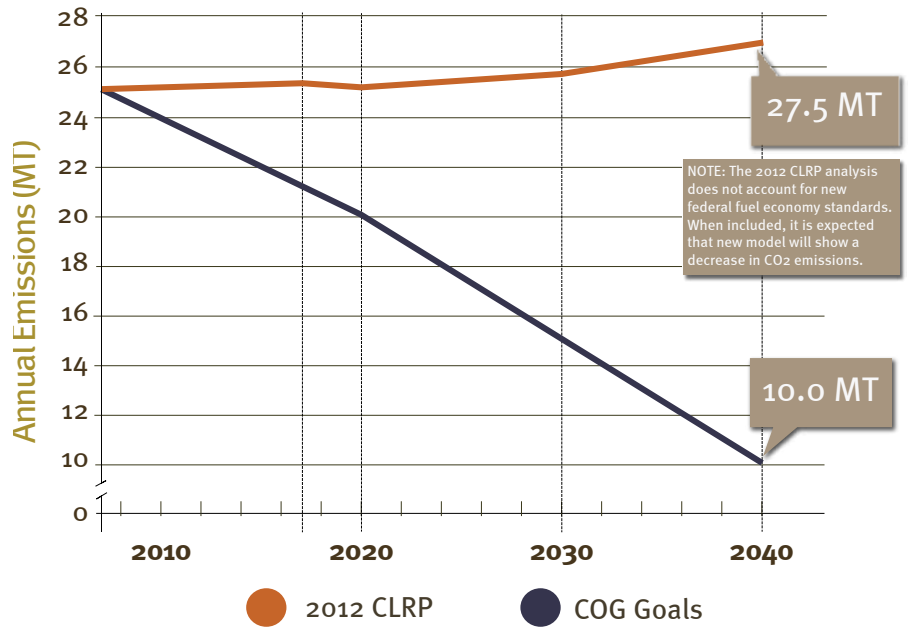


Figure 28: Carbon Dioxide (CO2) Emissions



Over the past decade, concerns have emerged about global climate change and greenhouse gases like carbon dioxide (CO_2). Based on climate science and consideration of policies of jurisdictions in the region, the COG Climate Change Report of November 2008 set a goal of reducing the region's CO_2 output to 80% below 2005 levels by 2050. Applying this goal to transportation would require reducing the region's transportation-related CO_2 emissions by 60% compared to 2005 levels by 2040, the horizon year for the CLRP. While some moderation in CO_2 emissions by 2040 is currently forecast, the regional target is far from being met, and as with some other emissions, CO_2 emissions are projected to increase between 2030 and 2040. Because CO_2 emissions accumulate in the atmosphere over time, the failure to make improvements now makes greenhouse gas emissions an even greater concern.

The CO_2 forecasts for the 2012 CLRP were calculated using EPA's MOVES model which currently accounts for light-duty fuel economy standards through model year 2016. The next release of the MOVES model is expected to include newly-adopted fuel economy standards for light-duty vehicles for model years 2017 and beyond, and fuel efficiency standards for medium- and heavy-duty vehicles for model years 2014 – 2018. Once available, it is expected that the new model will show a significant decrease in CO_2 emissions compared to current projections.

Addressing Challenges

The 2014 Long-Range Plan and Developing a Regional Transportation Priorities Plan for the National Capital Region

As growth in our region continues to place heavier demands on our transportation network, decision-makers will be challenged to make critical improvements to roads, public transportation and pedestrian and bicycle facilities while at the same time funding is becoming more limited.

One needs to look no further than the CLRP performance analysis detailed on the previous pages to realize that, despite hundreds of billions of dollars of investments, the region's transportation network will not keep up with growing demands. More must be done to identify and develop transportation programs and projects that will improve the system's performance to maintain the quality of life and competitiveness of the Washington metropolitan region.

In response to these challenges, and at the request of the TPB's Citizens Advisory Committee, the TPB has embarked on a process to develop a Regional Transportation Priorities Plan (RTPP). The purpose of the RTPP is to identify those transportation strategies that best promote the TPB's goals for economic opportunity, transportation choices, system safety and efficiency, quality of life, and environmental stewardship. Ultimately, it is envisioned that 10 to 15 strategies will be identified that the region can agree are the top priorities for addressing the most pressing challenges that the region faces in meeting the TPB's goals. These strategies will be above and beyond what is included in the adopted CLRP.

Because it is important to have public support for the RTPP, an extensive public outreach process is underway in order to gather public input on the plan's development and better understand the top priorities of residents throughout the region.

It is anticipated that the RTPP will be completed in 2013, in time to influence the projects and programs that will be part of the next full CLRP update in 2014.

Glossary of Acronyms and Terms

AFA – Access for All Advisory Committee	The mission of this committee is to identify concerns of low-income and minority populations and persons with disabilities, and to determine whether and how these issues might be addressed within the TPB process.
CAC – The Citizens Advisory Committee	The main standing body providing citizen input into the deliberations of the Transportation Planning Board.
CLRP – The Financially Constrained Long-Range Transportation Plan	Developed and approved by the TPB, the CLRP is a regional plan that includes all transportation projects and programs that the TPB realistically anticipates can be implemented over the next 25 years. In order to receive federal funding, transportation projects must be included in the CLRP and the TIP.
CMP – Congestion Management Process	A systematic approach required in transportation management areas that provides for effective management and operation, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities, through the use of operational management strategies.
MOVES – Motor Vehicle Emission Simulator	A computer program designed by the US Environmental Protection Agency (EPA) to estimate air pollution emissions from on-road mobile sources.
MPO – Metropolitan Planning Organization	Federal transportation laws and regulations require the establishment of an MPO in every urbanized area of the U.S. with a population over 50,000. MPOs are responsible for meeting the federal metropolitan planning regulations for transportation. The TPB is one of 400 MPOs across the nation.
MWAQC – Metropolitan Washington Air Quality Committee	The entity certified under the Federal Clean Air Act to prepare an air quality plan for the Washington region. Like the TPB, MWAQC is staffed by the Council of Governments.
MWCOG - The Metropolitan Washington Council of Governments (COG)	An independent, nonprofit association that brings area leaders together to address major regional issues in the District of Columbia, suburban Maryland and Northern Virginia. COG's membership is comprised of 300 elected officials from 22 local governments, the Maryland and Virginia state legislatures, and the United States Congress.
NOx – Nitrogen Oxides	Nitric oxide (NO), nitrogen dioxide (NO_2) and other oxides of nitrogen that play a major role in the formation of ozone. Major sources of man-made NOx emissions are high-temperature combustion processes, such as those occurring in automobiles and power plants.
PM2.5 – Particulate Matter	Airborne solid particles and liquid droplets. These particles are classified as "fine" if they are smaller than 2.5 microns.

PRIIA – The Passenger Rail Investment and Improvement Act of 2008	A nation-wide intercity passenger rail law that specifically provides for an additional $3 billion in revenues for the Washington Metropolitan Area Transit Authority's future rehabilitation and maintenance needs.
RTPP – Regional Transportation Priorities Plan	The purpose of the RTPP is to identify those transportation strategies that best promote the TPB's goals for economic opportunity, transportation choices, system safety and efficiency, quality of life, and environmental stewardship.
SIP – State Implementation Plan	The federal Clean Air Act requires states to produce State Implementation Plans for the attainment of air quality standards. For simplicity's sake, the Washington region's air quality plan is often called a SIP, but technically the regional air quality plan comprises the region's portions of three SIPs - for Virginia, Maryland and the District of Columbia.
TAZ – Traffic Analysis Zone	A special area delineated by state and/or local transportation officials for tabulating traffic-related data- especially journey-to-work and place-of-work statistics.
TDM – Travel Demand Management	Programs designed to reduce demand for transportation through various means, such as the use of transit and of alternative work hours.
TIP – The Transportation Improvement Program	Developed and approved by the TPB, the TIP is a list of projects and programs that will be implemented over the next six years. In order to receive federal funding, transportation projects must be included in the CLRP and the TIP.
TLC – Transportation/Land-Use Connections Program	The Regional TLC Clearinghouse is a web-based source of information about transportation/land-use coordination, including experiences with transit-oriented development and other key strategies. The TLC Technical Assistance Program provides focused consultant assistance to local jurisdictions working on creative, forward-thinking and sustainable plans and projects.
TPB – National Capital Region Transportation Planning Board	The TPB is the organization that brings together key decision makers to coordinate planning and funding for the region's transportation system. TPB members include local officials, representatives of state transportation agencies, the Washington Metropolitan Area Transit Authority, state legislators, and others. The TPB is designated as a Metropolitan Planning Organization (MPO) and is therefore responsible for meeting federal metropolitan planning requirements for transportation. The TPB is staffed by the Council of Governments.
VMT – Vehicle Miles of Travel	VMT refers to the number of miles traveled by vehicles for a specified period of time.
VOC – Volatile Organic Compounds	VOCs are air pollutants that come from vehicle exhaust, paint thinners, solvents, and other petroleum-based products.
WWIT – What Would It TakeScenario	A scenario planning study that examines what measures would need to be implemented in the Washington region to meet aggressive greenhouse gas emission reduction goals in transportation.

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