National Capital Region Transportation Planning Board

2010 CLRP

Summary Document

draft6/2/11

**2010 Financially Constrained Long-Range Transportation Plan (CLRP)
for the National Capital Region**

What is the TPB?

Transportation planning at the regional level is coordinated in the Washington area by the National Capital Region Transportation Planning Board (TPB). 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 to respond to a requirement of 1962 highway legislation for establishment of official Metropolitan Planning Organizations (MPOs). 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 is responsible for directing the continuing transportation planning process carried on cooperatively by the states and local communities in the region.

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Introduction

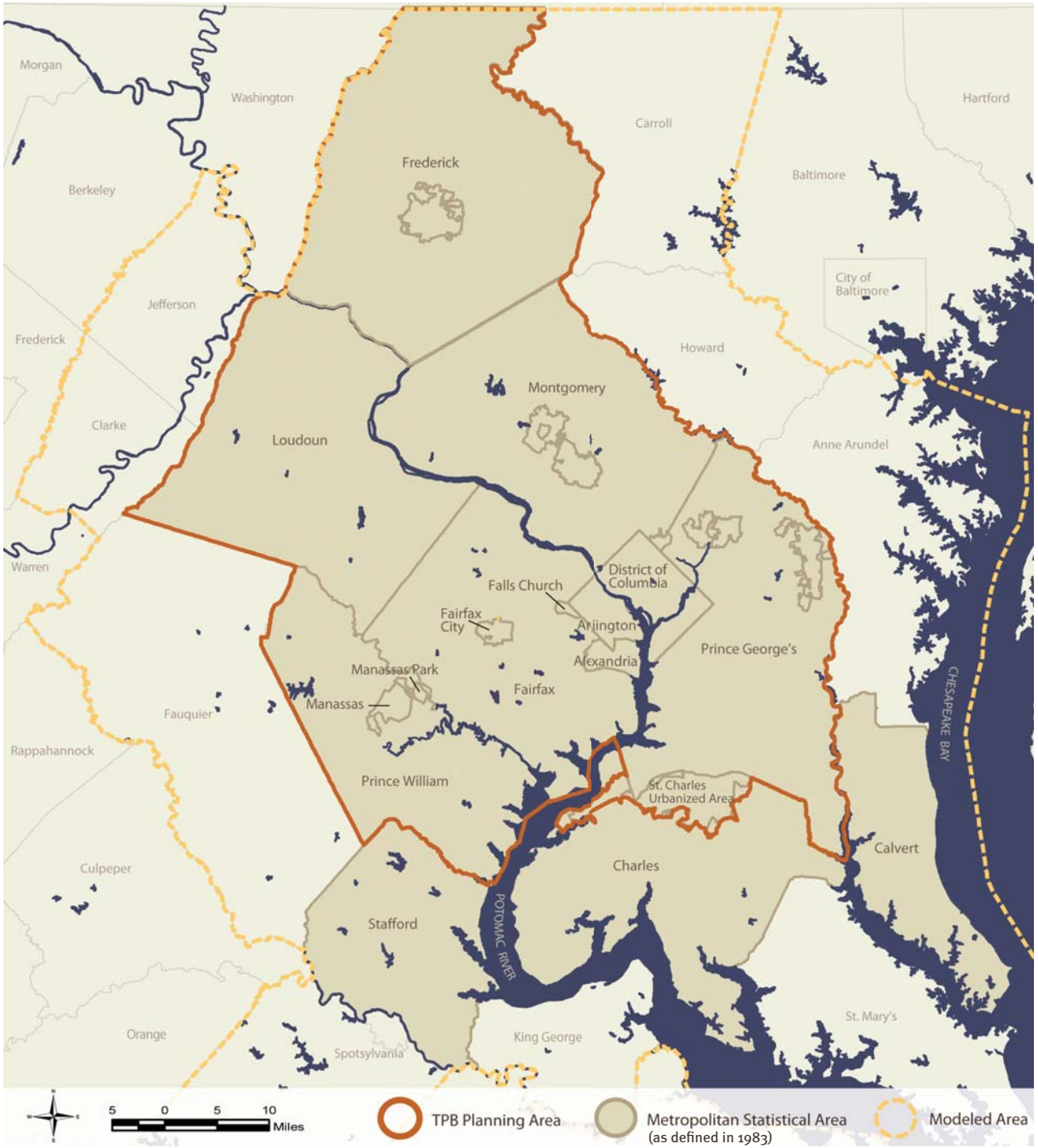
TPB Planning Area - Developing the CLRP, TIP & Conformity Assessment - Public Involvement - Annual Planning Cycle

This document presents the **2010 CLRP** (financially constrained long-range transportation plan) for the metropolitan Washington area, which was **adopted on November 17, 2010.** The 2010 CLRP identifies and describes all regionally significant transportation projects and programs that are planned in the region between 2010 and 2040. Over 750 projects are included, ranging from simple highway landscaping to billion-dollar highway and transit projects. Some of these projects will be completed in the near future, while others are only in the initial planning stage.

The 2010 CLRP and process by which it was developed reflect federal planning regulations, including the requirement that the plan contain only those projects and programs that the region can afford to build and operate during the 2011-2040 timeframe.

TPB Planning Area

The TPB's planning area covers the District of Columbia and surrounding jurisdictions in Northern Virginia and Suburban Maryland, as shown on the map to the right. However, for many planning activities, such as air quality analysis and travel demand forecasting, a larger area is examined. Specifically, Census information for the Metropolitan Statistical Area is used to assess demographic changes over the life of the plan and travel modeling is done for the entire modeled area shown.



Developing the CLRP, TIP & Conformity Assessment

The cycle for the 2010 CLRP update began with a public forum on October 15, 2009. Members of the public were briefed on the project selection process for the CLRP, and representatives from the District Department of Transportation (DDOT), the Maryland Department of Transportation (MDOT), the Virginia Department of Transportation (VDOT) and the Washington Metropolitan Area Transit Authority (WMATA) discussed opportunities for public involvement in their processes. At the end of the forum, attendees were invited to submit their comments on projects and regional priorities.

In November, the TPB issued its annual "Call for Projects" document to solicit project inputs from each agency. Project submissions were due at the beginning of April 2010.

On April 15, 2010 the TPB released the project inputs for a 30-day public comment period. Several new projects were submitted for DC and Maryland, however there were also a number of projects that agencies in Maryland and Virginia delayed or removed from the CLRP.

Following the comment period, the TPB approved the project submissions for inclusion in the air quality conformity analysis; this analysis is conducted to make sure the changes did not impact the region's ability to meet federally designated air quality standards.

For the next four months, TPB staff performed the conformity analysis and worked with member agencies to develop the FY 2011-2016 Transportation Improvement Program (TIP). The TIP is the official listing of our region's short-term transportation capital projects, and includes funding for regionally significant projects that the states and other jurisdictions in the region have obligated and are intending to implement over the next six years.

On October 14, 2010 the TPB released the draft CLRP, TIP and 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 November 17, 2010.

Public Involvement

Opportunities for public involvement in the development of the CLRP are present throughout the process. These opportunities are highlighted in the Annual Programming Cycle diagram to the right. Additionally, the TPB is regularly advised by two citizen-lead committees that report directly to the Board.

The Citizen Advisory Committee meets on a monthly basis and provides comments to the TPB at the beginning of each Board meeting.

The Access for All Advisory Committee meets quarterly and advises the TPB on transportation issues, programs, policies and services that are important to low-income communities, minority communities and people with disabilities.

Summer
Internal Program Development

Agencies identify potential project priorities and develop draft 6-year programs, including preliminary financial analysis.

Agency Process

Public Comment

TPB Process

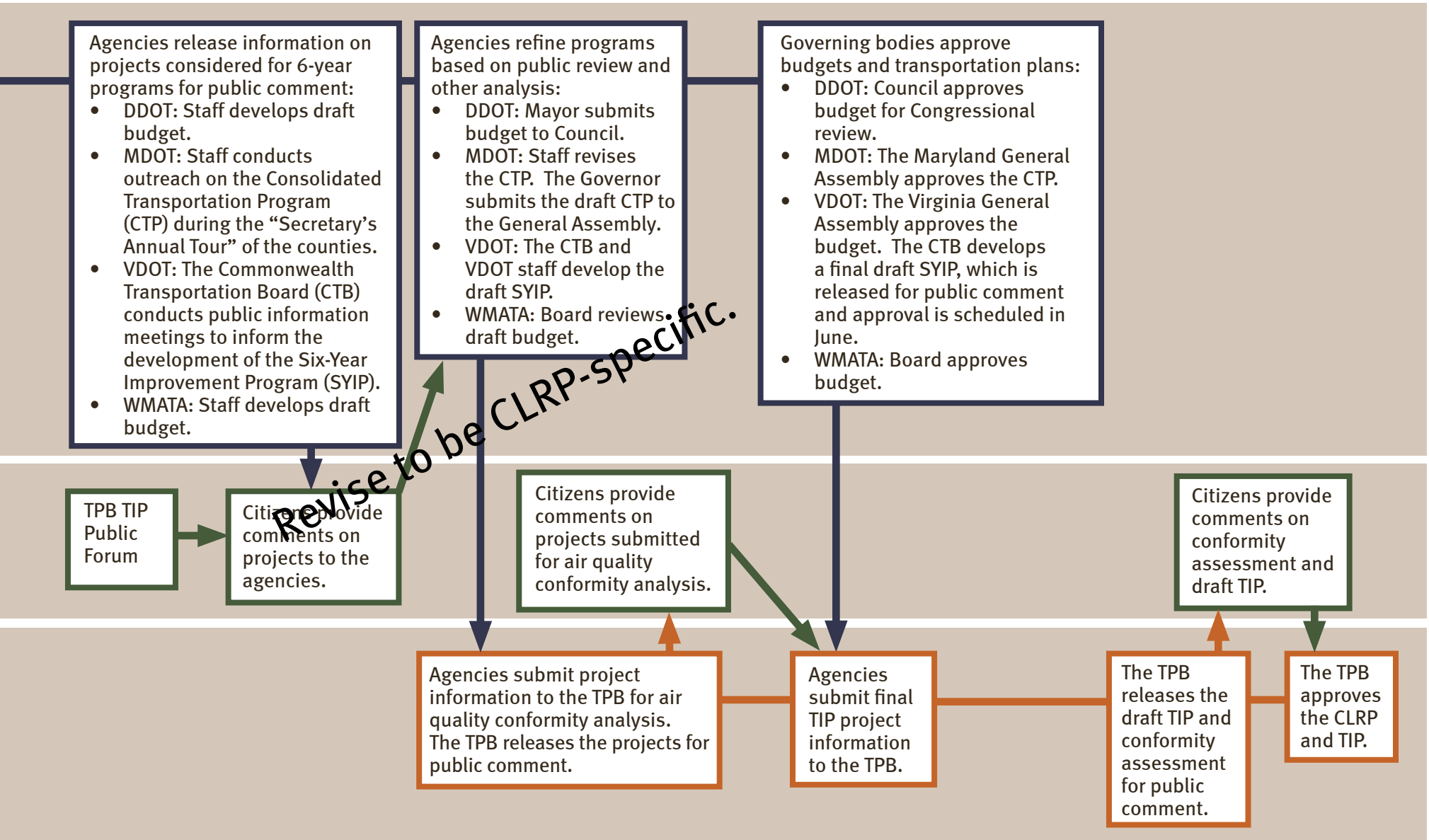
Annual Planning Cycle

Fall
Public Review

Winter
Program Refinement & Regional Submissions

Spring
Transportation Budget Approved

Summer
CLRP & TIP Approval



Shaping the Plan

Federal Requirements - Policy Framework - Metropolitan Growth - Key Issues & Challenges Facing the Region

The projects and programs included in the CLRP are influenced by federal regulations and regional policies, and are meant to address many of the transportation-related issues and challenges facing the region. This section highlights these forces that shape the CLRP.

Federal Requirements

Federal requirements guiding regional transportation planning are established under the SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act: Legacy for Users) federal transportation authorization bill passed in 2005, and the final rule passed in 2007. The regulations reaffirmed existing requirements and established new requirements for metropolitan planning organizations (MPOs) in developing long-range transportation plans. The TPB must follow these regulations to ensure that federal transportation funds continue to flow into the region.

The CLRP must meet federal regulations involving financial constraint, air quality conformity, public involvement and other requirements including a Congestion Management Process. The regulations also affect the programming of projects in the Transportation Improvement Program (TIP), the way in which the air quality impacts of transportation are to be assessed, and the scope of the resulting plan and TIP. These key requirements are explained in greater detail in the following pages.

Financial Constraint

Federal planning regulations require that the region be able to implement the projects in the CLRP within the timeframe of the plan with revenues from federal, state, local and private funding sources that can reasonably be expected to be available. These funding sources can include dedicated tax revenues, bond proceeds, impact fees, transit fares and tolls. Agencies must project annual costs of operating and maintaining the existing system, estimate the costs of constructing and operating any proposed new facilities, and balance this with expected revenues.

In other words, the plan must be realistic about expected transportation costs and revenues, and may only include new facilities that can be funded while maintaining existing transportation infrastructure. For this reason, the plan is termed a "financially Constrained Long-Range Plan" (CLRP).

More information about the financial plan can be found in Chapter 3: Plan Investments (see Financial Plan & Analysis section).

Air Quality Conformity

The Clean Air Act Amendments (CAAA) of 1990 requires that the transportation actions and projects in the CLRP support the attainment of the federal health standard for ozone. The CLRP also has to meet air quality conformity requirements as specified in the amended Environmental Protection Agency (EPA) regulations issued in August 1997, and in supplemental guidance issued periodically thereafter.

The air quality conformity assessment of the long-range plan is presented in the technical report *Air Quality Conformity Determination of the 2010 Constrained Long-Range Plan and the FY 2011-2016 Transportation Improvement Program for the Washington Metropolitan Region*. The report presents an overview of the conformity requirements contained in the legislation and subsequent guidance, and documents the technical procedures used in the analysis, including travel demand forecasting, emissions calculation procedures and impacts of transportation emission reduction measures.

The analysis demonstrates that mobile source emissions estimated for each analysis year of the plan (2011, 2020, 2030 and 2040) adhere to all emissions budgets established by the Metropolitan Washington Air Quality Committee (MWAQC), which are either approved or under review by the EPA. In addition, the forecast year emissions for fine particles are not greater than the base year 2002 emissions, which satisfy the requirement for pollutants without an established budget. These results provide a basis for a determination of conformity of the 2010 CLRP and the FY2011-2016 TIP.

Congestion Management Process

Federal requirements dictate that metropolitan transportation planning processes include a Congestion Management Process (CMP). These regulations state that:

> "The transportation planning process shall address congestion management ... through a process that provides for safe and effective integrated management and operation of the multimodal transportation system ... based on a cooperatively developed and implemented metropolitan-wide strategy ... of new and existing transportation facilities ... through the use of travel demand reduction and operational management strategies."

As the Washington region continues to grow, congestion management will remain a primary goal of the TPB. Over the years, the TPB has implemented a number of demand and operational management strategies to address congestion. The TPB is committed to documenting these strategies in an enhanced structured process to get maximum benefit from new and existing transportation systems, and to the ongoing management of existing and future transportation system through the use, where appropriate, of demand management and operational management strategies. These strategies, when taken as a whole, form a large portion of the CMP.

Both new and existing transportation infrastructure is part of the CMP. This is important in determining which existing facilities could be improved upon to reduce congestion, and what congestion management strategies are appropriate for new facilities. Travel demand reduction strategies, such as alternative commute programs, growth management, and HOV facilities and value pricing, as well as operational management strategies such as identifying non-recurring congestion, ITS technologies, and capacity increases (where necessary), are potential strategies the CMP considers for new and existing facilities.

The results of the CMP are important to the long-range planning process. The CMP, including the locations and extent of congestion, along with which strategies are most successful, helps to guide decision makers to prioritize areas for current and future projects. The CMP is important to long-range planning to help determine priorities for implementation and funding, and for ensuring maximum return on scarce transportation dollars.

Public Involvement

SAFETEA-LU requires that MPOs develop and utilize a participation plan that provides "reasonable opportunities" for interested parties to comment on the metropolitan

transportation plan and metropolitan TIP. The participation plan is also required to be developed in conjunction with all interested parties, and the public must have input on the participation plan. The TPB adopted a Participation Plan in December 2007 that outlines public involvement activities for constituencies with different levels of understanding and interest in the TPB process.

The mission of the TPB Citizens Advisory Committee is to promote public involvement in the region's transportation planning efforts, and to provide 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. The AFA Committee is chaired by a TPB member, currently Councilmember Patrick Wojahn from College Park, Maryland.

For More Information A few of the federal requirements are highlighted above, but for a full listing of all requirements visit the CLRP Website: www.mwcog.org/clrp/federal // TPB Participation Plan:

Policy Framework: Regional Transportation Goals

TPB's *The Vision* and COG's *Region Forward* are two separate policy documents that provide guidance on transportation planning efforts in the metropolitan Washington area. These documents form the foundation for a set of Regional Transportation Goals that encompass the federal planning factors.

TPB's The Vision

The Vision is the guiding policy document of the TPB, laying out eight broad goals and a host of objectives and strategies to lead 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.

Numerous objectives and strategies are included in *The Vision* to show how its eight primary goals can be reached. *The Vision* is not a plan with maps or lists of specific projects. It is fundamentally a framework to guide long-range planning at the system level. The various jurisdictions in the region are expected to pursue policies and projects that contribute to specific elements of *The Vision*.

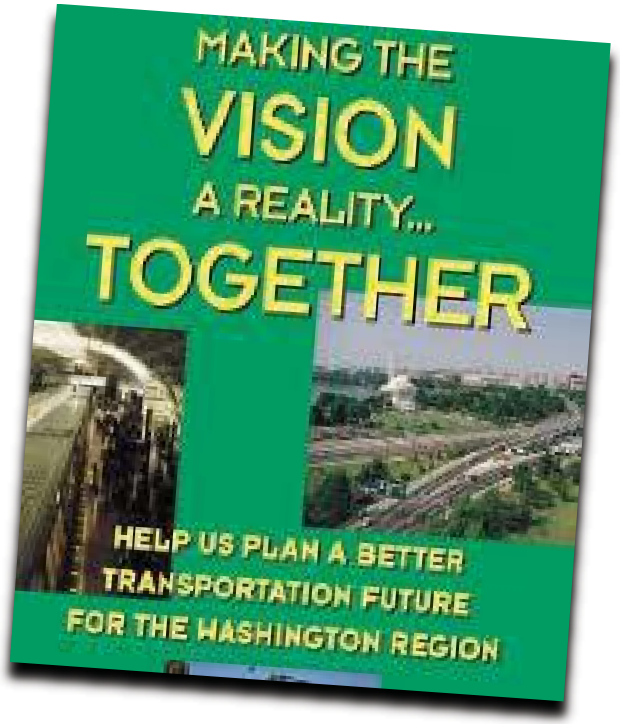
Amid the diverse needs and opinions in the region, *The Vision* emphasizes the commonality of values. It is a symbol of regional consensus.

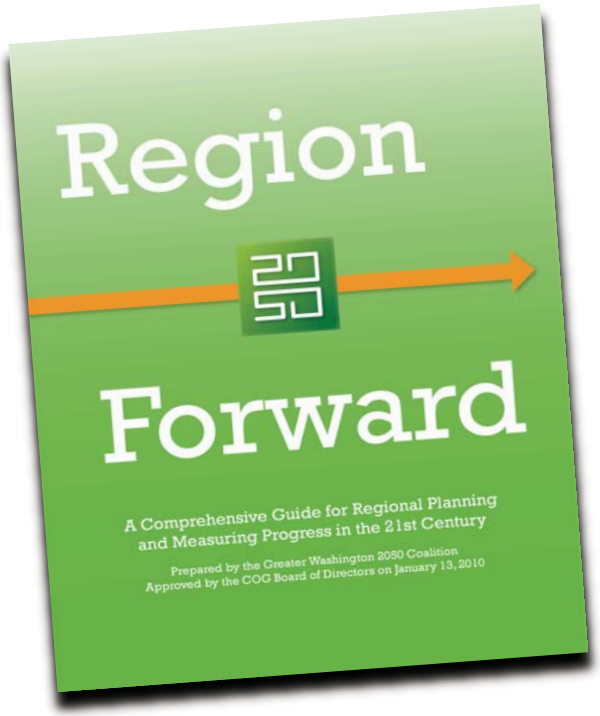
COG's Region Forward

Initiated in 2008 by the Greater Washington 2050 Coalition, *Region Forward* is a planning guide that emphasizes a comprehensive, regional approach to tackling interrelated challenges like population growth, aging infrastructure, traffic congestion, energy costs, environmental restoration and protection, affordable housing and sustainable development, and education, economic and health disparities. The Coalition was comprised of a diverse group of public officials and business and civic leaders.

Coalition members created a Compact Agreement to facilitate the strong regional support necessary to create action and move toward implementation of *Region Forward*. The Compact, while voluntary, recognizes the region's strengths and challenges, lays out shared goals that elected officials, business executives and civic leaders can point to when advocating positions and making decisions and asks area jurisdictions to pledge their best efforts in advancing these regional goals.

For More Information TPB's The Vision: www.mwcog.org/transportation/activities/vision // COG's Region Forward: www.regionforward.org/reports





Regional Transportation Goals

Based on TPB's *The Vision* and COG's *Region Forward* the following is a set of broadly stated Regional Transportation Goals. These goals encompass the federal planning factors.

1. Provide a comprehensive range of transportation options
2. Improve access and mobility
3. Prioritize maintenance and preservation of the existing system
4. Maximize system effectiveness through management and operations
5. Improve safety of all transportation modes and facilities
6. Promote transportation connections, walkability and mixed use development in activity centers
7. Enhance environmental quality, protect human health and improve energy efficiency
8. Contribute to the reduction of regional climate change impacts

Metropolitan Growth

The economy that has evolved in the region is inextricably linked to Washington's role as our nation's capital. The federal government is the region's largest employer and, combined with the services sector, is the engine that powers the regional economy. In the Washington region, government and services sector employment are closely linked, as both are driven by federal spending.

Growth over the past 30 years fueled a surge in commercial construction, resulting in the emergence of suburban employment centers throughout the region, such as Tyson's Corner in Virginia and New Carrollton in Maryland. The new jobs added in these centers shifted commuting patterns throughout the region. In addition to the existing suburb-to-core commuting patterns that had long existed, significant suburb-to-suburb commuting became more prevalent.

For the better part of the second half of the 20th Century, the Washington region has enjoyed continued economic prosperity, including substantial population and job growth. The challenges for the region have been, and continue to be, accommodating existing growth and adequately measuring and planning for future growth.

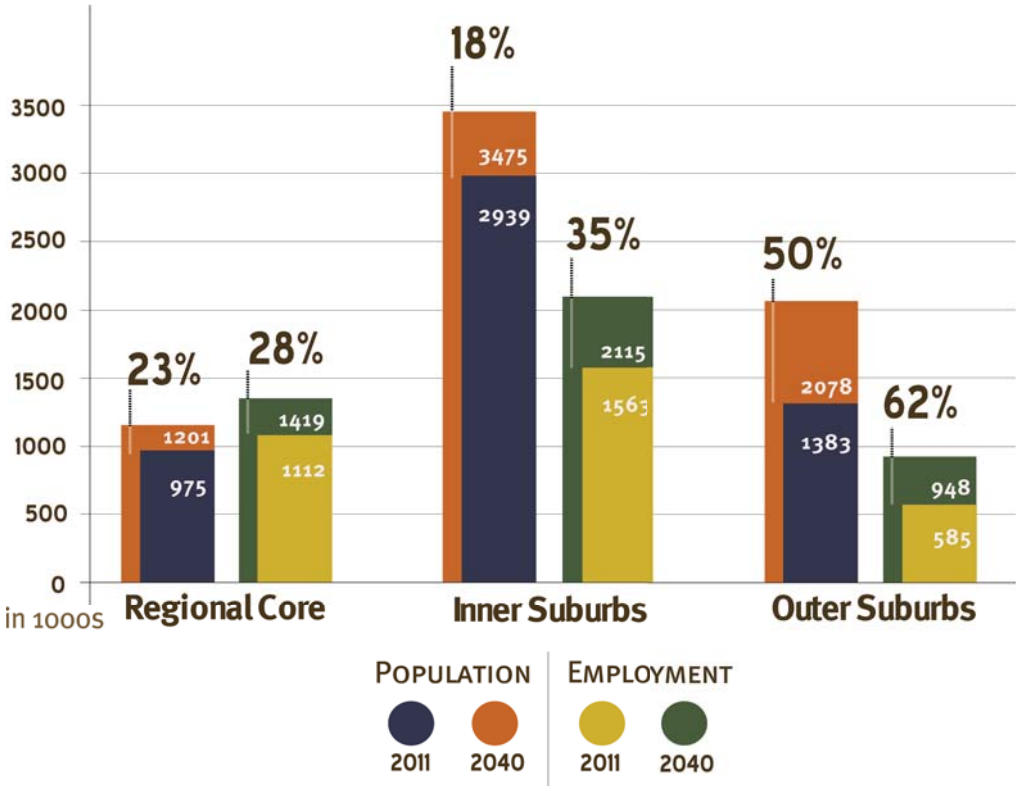
Growth Forecasts

Information on how our region is expected to develop is essential to forecast transportation conditions and the plan's performance. Both the Washington region's population and employment are expected to continue growing over the coming decades. The region – defined as the Washington DC-MD-VA Metropolitan Statistical Area – is forecast to grow to nearly 6.8 million people between 2010 and 2040 and is forecast to add an additional 1 million jobs in that period. These numbers represent a 22 percent increase in population and a 29 percent increase in employment.

While the region as a whole is growing, some areas are growing faster than others. The outer suburbs are expected to grow much faster than the regional core, with dramatic increases in population and employment. The result of this growth pattern is that inner suburbs and the regional core are expected to have the highest concentrations of jobs in 2040, while the inner and outer suburbs are expected to have most of the population.

These trends mean that greater demands will be placed on the transportation system. While the region grows to accommodate more jobs and more people, and as jobs and households become increasingly further apart, funding — even for rehabilitation and maintenance — will continue to remain in short supply. The result will be more cars squeezed onto area roads and more people squeezed into our buses and trains.

FIGURE X: Change in Population and Employment Forecast, 2011-2040



Land Use Forecasts

COG has developed a cooperative process with its local governments through which it attempts to measure growth by preparing forecasts of population, households, and employment for the entire region. These forecasts are conducted in 5-year increments for a 30-year period, and as such provide a picture of short-term and long-term challenges.

In carrying out the federally-required transportation planning process, the TPB relies on these forecasts as inputs to the regional transportation models. These models are technical tools used to project the amounts and types of travel by people and vehicles in the region. The forecasts are updated at regular intervals, and the transportation models are updated to reflect the latest available information.

For More Information Growth Trends to 2040: www.mwcog.org/store/item.asp?PUBLICATION_ID=397

Key Issues & Challenges Facing the Region

An efficient and reliable transportation network plays a critical role in moving people and supporting our dynamic region. The complex issues of financing, the relationship between land-use and transportation, congestion, air quality, coordination among transportation modes, and the management of demand for travel all present challenges to achieving a transportation system that works, and works well. To the extent possible, these issues have been considered in developing this plan.

Dispersed Population and Employment Centers

The decentralization of people and jobs mentioned earlier and the emergence of large suburban activity centers are trends seen throughout the United States and experienced here, which pose long-term challenges from many angles. Serving an increasingly far-flung set of activities will be increasingly difficult without the ability to expand the road system or to concentrate trip ends into sufficient passenger loads for transit service.

As previously noted, our region is expected to add significant numbers of new people and new jobs, and much of this growth will occur outside the regional core and inner suburbs. People are living further away from their jobs, making the use of alternatives to driving more difficult. By 2040, vehicle miles traveled (VMT – a measure of how much we drive) is expected to increase by 22 percent.

While our region already has an extensive system of public transit, we also have a great need for more transit. There is also unmet demand for the most basic modes – walking and biking. Many of our communities were designed to accommodate cars rather than people, and we are now faced with the challenge of building or retrofitting neighborhoods so they are walkable and accessible to public transit.

Maintaining, Operating and Managing the Transportation System

At or near the top of the transportation agenda for every jurisdiction in the region is the challenge of maintaining the extensive transportation system already in place. During the next three decades, operation and maintenance of the current highway and transit systems will consume about 60-65% of available transportation revenues for Suburban Maryland and Northern Virginia, and almost 85% of the District's transportation revenues.

Once relatively minor issues in discussions of long-range planning: maintenance and operations costs are now central. This is especially true during years of economic downturn. These costs limit the region's ability to finance facility expansions. The implication of these financial constraints is that unless new funding sources are developed, the region must assume that most of our future transportation system is already in place today. The focus then shifts to how to manage the system – and modify it where necessary – for the greatest future benefit.

The region's Congestion Management System, as well as the states' pavement and bridge management systems, provide regional implementing agencies with comprehensive information to better manage and operate these systems in the future. Several options exist for managing existing facilities, ranging from relatively simple capital investments – such as traffic signal improvements – to regulatory approaches – carpool lane restrictions or congestion pricing, which involves the use of fees to discourage unnecessary travel on congested facilities. Measures that encourage greater use of existing transit services, such as park-n-ride lots, transit information, marketing information, and improved bicycle and pedestrian connections to bus stops and rail stations, are included in the plan.

Limiting Traffic Growth and Reducing Automobile Emissions

It is well understood that automobile traffic has been increasing in the region. This increase in driving creates environmental challenges as well. Automobile emissions are a major source of ground-level ozone (smog)

and fine particulates in the air. Vehicles are also responsible for a large percentage of greenhouse gas emissions, which are linked to global climate change. In addition to these negative effects on air quality, travel time and in some instances, the safety of both vehicle users and pedestrians are also impacted. Furthermore, many residents believe high volumes of automobile traffic diminish quality of life in their communities.

The challenge of limiting traffic growth in the face of large population and job growth forecasts and changing travel patterns is significant. As a result of financial constraints, as well as environmental and regulatory constraints, it is no longer possible (nor is it often desirable) to increase the supply of roadway capacity. Rather than additional infrastructure capacity, strategies and tools must be employed to reduce the need for vehicular use to help manage demand. These strategies include:

- Telecommuting (working in or near the home)
- Transit and rideshare incentives
- Improved transit services
- Innovative land development and site planning techniques
- Regulatory methods, such as increased parking fees, employer-based controls on solo commuting or direct pricing of road use

One question that will need to be answered in the future is to what extent should more ambitious demand management strategies be pursued? Direct strategies to curb auto use, such as user charges or restrictive parking taxes, while potentially the most effective tools available to reduce congestion and auto emissions, may not be acceptable to the public in the near term. Any policies involving user fees for driving must be carefully developed and must give special attention to their potential impacts on low-income residents.

Serving Diverse Markets

The Washington region is home to a diverse international community, including persons of varied ethnic backgrounds. Over 40 percent of the region's population is non-white, including many recent immigrants to the region. Individuals with limited-English proficiency make up _____ percent of the population. Despite the region's overall affluence, over _____ residents in _____ were below the poverty level and an estimated _____ persons have physical or sensory disabilities that may qualify them for

specialized transportation services. [need updated numbers]

Given the diversity of the region's households and travel needs, how can future transportation systems best serve all of the region's residents? A number of issues warrant consideration, such as how to sustain adequate bus and paratransit services for those who depend on them; how best to provide services for working parents, many of whom "commute" to day care centers before and after work; what strategies can ensure the safety of elderly drivers who represent a growing segment of the population, and what transportation policies and investments can best serve the increasing number of non-work and weekend trips as well as multiple purpose trip "chains" (e.g., a person routinely picking up a child and some groceries on the way home from work).

The transportation needs of disadvantaged communities and individuals are also challenging. Regional leaders need to ensure that transportation access is available to lower-income people who may not own cars and may have trouble getting to jobs that are not well-served by public transit. And the changing mobility needs of seniors and people with disabilities also need to be met.

Base Realignment and Closure (BRAC) Impacts

The BRAC Commission recommendations, which were enacted into federal law in 2005, will have a major impact throughout the Washington region. Federal defense-related employment will be reduced in some places, such as Crystal City in Arlington, while a number of facilities outside the Beltway will expand.

The CLRP includes projects designed to address the increased transportation demand that is expected to arise in Fort Belvoir in Fairfax County, Fort Detrick in Frederick County, the Bethesda Naval Medical Center and other locations.

Moving Towards Intermodalism

Each mode of transportation has historically been viewed in isolation from others. The planning, construction, and operation of each mode was often conducted by separate agencies with little communication or

cooperation among them. A similar situation prevailed in the private sector, in which rail and motor freight carriers and airlines guarded their own market niches and were restricted from possible collaboration by federal regulations. This situation has been changing very gradually during the past 20 years into one in which multi-modal planning of public facilities, and some forms of intermodal cooperation in the private sector, began to occur. Federal laws have increasingly begun to acknowledge the value of coordinated approaches to planning and operating the various modes through several planning and management provisions.

This CLRP is multi-modal in its approach to developing a future transportation system: it includes highway, transit, bicycle and pedestrian improvements. Several ground access improvements have been identified for the region's airports, and improvements that benefit freight are included as well. One example of a multi-modal improvement is the further development of biking facilities around Metrorail stations.

Financing New Facilities

One of the key issues that will need to be addressed in future plans is how to finance proposed facilities that go beyond those included in this plan. There are proposed major projects in the region that have been identified or desired in the past, but exceeded the financial constraints on the plan that are required by federal regulations.

Depending on the specific modal configuration and design chosen, the cost of these additional proposed projects could be more than twice that of those included in this plan for implementation. To implement many of these projects would require billions of dollars, requiring the region to identify major new sources of funding. This could mean substantial increases in transportation user fees, such as tolls, gas taxes and parking charges. An effort to develop major new revenues would require substantial cooperation among the states and local jurisdictions in the region, and much greater public commitment to transportation improvements.

Plan Investments

Financial Plan & Analysis - New Projects & Significant Changes - Transit, Highway, Bike & Pedestrian Projects - FY 2011-2016 Transportation Improvement Program

Financial Plan & Analysis

A comprehensive financial plan was prepared for the 2010 CLRP. The financial plan reviews projected revenues from existing and planned sources that are "reasonably expected to be available." These revenues are compared against the estimated costs of expanding, while adequately maintaining and operating the region's highway and transit system from 2011 through 2040. The forecasts were prepared by the transportation implementing agencies and jurisdictions. Revenue and expenditure estimates are calculated in "Year of Expenditure" dollars to account for inflation.

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

Revenues

The National Capital Region is expecting $222.9 billion in revenues from a variety of sources through the year 2040. As shown in Fig. 1, 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. Once a more prominent source of revenue, federal funding now 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 $11.5 billion.

One third of the total revenue through 2040, $74.5 billion, will come from and through the state of Maryland, as shown in Figure 2. WMATA fares, regional grants and other non-jurisdictional sources will generate another $61.8 billion. The Commonwealth of Virginia will contribute $58.2 billion in revenues from federal, state, local and other sources, while the District will generate $28.4 billion in federal and local funds.

Expenditures

After determining how much revenue would be generated from these various sources, each implementing agency reviewed their costs for construction projects as well as maintaining and operating the transportation system through the year 2040. As seen in Figure 3, 70% of these funds will go to operations and preservation of the existing and planned system. Just over $51 billion (23%) will go to maintain and operate the region's highways and other roads. More than twice that amount, almost $105 billion (47%) will be spent on operating and maintaining the region's transit systems.

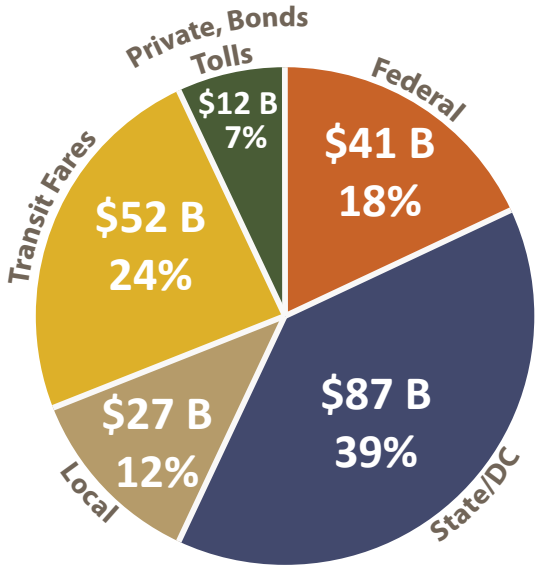


Figure 1 - Revenues by Funding Source

CLRP Revenues 2011-2040
$222.9 Billion

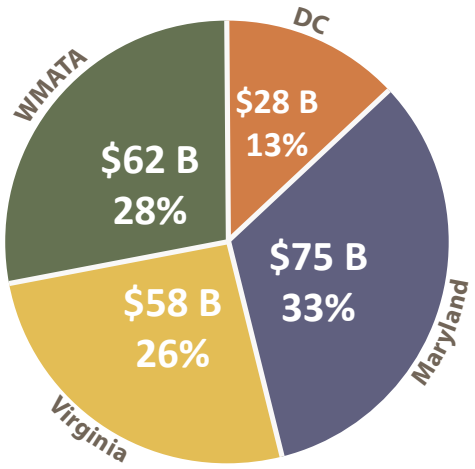


Figure 2 - Revenues by Jurisdiction

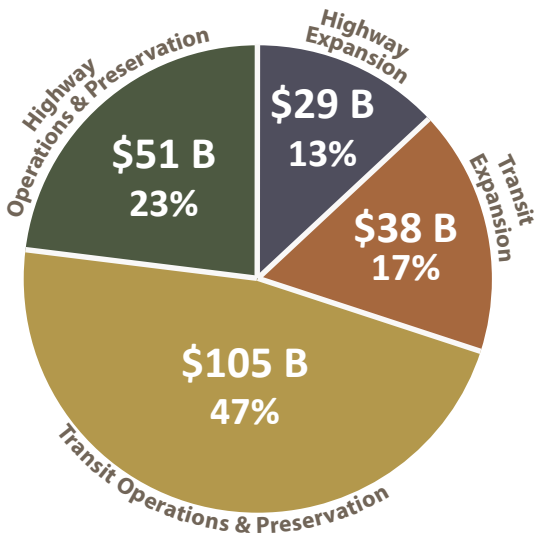


Figure 3 - CLRP Expenditures 2011 - 2040 $222.9 Billion

With operations and maintenance covered, the remaining 30 % of funds could be used to expand the region's transit systems and road networks. Over the next thirty years, about $67 billion dollars will be spent on planned transportation projects. About $29 billion (13%) will be spent road expansion projects while about $38 billion (17%) will be spent on new transit projects.

With a financial constraint of $222.9 billion applied, some agencies were able to add new projects into the CLRP while others had to delay projects or remove them altogether. See the Significant Changes portion of this chapter for more information on new, delayed and removed projects.

Comparison to the 2006 Financial Plan

The last time a comprehensive financial analysis of the CLRP was conducted was in 2006. That analysis was done in constant dollars and only forecast through 2030. Since the 2010 CLRP Financial Analysis uses year-of-expenditure dollars projected out to 2040, a direct comparison of dollar amounts isn't very useful. However, as Figure 4 shows, we can see that highway expenditures (both expansion as well as operations and maintenance) declined from 43 to 36 percent of the total CLRP expenditures. Local transit has stayed about the same, but expenditures for WMATA have increased from 43 to 51 percent.

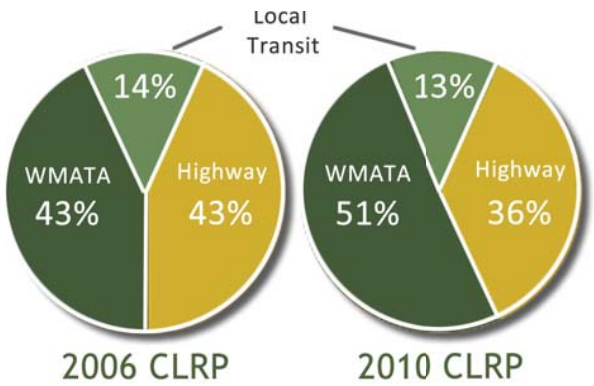


Figure 4 - CLRP Expenditures 2006 vs. 2010

Transit Ridership is Constrained

Despite an increase in funding levels for WMATA, it won't provide 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 which provides an additional $3 billion in revenues ($1.5 billion in federal and $1.5 billion from dedicated sources in the District and states) for WMATA's future capital needs. This legislation is set to expire in 2020. Currently there is not any federal legislation in place to extend that act beyond 2020, nor is any agreement in place by the jurisdictions which would match these federal funds.
To address this situation where funding has not yet been identified to accommodate all of the projected WMATA ridership growth, a method that has been applied since the 2000 CLRP was used to limit the projected ridership to be consistent with the available funding for the capacity improvements.

The funding uncertainties affecting the Metrorail system capacity and levels of service beyond 2020 were explicitly accounted for by constraining transit ridership to or through the core area to 2020 levels. The transit constraint method is applied during the travel demand modeling process as part of the air quality conformity analysis of the CLRP. First, unconstrained origin and destination trip tables are produced for the years 2010, 2020, 2030 and 2040. Constrained transit trip tables are then created for 2030 and 2040 by inserting 2020 totals for the transit trip patterns that correspond to trips into or through the core area containing the maximum load points in the rail system. The transit person trips that cannot be accommodated are then allocated back to the auto person trip tables,

resulting in increased daily automobile trips and vehicle emissions.

Recent Trends in Revenues
(to be completed)

- The recession has had major impacts on the CLRP in the past years - delayed, with-drawn projects
- Revenue streams were diminishing long before the recession - identified in 2000(?): A System In Crisis, and 2004: Time To Act
- Uncertainty of federal funding/transporta-tion authorization
- Stagnant gas tax/more efficient vehicles
- State/Local attempts at generate new revenues: HOT/Toll lanes,

New and Enhanced Revenue Options
(to be completed)

- Challenge: tri-state, multi-jurisdictional area
- Indexing Motor Fuel Taxes to inflation or
- Replace Gas Tax with Sales tax
- Addtional taxes, fees (unpopular)
- Variable Pricing, Tolling, HOT
- Vehicle Miles Travelled (VMT)
- Local Fees

2010 New Projects

These new projects and changes were approved for addition into the 2010 CLRP by the TPB on November 17, 2010.

District of Columbia

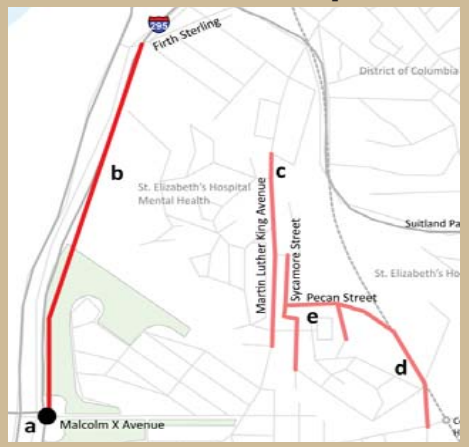
DC Streetcar Project

Complete: 2012, 2015
Cost: $183.8 million (Capital); $4.8 million per year (Operating)
Source: General obligation bonds, FTA/Urban circulator Program Capital Grant
Description: This project will build three new segments of a larger streetcar network that is currently being planned by the District Department of Transportation. These new segments will complement the initial Anacostia segment which was added to the CLRP in 2006 and is currently under construction. The streetcars will share a lane with automobile traffic and will run every 10 minutes during peak and off-peak periods.

The three planned segments are:
a) Continuation of Anacostia Line along Martin Luther King, Jr. Ave. SE from Howard Rd. SE to Good Hope Rd. SE (0.5 miles, Complete 2012)
b) H St./Benning Rd. NE from Union Station to Oklahoma Avenue (2 miles, Complete 2012)
c) Benning Road NE from Oklahoma Avenue NE to 45th Street NE/Benning Road Metro Station (1.8 miles, Complete 2015)

Two more segments have been added to the CLRP as studies (not mapped):
d) Union Station to Mt. Vernon Square along H St. NW, New Jersey Ave. NW and K St. NW
e) K Street NW from Mt. Vernon Square to Wisconsin Avenue NW

St. Elizabeth's Access Improvements



Complete: 2016
Cost: $158.2 million
Source: Federal funding
Description: The following improvements are planned to address the increased traffic expected when the Department of Homeland Security moves to St. Elizabeth's:
a) Reconfigure the I-295/Malcolm X Ave. SE Interchange
b) Construct a new 3-lane access road to the West Campus, parallel to I-295 from Firth Sterling Ave. SE to Malcolm X Ave. SE
c) Reconstruct Martin Luther King, Jr. Ave SE from Pomoroy Rd. SE to Milwaukee Pl. SE to add a 5th lane) M St. from 15th St. NW to 29th St. NW (1 mile)
e) Reconstruct and reconfigure Pecan and Sycamore Streets to accommodate buses.

-- section to be completed --

Bike Lane Pilot Project

Complete: 2010
Cost: $1.2 million
Source: Local Funds
Description: This pilot project will add barrier-protected bike lanes on five streets in downtown DC. The bike lanes will be protected from automobile traffic by either a lane of parking or buffer zone. To accommodate the bike lanes, one lane of automobile traffic will be removed from 9th, 15th, L and M Streets. Two lanes will be removed from Pennsylvania Avenue and the bike lanes will travel down the center median.

a) 9th Street NW from Constitution Avenue NW to K Street NW (0.7 mile)
b) 15th Street NW from Constitution Avenue NW to W Street NW (2 miles)
c) L Street from 11th Street NW to 25th Street NW (1.3 miles)
d) M Street from 15th Street NW to 29th Street NW (1 mile)
e) Pennsylvania Avenue NW from 3rd Street NW to 14th Street NW (1 mile)

Because this is a "pilot project", it will not be considered permanent until DDOT has evaluated the effectiveness and impacts of the proposed changes. If and when DDOT decides to make them permanent, they will be required to submit them again for air quality conformity testing.

Maryland

I-70 Interchange at Meadow Road

Complete: 2016
Cost: $27 million
Source: Federal and state funding
Description: Reconstruct the interchange of I-70 and Meadow Road to provide missing ramp movements.

Two Projects Return

In 2009, two highway projects were removed from the CLRP to shift funding towards the Purple Line. MDOT has reinstated the funding for these two projects (found on the Highway map on page 27):

- MD 3, Robert Crain Highway from US 50 to the Anne Arundel County Line (#27)
- MD 28, Norbeck Road/MD 198, Spencerville Road from MD 97 to I-95 (#26)

2010 Significant Changes

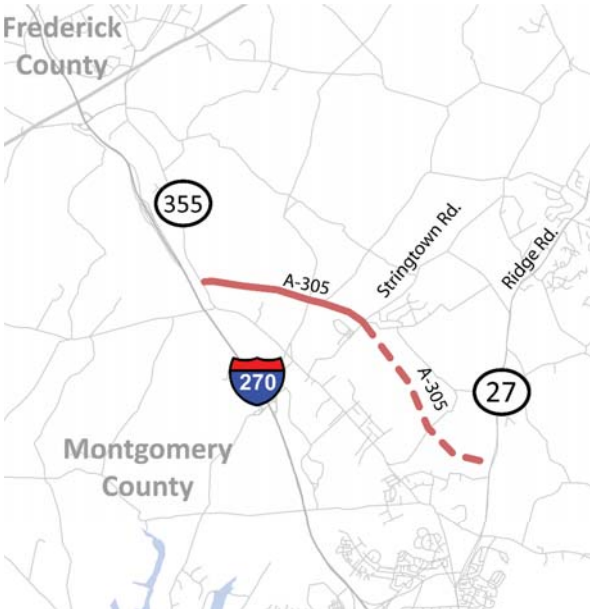
The following is a list of regionally significant projects that have either changed in scope, have been delayed by ten years or more, or have been removed from the CLRP (or reduced to "study" status).

Maryland

Project Limit Changed: I-270/US 15 from Shady Grove Metro Station to Biggs Ford Road

Complete: 2030
Cost: $3.4 billion
Source: Federal and state funds
Description: The limits of this project were previously defined from the Shady Grove Metro Station to I-70. MDOT plans to extend the project from I-70 to Biggs Ford Road. This project will implement highway improvements along the corridor.

Project Limit Changed: A-305, Mid-County Highway Extended from MD 355 to MD 27



Complete: 2012
Cost: $12 million
Source: Private funding
Description: The limits of this project were previously from MD 355 to Stringtown Road. MDOT plans to extend the project from Stringtown Rd. to MD 27. This will construct a new 2 lane roadway from MD 355 to Stringtown Rd. and a new 4 lane roadway from Stringtown Rd. to MD 27.

Projects Delayed 10 Years or More

- MD 2/4, construct 3 lanes from MD 765 to MD 2/4 at Lusby (~~2020~~ 2040)
- MD 4, construct interchange at Westphalia Road (~~2010~~ 2020)

Projects Removed from the Plan

- I-95/495 Interchange at Greenbelt Metro
- US 29, Columbia Pike, upgrade from Sligo Creek Parkway to Howard County Line
- US 201 Kenilworth Avenue from Rittenhouse Road to Pontiac Street
- US 301, upgrade and widen from north of Mount Oak Road to US 50

-- section to be completed --

Virginia

Project Limit Changed:
VA 411, Tri-County Parkway from VA 234 at I-66 to US 50

Complete: 2035
Cost: $12 million
Source: Private funding
Description: The limits of this project were previously defined from VA 234 to the Loudoun County line. VDOT now plans to extend the project from the Loudoun County line to US 50.

Projects Delayed 10 Years or More

- US 1, bus right turn lanes from VA 234 N to I-95 (~~2025~~ 2035)
- VA 7/US 15 Bypass, widen to 6 lanes from VA 7 W to US 15 S (~~2025~~ 2035)
- US 15 (James Madison Highway), widen to 4 lanes from US 29 to I-66 (~~2030~~ 2040)
- Tri-County Parkway, construct 4 lanes from I-66 to US 50 (~~2025~~ 2035)
- VA 7 Bypass, widen/upgrade to 6 lanes from US 15 S to VA 7/US 15 E (~~2020~~ 2035)

Projects Removed from the Plan

- I-95, construct interchange at VA 7900 (Franconia-Springfield Pkwy)
- US 1, widen to 6 lanes from Stafford Co line to Joplin Rd
- VA 7, widen to 6 lanes from Rt 9 to Market St
- US 15 (James Madison Hwy), widen to 4 lanes from VA 234 to Loudoun Co line
- VA 28 (Centreville Road), widen to 6 lanes from NCL Manassas Park to Old Centreville Rd
- US 50, widen to 8 lanes from I-66 to WCL Fairfax City
- VA 7100 (Fairfax Co Pkwy), widen to 6 lanes from VA 636 to VA 640
- VA 7100 (Fairfax Co Pkwy HOV), construct 2 lanes from VA 640 to VA 7900
- VA 234 (Manassas Bypass), widen/upgrade to 6 lanes from VA 234 (South of Manassas) to I-66
- VA 28, widen/upgrade to 6 lanes from VA 619 to VA 234 Bypass
- US 29, widen to 6 lanes from US 50 to I-66
- VA 123, widen to 6 lanes from Horner Rd. to Devil's Reach Rd.

Major Transit, High Occupancy Vehicle (HOV) & High Occupancy/Toll (HOT) Improvements

District of Columbia

1 Anacostia Streetcar Project Phases I **and II**, 2012
2 **H St/Benning Rd Streetcar Project, 2012, 2015**
3 K Street Transitway, 2018
4 **TIGER Grant Bus Priority Improvements (not mapped: DC, MD, VA)**

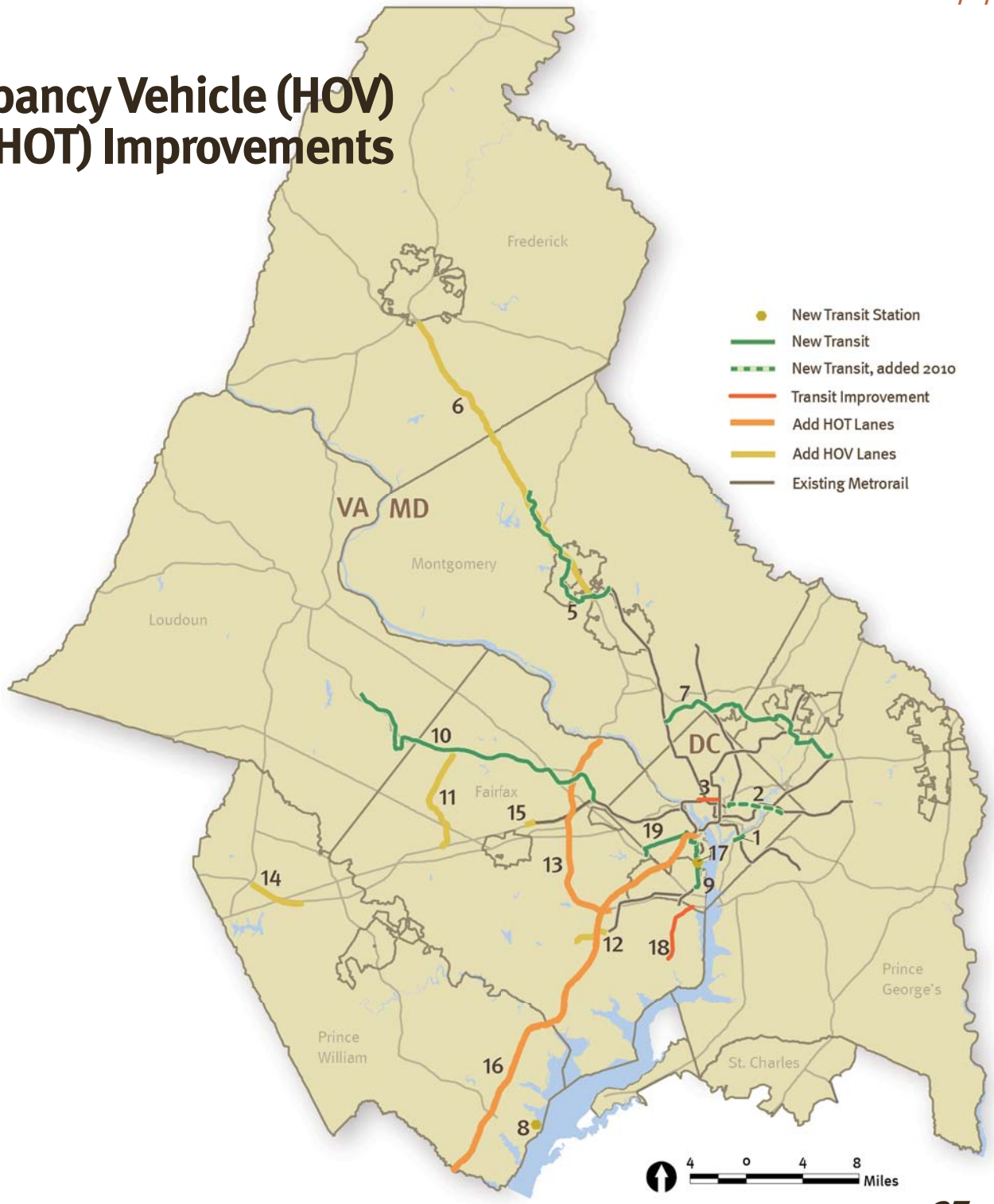
Maryland

5 Corridor Cities Transitway, from Shady Grove to COMSAT, 2020
6 I-270/US 15 Corridor, Shady Grove to I-70, HOV lanes, 2030
7 Purple Line, Bethesda to New Carrollton, 2020

Virginia

8 Cherryhill VRE Station and **3rd Track**, 2012
9 Crystal City/Potomac Yard Busway, Arlington and Alexandria, 2010, 2013
10 Dulles Corridor Metrorail, 2013, 2016
11 *Fairfax County Parkway HOV, widen and upgrade, 6 to 8 lanes, 2035*
12 *Franconia/Springfield Parkway HOV, 2020, 2025*
13 I-495 High Occupancy/Toll (HOT) lanes and new bus service, 2013, 2030
14 I-66 HOV, widen to 8 lanes from VA 234 to US 29, 2010, and widen to 6 lanes from US 29 to US 15 with an interchange reconstruction at US 15, 2020
15 I-66, construct HOV ramps to access Vienna Metro Station, 2014
16 I-95/395 HOT Lanes, widen, construct 2, 3 lanes and new bus service, 2012
17 Potomac Yard Metro Station, 2030
18 *US-1 bus right turn lanes, 2035*
19 VA 244 Columbia Pike Streetcar from Skyline to Pentagon City, 2016

Note:
- Projects in **bold** are new to the 2010 CLRP.
- Projects in *italics* represent significant changes or delays of more than five years as compared to the 2009 CLRP.



Major Highway Improvements

Almost all planned highway construction involves widening or upgrading existing roads, rather than building new facilities.

New lanes will be added to some of the region's busiest commuting arteries, and a few new major highways will provide cross-suburban links in Virginia and Maryland. Funding shortfalls have caused some projects' completion dates to be pushed back since the last update of the plan.

District of Columbia

11th Street Bridge reconstruction, 2013
I-295, reconstruct interchange at Malcolm X Blvd to improve access to Saint Elizabeth's Campus, 2014
I-395, remove 3rd St SB exit ramp, reconfigure 3rd St SB entrance and 2nd St NB exit ramps, reconnect F St bet. 2nd & 3rd St, 2011, 2014
South Capitol Street Corridor, bridge reconstruction, including interchange at Suitland Parkway and Martin Luther King Jr. Blvd, 2015, 2016
Wisconsin Avenue, reconfigure from 4, 6 lanes to 4 lanes with a continuous left-turn lane, 2011

Maryland

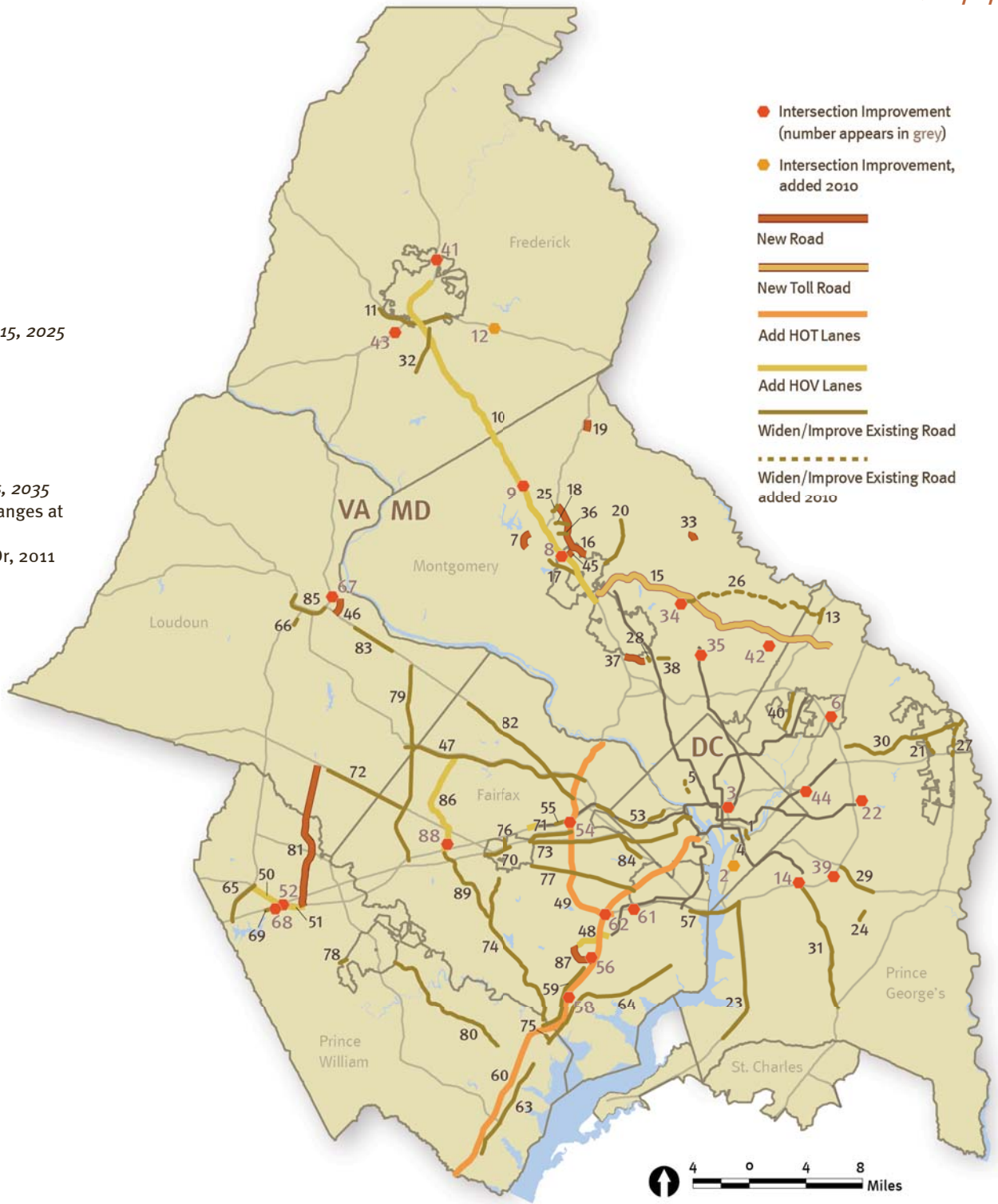
Baltimore Washington Parkwy, intersection improvement at MD 193, 2025
Father Hurley Blvd, construct 4 lanes, 2010
I-270, interchange at Watkins Mill Road Ext., 2016
I-270, reconstruct interchange at MD 121, 2016
I-270/US 15 Corridor, Shady Grove to Biggs Ford Rd, widen and HOV or HOT, 2030
I-70, widen to 6 lanes, 2016
I-70, reconstruct interchange at Meadow Rd, 2016
I-95, interchange and CD lanes at Contee Road , 2020
I-95/495, Branch Avenue Metrorail access improvements, 2020

15 Intercounty Connector, construct 6 lanes, 2012
16 M-83, construct 4, 6 lanes, 2020
17 *MD 117, widen to 4 lanes, 2025*
18 MD 118/Germantown Road, widen to 4 lanes, 2020
19 MD 124 extended, construct 2 lanes, 2011
20 MD 124, widen to 6 lanes, 2010, 2020
21 **MD 197, widen to 4/5 lanes, 2025**
22 MD 202, Largo Town Center Metrorail access improvements, 2015
23 MD 210, upgrade 6 lanes and interchanges, 2020, 2030
24 MD 223, widen to 4 lanes, 2020
25 *MD 27 Father Hurley Blvd/Ridge Rd, widen to 6 lanes, 2020*
26 **MD 28/MD198, construct, widen to 4/6 lanes, 2025**
27 **MD 3, widen to 6 lanes, 2030**
28 MD 355, construct interchange improvements at Montrose/ Randolph Rd and grade-separated CSX crossing, 2015, 2020
29 *MD 4, widen to 6 lanes with interchanges at Westphalia Rd and Suitland Pkwy, 2016, 2020*
30 MD 450, widen to 4 lanes, 2016
31 MD 5, upgrade, widen to 6 lanes, including interchanges, 2015, 2020
32 MD 85, widen to 4, 6 lanes, 2020
33 MD 97, construct 2 lanes, 2020
34 MD 97, upgrade intersection at MD 28, 2020
35 MD 97, upgrade intersection at Randolph Rd, 2015
36 *Middlebrook Road Extended, widen, construct 4 lanes, 2020*
37 Montrose Parkway East, construct 4 lanes, 2015
38 *Randolph Road, widen to 5 lanes, 2020*
39 Suitland Parkway, interchange at Rena/Forestville Rd, 2025
40 US 1, widen to 6 lanes, 2010, reconstruct 4 lanes, 2020
41 *US 15, construct interchange at Monocacy Blvd, 2016*
42 *US 29, interchange at Musgrove/ Fairland Rd, 2025*
43 *US 340/US 15, construct interchange at Jefferson Tech Park, 2016*
44 US 50, westbound ramp to Columbia Park Rd, 2025
45 Watkins Mill Road Extended, construct 6 lanes, 2011

Virginia

46 Battlefield Parkway, construct 4 lanes, 2010
47 Dulles Access Road, widen to 6 lanes, 2017
48 *Franconia/Springfield Parkway, HOV with interchange at Nueman St, 2020, 2025*
49 I-495 High Occupancy/Toll (HOT) lanes, auxiliary lanes, and new bus service, 2013, 2030
50 I-66 HOV, widen to 6 lanes, reconstruct US 15 interchange, 2020
51 I-66 HOV, widen to 8 lanes, 2010
52 I-66, reconstruct interchange at US 29, 2014
53 *I-66, spot improvements inside the Beltway, 2013, 2020*
54 I-66/I-495, reconstruct interchange, 2013
55 I-66, construct auxiliary lanes at Gallows Rd and Cedar La, 2030
56 I-95, Fort Belvoir EPG access improvements, 2012, 2016
57 I-95, construct approaches to Woodrow Wilson Bridge, 2011
58 I-95, reconstruct interchange at VA 642, 2010
59 I-95, widen to 8 lanes, 2011
60 I-95/395 HOT Lanes, construct 1, 2 additional lanes and new bus service, 2012
61 I-95/495, reconstruct interchange at VA 613, 2015
62 I-95/I-395/I-495, interchange access ramps to I-495 HOV, 2013
63 *US 1, widen to 6 lanes, 2011, 2025*
64 US 1, widen to 6 lanes, 2015, 2017
65 *US 15, widen to 4 lanes, 2040*
66 US 15, widen to 4 lanes, 2015
67 *US 15 Bypass, interchange at Edwards Ferry Road, 2025*
68 US 29, interchange at VA 55, 2014
69 US 29, widen to 5, 6 lanes, 2014
70 *US 29, widen to 6 lanes, 2013, 2040*
71 US 29, widen to 6 lanes, 2015, 2025
72 US 50, widen to 6 lanes, 2012, 2015
73 US 50, widen/reconstruct 6 lanes including interchanges, 2012, 2015, 2025
74 VA 123, widen to 6 lanes, 2015, *2025*
75 VA 123, widen to 6 lanes, 2017
76 VA 123, widen to 6 lanes, 2013

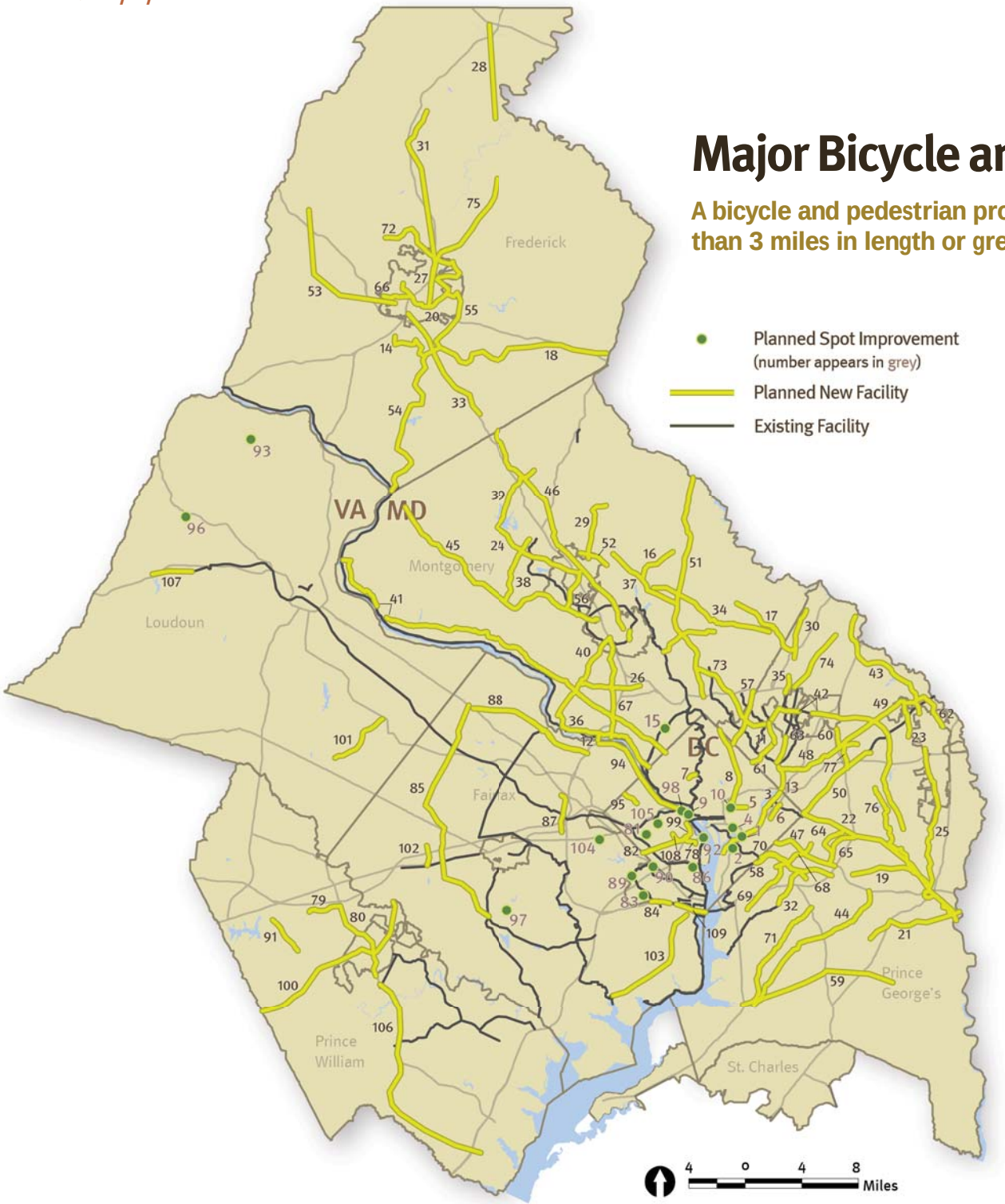
77 *VA 236, widen to 6 lanes, 2025*
78 VA 28, widen to 6 lanes, 2017
79 *VA 28, widen to 8 lanes, with interchanges, 2010, 2011, 2015, 2025*
80 *VA 3000, widen to 6 lanes, 2012, 2025*
81 *VA 411 Tri-County Parkway, construct 4 lanes, 2035*
82 *VA 7, Leesburg Pike, widen to 6, 8 lanes, 2014, 2025, 2030*
83 VA 7, construct interchanges, 2010, 2025
84 *VA 7, widen to 6 lanes, 2025*
85 *VA 7 Bypass, widen to 6 lanes, 2035*
86 *VA 7100/Fairfax Co Pkwy HOV, widen, upgrade to 6/8 lanes, 2035*
87 VA 7100/Fairfax Co Pkwy, construct 4, 6 lanes with interchanges at Rolling Rd and Boudinot Dr, 2010, 2011, 2012, 2025
88 VA 7100, interchanges at Fair Lakes Pkwy and Monument Dr, 2011
89 *VA 7100, widen to 6 lanes, 2020*



Note:
- Projects in **bold** are new to the 2010 CLRP.
- Projects in *italics* represent significant changes *or* delays of five years or more as compared to the 2009 CLRP.

Major Bicycle and Pedestrian Improvements

A bicycle and pedestrian project is considered major if the project is greater than 3 miles in length or greater than $500,000 in cost.



District of Columbia

1 11th Street SE Bridges and Intersection
2 Anacostia Freeway Pedestrian Bridge
3 Anacostia Riverwalk Trail
4 Garfield Park Canal Park
5 Great Streets H Street NE Streetscape
6 Great Streets Minnesota Avenue NE
7 Klingle Road Reconstruction
8 Metropolitan Branch Trail
9 Theodore Roosevelt Bridge Rehabilitation
10 Union Station Pedestrian Tunnel

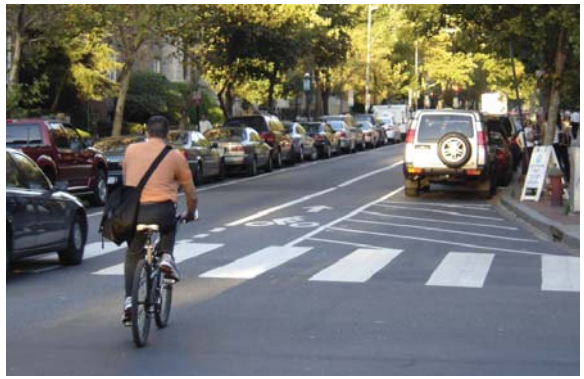
Maryland

11 Adelphi Road Sidewalks and Bike Lanes
12 American Legion Bridge
13 Anacostia River Trail
14 Ballenger Creek Trail
15 Bethesda Bikeway and Pedestrian Facilities
16 Bowie Mill Road Bike Lanes
17 Briggs Chaney Road East and West Bikeway
18 Bush Creek Trail
19 Cabin Branch Trail
20 Carroll Creek Trail
21 Charles Branch Trail
22 Chesapeake Beach Rail-Trail
23 Chestnut Avenue-Highbridge Road Sidepath
24 Clopper Road/Diamond Avenue Bikeway
25 Collington Branch Trail
26 Democracy Boulevard Bike Path
27 East Street Rail Trail
28 Emmitsburg Railroad Trail
29 Goshen Road/Brink Road Bike Path
30 Gundpowder Road Sidepath and Bike Lanes
31 H & F Trolley Trail Phase III
32 Henson Creek Trail Extension
33 I-270 Transitway Trail
34 ICC Bike Path
35 Little Paint Branch Trail Extension
36 MacArthur Boulevard Bikeway

37 MD 115 (Muncaster Mill Road)/Norbeck Road Bike Path
38 MD 118 (Germantown Road) Bike Path
39 MD 121 (Clarksburg Road)/Stringtown Road Bike Path
40 MD 189 (Falls Road) Bike Path
41 MD 190 (River Road) Bike Path
42 MD 193 Bikeway
43 MD 197 Sidepath
44 MD 223 Sidepath
45 MD 28 (Darnestown Road) North Bikeway
46 MD 355 (Frederick Road) - Upcounty Bike Path
47 MD 4 Sidepath
48 MD 450 Sidepath and-or Wide Sidewalks
49 MD 565 Sidepath and Bike Lanes
50 MD 704 Sidepath and Bike Lanes
51 MD 97 (Georgia Avenue) North Bike Path
52 Mid-County Highway Bike Path
53 Middletown-Myersville Trolley Trail
54 Monocacy River Greenway Future Phases
55 Monocacy River Greenway Phase I
56 Muddy Branch Trail
57 New Hampshire Avenue Bikeway
58 Oxon Run Trail
59 Piscataway Creek Trail
60 Princess Garden Parkway Sidewalks and Bike Lanes
61 Queens Chapel Road Sidewalks and Bike Lanes
62 Race Track Road Sidepath and Bike Lanes
63 Rhode Island Avenue Trolley Trail Extension
64 Ritchie Branch Trail
65 Ritchie Marlboro Road Bike Path
66 Rock Creek Trail - Frederick City
67 Seven Locks Road Bikeway
68 Silver Hill Road Sidewalks and Bike Lanes
69 St. Barnabas Road Sidewalks and Bike Lanes
70 Suitland Parkway Trail
71 Tinkers Creek Trail
72 Tuscarora Creek Trail
73 University Boulevard Bike Path
74 US 1 Bikeway
75 Walkersville to Woodsboro Corridor Phase III Bike Path
76 Western Branch Trail
77 Whitfield Chapel Road Sidewalks and Bike Lanes

Virginia

78 Army-Navy Drive-Joyce Street Bike Facilities
79 Balls Ford Road Widening Bike Path
80 Bus 234 Add Signalized Crosswalks
81 Carlin Springs Road Bridge Replacement
82 Columbia Pike Complete Streets
83 Duke Street Pedestrian Bridge
84 Eisenhower Trail
85 Fairfax County Parkway Trail
86 Four Mile Run Pedestrian and Bicycle Bridge
87 Gallows Road On-Road Bicycle Facility
88 Georgetown Pike Multi-Use Trail
89 Holmes Run Greenway Tunnel
90 King Street/Beauregard/Walter Reed Interchange
91 Linton Hall Road Widening Bike Path
92 Long Bridge Park Esplanade Bridge
93 Lovettsville Ped and Bike Path Network
94 Mount Vernon Trail Extension
95 Old Domion Drive Complete Streets
96 Pedestrian Study and Improvements
97 Pohick VRE Trail
98 Rosslyn Circle Crossing
99 Route 110 Trail
100 Route 28 Trail Extension
101 Route 606 (Old Ox Road) Widening
102 Stringfellow Road Bikeway
103 US 1 (Richmond Highway) Ped and Bike Improvements
104 US 50 Pedestrian Improvements
105 VA 120 (Glebe Road) Pedestrian Intersection Improvements
106 VA 234 Bike Trail
107 W&OD Trail Extension
108 Washington Boulevard Trail Phase II
109 Woodrow Wilson Bridge

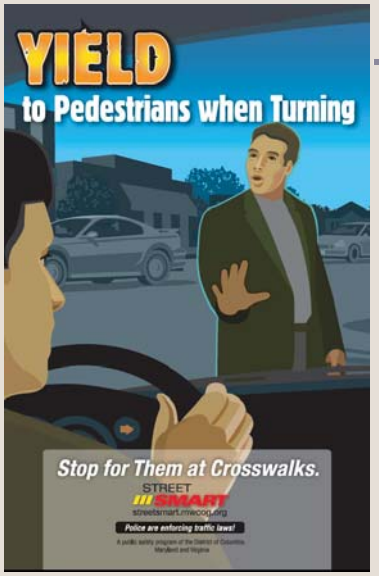


A **Bicycle and Pedestrian Plan** for the National Capital Region was adopted in 2010 by the National Capital Region Transportation Planning Board (TPB). The plan makes pedestrian safety a priority over vehicle movement, accommodates pedestrians and bicyclists in transportation projects (like the new Wilson Bridge), and connect trails throughout the District of Columbia, Maryland and Virginia.

STREET SMART

The **Street Smart Campaign** is an ongoing public safety program for DC, suburban MD and northern VA aimed at drivers, pedestrians and cyclists. Since its inception in 2002, Street Smart's goal has been to save lives by educating the public about the severity of pedestrian and bicycle safety issues and increasing awareness about pedestrian and bicycle safety laws in the region. The program uses media advertising (radio, print, metro and outdoor transit advertising), with specific messages about crossing streets safely, among others. Law enforcement has increased its support of the program, issuing 38,900 citations and 4,803 warnings during the Spring 2009 campaign.

Before and after surveys show that the public is hearing and remembering the Street Smart messages, and is more likely to believe that pedestrian safety laws are being enforced.



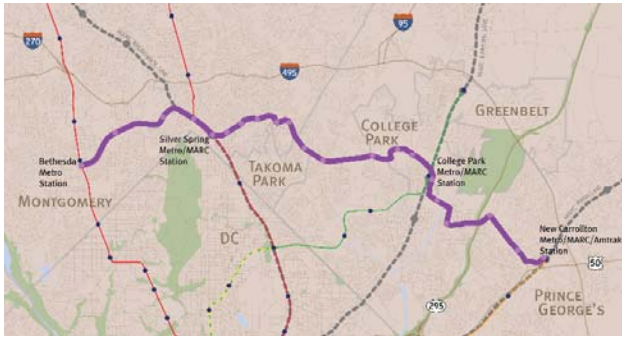
2009 Street Smart Poster

Highlighted Projects: 2009 - 1999

Here are some highlights of large-scale regional projects that have been added to the CLRP over the last decade.

2009

Purple Line



- Covers a 16-mile corridor from the Bethesda to New Carrollton Metro Stations
- Cost: $1.685 billion
- Completion: 2018

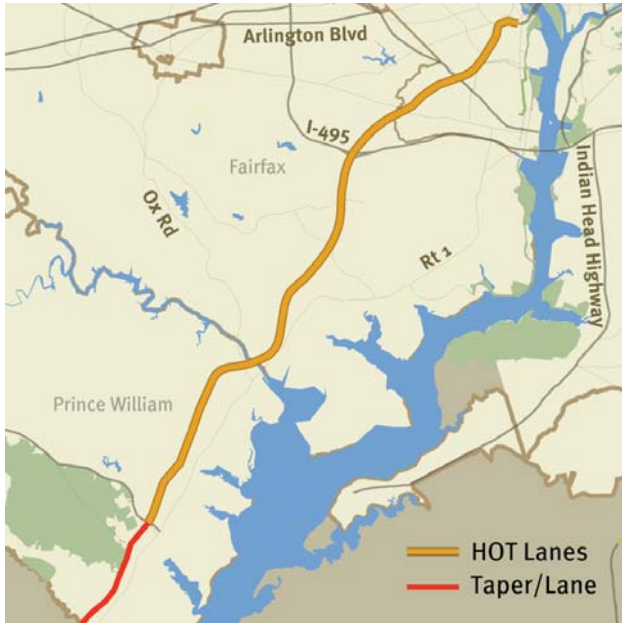
2008

Columbia Pike Streetcar

- From Skyline to Pentagon City Metro Station
- Cost: $135 million
- Completion: 2016

2007

I-95/I-395 HOV/Bus/HOT Lanes



- Reconfigure the HOV lanes between Eads Street and Dumfries to include HOT lanes for 36 miles
- Cost: $889 million
- Completion: 2012, 2014

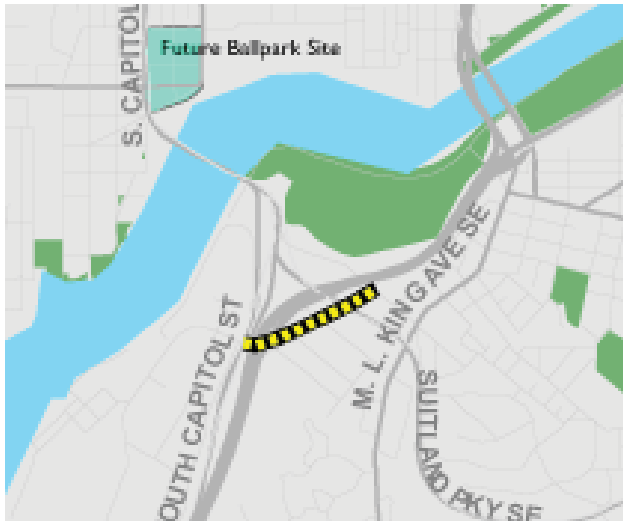
Potomac Yards Transitway, Alexandria

- Buses will run on a combination of dedicated transit-way and mixed traffic between Four Mile Run and the Braddock Road Metro Station
- Cost: $18.1 million
- Completion: 2013

-- section to be completed --

2006

DC Streetcar: Anacostia Initial Segment

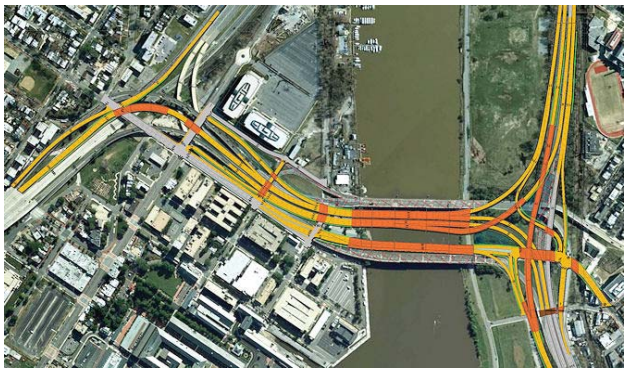


- First phase of the DC Streetcar project from Firth Sterling Ave. and South Capitol Street to Howard Road and Martin Luther King, Jr. Ave.
- Cost: $21 million
- Completion: 2012

South Capitol Street Bridge

- Covers a 7.5-mile corridor. It includes four interchanges and two new drawbridges
- Cost: $822.5 million
- Completion: 2015

11th Street Bridge



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

2005

Capital Beltway HOT Lanes

- Widen I-495 to 12 lanes with 4 HOT lanes for 14 miles from VA 193 connecting to I 95/395 at the Springfield Interchange
- Cost: $1.6 billion
- Completion: 2013, 2030*

-- section to be completed --

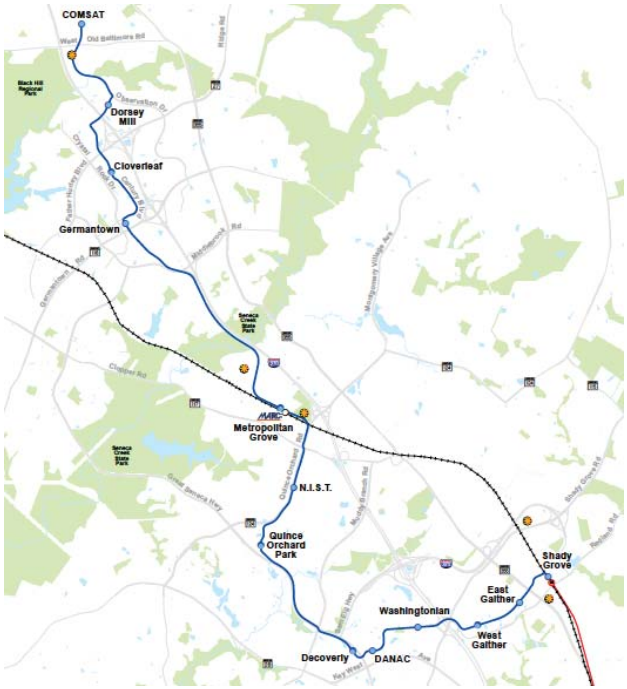
2004

Intercounty Connector

- Construct a new 18-mile east-west highway in Montgomery and Prince George's counties between I-270 and I-95/ US 1
- Cost: $2.5 billion
- Completion: 2012

2003

Corridor Cities Transitway



- Cover a 14-mile corridor from Rockville to Clarksburg, and will be an LRT or BRT line
- Cost: $871 million
- Completion: 2016

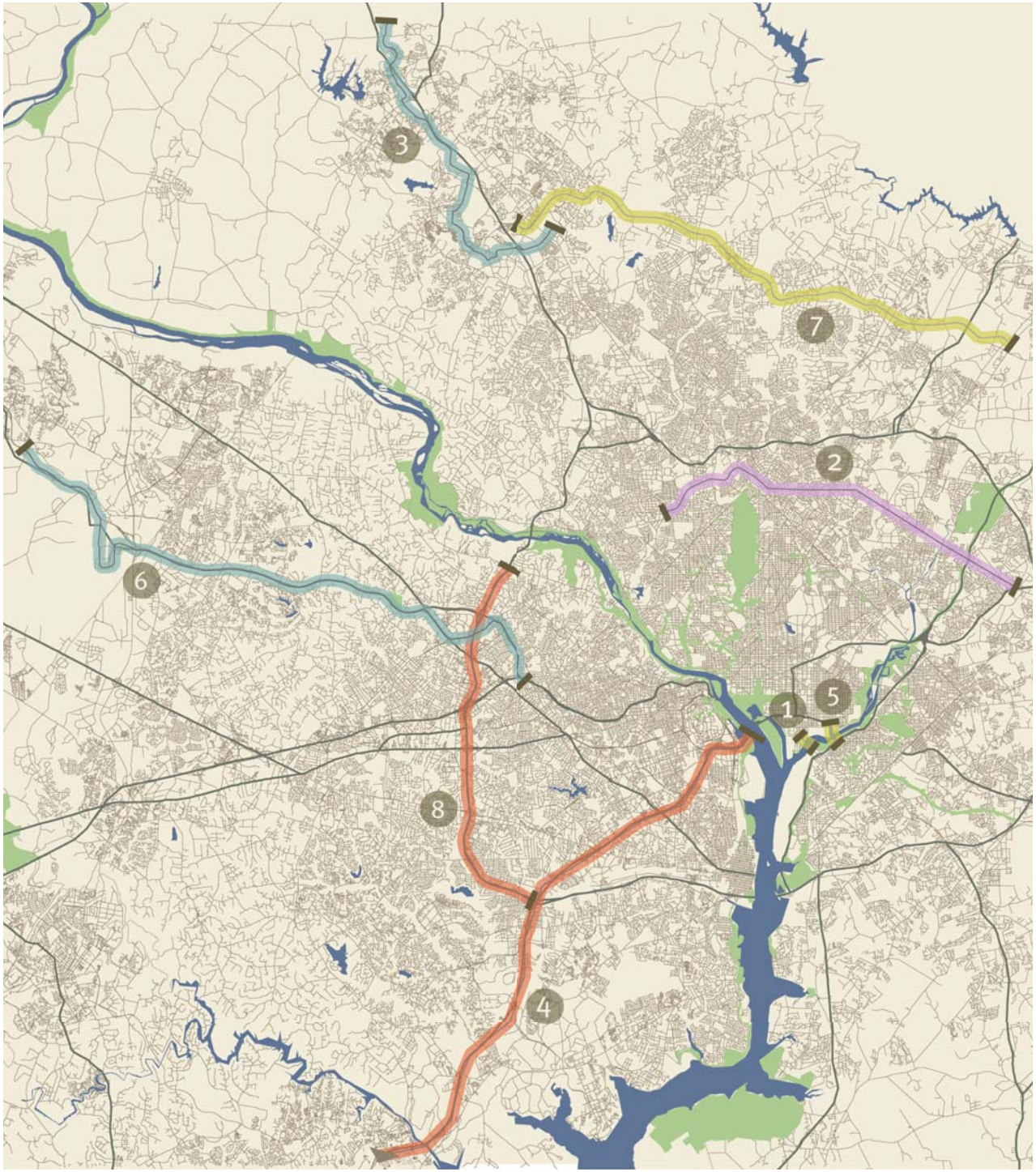
I-270/US 15 Corridor

- <<Need descriptive text and image>>
- Cost: $3.4 billion
- Completion: 2030

1999

Dulles Corridor Rapid Transit

- Covers a 23.1 mile extension of the Metrorail system from Fairfax County to Washington Dulles International Airport
- Cost: $5 billion
- Completion: 2014, 2015*



TIGER Projects

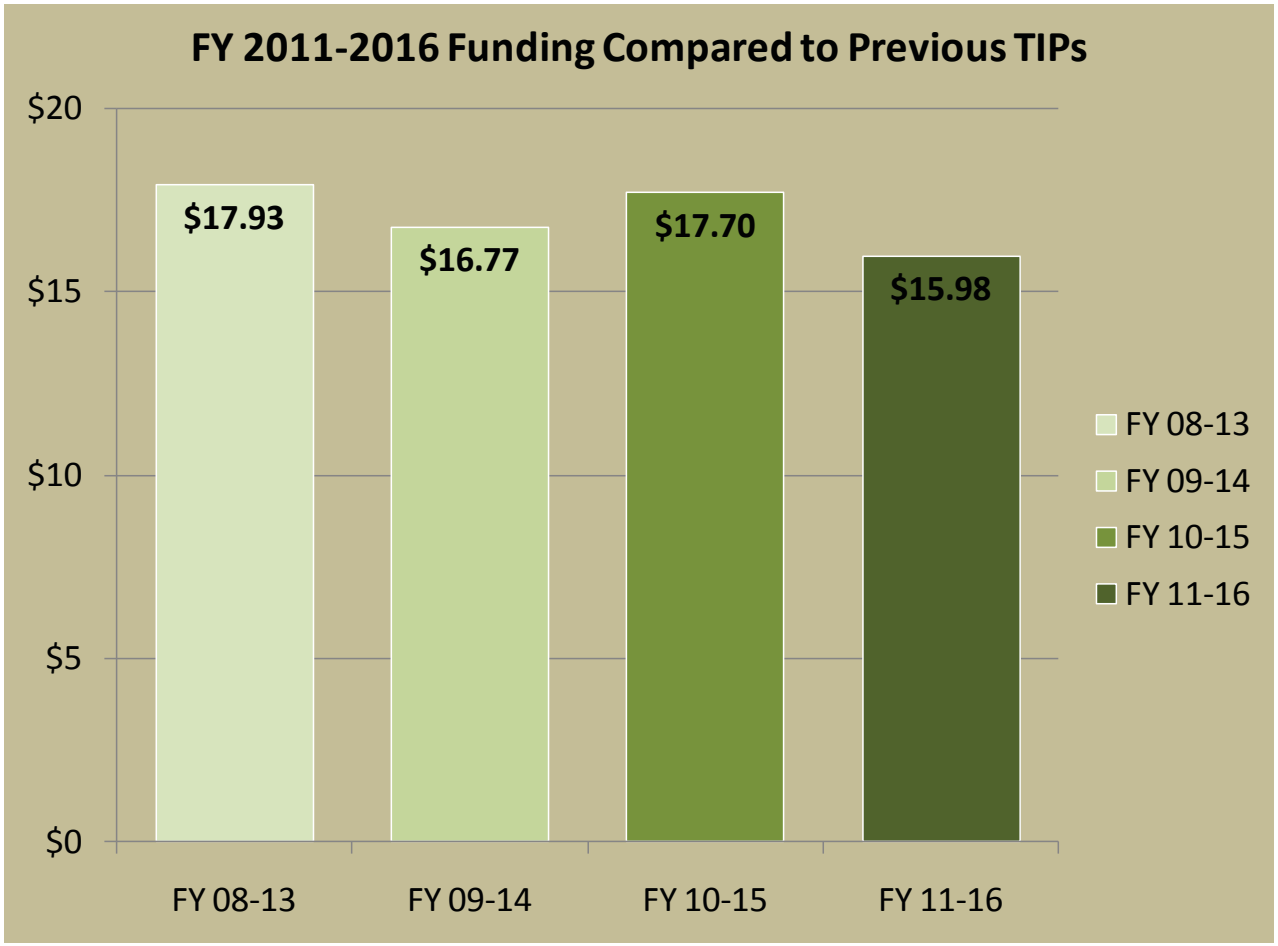
To be completed:

- Listing/Description of Priority Bus Projects

FY 2011-2016 Transportation Improvement Program (TIP)

To be completed:

- What is the TIP?
- Development of the TIP
- Agencies involved
- TPB's role
- Percentage of big-ticket projects in the overall TIP (i.e. ICC, Dulles Rail, etc. = X% of the TIP)



-- section to be completed --

Planning & Process Elements of the Plan

Bicycle and Pedestrian Planning - Freight Planning - Congestion Management Process - Emergency Preparedness & Transportation Security - Safety - Environmental Consultation - Land Use Coordination - Scenario Planning - Human Service Transportation Coordination - Ground Access Element of the Regional Airport System Plan - Transportation Demand Management - Management, Operations & ITS

In addition to the transportation projects to be implemented by 2040, the CLRP includes additional elements that complement the planned projects and in some cases influence project and program priorities.

Bicycle and Pedestrian Planning

Bicycling and walking are key elements of the region's overall transportation system. Many of the bicycle and pedestrian projects in the CLRP are included as part of a larger project. One example is the Woodrow Wilson Bridge project, which included a major new bicycle and pedestrian facility as part of its construction. Because they are often smaller components of larger projects, bicycle and pedestrian projects are sometimes overshadowed; however these projects play an important role in our transportation system and contribute to the creation of more livable communities.

Bicycle and Pedestrian Plan

Recognizing the importance of these projects, the TPB prepares the *Bicycle and Pedestrian Plan for the National Capital Region*, which provides a detailed overview of the existing bicycle and pedestrian facilities in the region and identifies priority funded and unfunded projects. Recently updated in October 2010, the *Bicycle and Pedestrian Plan* identifies the capital improvements, studies, actions, and strategies that the region proposes to carry out by 2040 for major bicycle and pedestrian facilities.

The *Bicycle and Pedestrian Plan* is intended to be advisory to the CLRP and TIP, and to stand as a resource for planners and the public. In contrast to the CLRP, the *Bicycle and Pedestrian Plan* includes both funded and unfunded projects–projects in this plan may not yet have funding identified to support their implementation. The plan includes 336 bicycle and pedestrian facility improvement projects from across the region, which were identified, submitted, and reviewed by agency staff of TPB member jurisdictions.

If every project in the plan were implemented, in 2040 the region will have added over 450 miles of bicycle lanes, over 630 miles of shared-use paths, hundreds of miles of signed bicycle routes, more than 80 pedestrian intersection improvements, and ten pedestrian/bicycle bridges or tunnels. A new bicycle and pedestrian crossing over the Potomac would be created, at the American Legion Bridge, and bridges over the Anacostia River would be improved for pedestrians and bicyclists. In addition, 21 major streetscaping projects would improve pedestrian and bicycle access and amenities in Washington D.C., Ballston-Rosslyn, Columbia Pike, Tysons Corner, and other locations. With these improvements, by 2040 the region will have over 1,700 miles of bike lanes and multi-use paths, more than three times the current total.

Priority Regional Bicycle and Pedestrian Projects

Each year the Bicycle and Pedestrian Subcommittee selects a short list of top priority unfunded or partially funded bicycle and pedestrian projects, which are recommended for inclusion in the TIP. The most recent list was adopted in October 2010. The TPB is briefed on the list annually.

The eleven priority projects from the October 2010 list are:

- Arlington Boulevard Pedestrian Access to Transit and Bikeway Improvements (*Arlington County*)
- Folly Lick/Spring Branch Regional Trail (*Town of Herndon*)
- Holmes Run Greenway Shared-Use Path Improvements (*Alexandria*)
- Loudoun County Parkway Shared-Use Path (*Loudoun County*)
- Leesburg Pike Seven Corners to Alexandria Pedestrian Initiative (*Fairfax County*)
- MacArthur Boulevard Bikeway Improvements Segment 3 Design (*Montgomery County*)
- Metropolitan Branch Trail - Fort Totten Section (*D.C.*)
- Monocacy River Greenway Phase I (*Frederick County*)

- Regional Bike Sharing Expansion (*Regional*)
- Rhode Island Avenue Trolley Trail Extension (*Prince George's County*)
- Route 1 Sidewalks and Crosswalks (*Prince William County*)

Bike Sharing

The Washington region has become a national leader in bike sharing, which is a form of public self-service bicycle rental meant to be used for short trips, including commuting. In August 2008, the District of Columbia implemented a small 100-bike pilot bike-sharing system that was the first of its kind in North America. Following this pilot, in September 2010, the District of Columbia and Arlington County launched a regional bike-sharing system, **Capital Bikeshare**, with over 1,100 bikes available at 114 locations. Efforts are underway to expand the service to other jurisdictions in the region and encourage private or employer sponsorship of individual stations.

Bike sharing is similar in operation and concept to car sharing. As with car sharing, bicycles are parked at a number of locations throughout the area served, and the public may use membership cards or credit cards to access the bicycles. The user may return the shared bike to any shared bike parking location. Users pay subscription and hourly charges, although often the first half-hour is free. The bicycles are typically of sturdy design and comfortable to ride while wearing ordinary clothing.

Bike sharing is intended to solve the bicycle parking problem on both ends of the trip, by providing bicycles at origins and bicycle parking at destinations across the city, while relieving the cyclist of the burden of bicycle ownership and maintenance. Bike sharing can provide local mobility for people who arrive by transit, extending the range of destinations accessible by transit.

Street Smart Pedestrian and Bicycle Safety Campaign

The TPB conducts the Street Smart Pedestrian and Bicycle Safety campaign, a mass-media campaign aimed at raising awareness and reducing behavior that contributes to pedestrian and bicyclist deaths and injuries. An annual campaign has been ongoing since 2004 and for the last four years, Street Smart has run both a spring and fall educational campaign. The media campaign consists of radio, transit, internet, and outdoor advertising. The campaign also partners with police departments to increase enforcement of motorist, pedestrian, and bicyclists laws at target intersections. The program is intended to save lives by raising awareness of pedestrian and bicyclist safety, and changing motorist and pedestrian behavior.

For More Information CLRP Website: www.mwcog.org/clrp/elements/bikeped.asp // Bicycle and Pedestrian Plan:

Freight Planning

The 2005 federal transportation legislation, SAFETEA-LU, gave attention to freight planning at the Metropolitan Planning Organization (MPO) level for the first time. Renewal of this legislation is expected to maintain and perhaps expand upon freight programs as freight is increasingly on the federal, state, and local radar. The TPB Freight Program is an outcome of an earlier freight analysis, *Enhancing Consideration of Freight in Regional Transportation Planning* prepared for the TPB in May 2007, as well as federal encouragement for MPOs to examine freight transportation.

Coordinating Freight Planning

A vital activity of the Freight Program is the development of relationships with regional freight stakeholders. The TPB Freight Program works toward doing this through the Freight Subcommittee, established in April 2008. Meetings are held bimonthly. They generally include freight industry speakers, an update on TPB Freight Program activities, and roundtable updates from meeting attendees. Freight Subcommittee members provide input into the products of the Freight Program, such as the *Freight Plan*, the National Capital Region Freight Project Database, and the list of 10 Highlighted Freight Transportation Projects. Facility tours also have been organized to learn about various freight operations in the National Capital Region.

TPB National Capital Region Freight Plan

The *National Capital Region Freight Plan*, adopted in July 2010, is the first regional freight plan ever adopted by the TPB. The *Freight Plan* describes the planning context for freight, the freight program, current freight conditions, regional freight forecasts, land use and environment factors, safety and security considerations, and the National Capital Region Freight Project Database.

The National Capital Region Freight Project Database, developed in conjunction with the *Freight Plan*, lists projects beneficial to freight movement in our region. All projects in the database were gathered from existing or in-progress plans or reports, and Freight Subcommittee nominations. Several projects in the CLRP support freight movement by improving major truck routes in the region. Additionally, the database provided a foundation for the Freight Subcommittee's work toward the development of a list of 10 Highlighted Freight Transportation Projects for the National Capital Region.

Current Freight Conditions

As trucks carry approximately 76 % of goods to, from, and within the region, and they face growing congestion on the region's roads and rail networks. In a TPB survey of freight-related businesses in the National Capital Region, congestion on Interstates 495, 95, and 66 were repeatedly mentioned as significant challenges to doing business in the region. For trucking companies, congestion diminishes productivity and increases the cost of operations, as drivers must be paid for time spent making deliveries as well as time spent stalled or stopped in traffic.

The National Capital Region is primarily a through corridor for freight rail, with 95 percent of rail traffic travelling through the region. Two Class One railroads operate in the region, CSX Transportation Inc. and Norfolk Southern Corporation. Through cooperative track sharing agreements, commuter services Maryland Area Regional Commuter (MARC) and Virginia Railway Express (VRE) as well as passenger service Amtrak operate in the region.

Air freight commodities are typically high in value, light in weight, and time sensitive. Freight is moved either on dedicated all-cargo planes (e.g. FedEx, UPS) or in the cargo holds of passenger planes. Washington Dulles International Airport (IAD) and the Ronald Reagan Washington National Airport (DCA) are located within the region, and the Baltimore Washington International Thurgood Marshall Airport (BWI) is located just outside the National Capital Region in Anne Arundel County, Maryland. IAD and BWI are the two primary air cargo airports that serve the National Capital Region. Supplemental

facilities provided at IAD and BWI, such as refrigerated and heated warehouses and customs agents, help to speed up goods movement through the supply chain to their final destination.

A small amount of barge movements occur on the Potomac and Anacostia Rivers. These movements transport petroleum and construction aggregates, such as rock and sand. According to U.S. DOT Freight Analysis Framework 2002 numbers, one million tons of goods, worth $69 million are moved by water annually in the National Capital Region.

Regional Freight Forecasts

The National Capital Region is among the fastest growing areas in the country. As the economy grows, so, too, does demand for more goods, as well as an increased reliance on freight cargo to move these goods from one place to another. The goods that people demand originate from destinations across the globe, and they often travel via several transportation modes, before they reach the customer at the store. These goods need to be delivered to our local groceries, big box retailers, hospitals, offices, and schools daily, and often multiple deliveries each day. As consumers, we expect our goods to be available where we want and when we want.

The pending completion of the Panama Canal expansion has potential for significant growth for east coast ports and freight movement. The canal currently has the width and capacity for ships carrying up to 5,000 standard shipping containers (each 20 ft. by 8 ft. by 8.5 ft.). When the expansion is completed, larger ships with capacities of more than 12,000 standard shipping containers will be able to pass through the Panama Canal. The expansion is anticipated to be complete in 2014. As West Coast facilities reach capacity, the expanded canal will impact shipper route selection. This is likely to influence the relationship between truck and rail as intermodal (shipping containers and trucks trailers on rail cars) movements grow. According to the Association of American Railroads, between 1980 through 2006, the nation's railroad mode share measured in revenue ton-miles grew from 30 percent to 43 percent. In this same period, intermodal shipments were the fastest growing segment of traffic on the rail system.

In order to be competitive in this projected future growth environment, both Class One railroads in our region have under undertaken major initiatives to improve their railway network. Both railroad initiatives provide opportunities for rail efficiencies, truck to rail diversions, and fewer emissions.

CSX Transportation Inc. is working on the "National Gateway," an effort to clear 61 obstructions in six states across the Mid-Atlantic and Midwest. In addition, five new and two upgraded intermodal facilities are planned, including one near Baltimore, Maryland. Thirteen National Gateway projects fall within the National Capital Region. The Washington D.C. Virginia Avenue Tunnel project will update the antiquated single-track tunnel under the Virginia Avenue to a double-track and double stack throughway for freight trains.

The Norfolk Southern Crescent Corridor Intermodal Freight Program is an effort to link 13 states via 2,500 miles of railway, between Louisiana and New Jersey with track improvements and clearance projects to allow for double-stacked train service and rail efficiencies. The Crescent Corridor will also build or enhance 11 intermodal facilities. The Crescent Corridor parallels two major north-south interstates used by truckers, Interstate 81 and Interstate 95.

For More Information CLRP Website: www.mwcog.org/clrp/elements/freight // Enhancing Consideration of Freight in Regional Transportation Planning: // National Capital Region Freight Plan:

Congestion Management Process

This element of the CLRP constitutes the Congestion Management Process (CMP) for the National Capital Region under the metropolitan planning requirements of the SAFETEA-LU federal transportation legislation, and associated regulations. The *2010 CMP Technical Report* serves as a background document, providing detailed information on data, strategies, and regional programs involved in congestion management. The National Capital Region's Congestion Management Process has four components:

- Monitor and evaluate transportation system performance
- Define and analyze strategies
- Implement and assess strategies
- Compile project-specific congestion management information

CMP and the CLRP

The CMP defines and analyzes a wide range of potential demand management and operations management strategies for consideration in CLRP projects. TPB, through its Technical Committee, Travel Management Subcommittee, Travel Forecasting Subcommittee, and other committees, reviews and considers both the locations of congestion and the potential strategies when developing the CLRP. For planned CLRP or programmed TIP projects, cross-referencing the locations of planned or programmed improvements with the locations of congestion helps guide decision makers to prioritize areas for current and future projects and associated CMP strategies. Thus CLRP and TIP project selection is informed by the CMP, and implementation of CMP strategies is encouraged.

The region also employs non-capital congestion strategies through its Commuter Connections program of demand management activities, and the Management, Operations, and Intelligent Transportation Systems (MOITS) program of operations management strategies. Assessments of these programs are analyzed, along with regular updates of travel monitoring to look at trends and impacts, to inform future CLRP cycles.

Monitoring Transportation System Performance

The TPB uses Skycomp aerial photography freeway monitoring and a number of other travel monitoring activities to support both the CMP and travel demand forecast model calibration. Skycomp data illustrates locations of existing congestion and complements operating agencies' own information. CLRP travel demand modeling forecasts, in turn, provide information on future congestion locations. This provides an overall picture of current and future congestion in the region, and helps set the stage for agencies to consider and implement CMP strategies, including those integrated into capacity-increasing roadway projects.

In addition to the aerial photography program, since 2008, the I-95 Corridor Coalition's Vehicle Probe Project has made data from INRIX, Inc, a national provider of traffic information for in-vehicle navigation devices and smartphones, available for 198 miles of the region's freeways. The two most significant advantages of this new innovative data source are that it provides continuous monitoring and reports segment-based speeds and travel times.

The TPB's arterial monitoring program is carried out by staff using global positioning system equipped floating vehicles. 57 major arterial routes totaling 429 miles in the region are currently monitored on a three-year cycle with each year monitoring about one third of them. Field data collections are usually conducted during Fall and Spring and final results are presented in June.

State of Congestion

Congestion varies with time of day, day of week, month to month, and year to year. For example, economic downturns have shown congestion declines as individuals conserve on auto trips and increased use of transit. When the economy is strong, more vehicles are on the road. While it is evident that congestion may be getting worse in some areas by 2040, this is not true for all areas.

The existing conditions and future forecasts provides an overall picture of current and future congestion in the region, and helps set the stage for agencies to consider and implement CMP strategies, including those integrated into capacity-increasing roadway projects.

Highway

From 2005 to 2008, vehicle miles of travel (VMT) fell 3.1 percent nationally and in DC, Maryland, and Virginia. This was the first time since the Skycomp aerial surveys began in 1993 that VMT had dropped. Since then, evidence has shown that the congestion trend has started increasing again from the second half of 2008 to the second half of 2009.

The travel time index, the ratio of actual travel time over free flow travel time, from INRIX data for 2009 reveals that Tuesday mornings and Friday afternoons were the busiest AM and PM peak periods in a week. The Friday evening peak hour (4:00-5:00 PM) was one hour earlier than the peak hour (5:00-6:00 PM) observed in the other four workdays. Finally, Saturday had more traffic than Sunday, but both weekend days were generally less congested than workdays.

An analysis of regional bottlenecks was conducted based on the number of vehicles per lane per mile (i.e., density of traffic flow), using the Spring 2008 Skycomp survey. The results are shown in Table X.

Transit

The National Capital Region possesses a multimodal and diverse transit system, including Metrorail, commuter rail, and a variety of bus operations. Congestion on the region's highway system often has an impact on transit systems, such as rail and bus. The identified congested locations on highways, especially those on the Washington Metropolitan Area Transit Authority's (WMATA) Priority Corridor Network, are usually also bottlenecks for bus transit. Relieving highway congestion will have a positive impact on bus operations. Congestion can also be an issue within transit. If the demand for buses, rail, and train is high and the capacity cannot keep up with that demand, then transit becomes overcrowded. Congestion exists within certain transit stations, especially multimodal transit centers, e.g. Union Station. These stations need to expand their capacity in order to satisfy the demand imposed by existing large ridership and/or future ridership increases.

For More Information CLRP Website: www.mwcog.org/clrp/elements/cmp // 2010 CMP Technical Report: // Commuter Connections: www.mwcog.org/commuter2 // MOITS Program:

insert table?

Emergency Preparedness & Transportation Security

Events in recent years have heightened awareness of regional emergency preparedness. In addition to the tragic attacks of September 11, 2001, the Washington region has experienced a series of sniper shootings, anthrax incidents, Hurricane Isabel, and other emergencies. With its world prominence and its many visible symbols of democracy, the Washington region remains a target for terrorism and other attacks. These events and circumstances serve as reminders the region must be as prepared as possible to respond to emergencies and disasters.

Transportation plays multifaceted roles in incidents and emergencies. Every day, transportation agencies handle incidents such as crashes and breakdowns on their systems. The need for coordination among transportation agencies during incidents having multi-jurisdictional or regional impacts led to the creation of the Metropolitan Area Transportation Operations Coordination (MATOC) Program. The MATOC Program aims to advise agencies as they respond to major incidents, through improved technological data sharing systems, coordinated operating and notification procedures, and better availability of transportation information for the public.

In declared emergencies and major disasters, including incidents involving major evacuations, transportation becomes one of a number of support functions to a public safety agency-led response. Regionally, public safety and emergency management planning are addressed by the Metropolitan Washington Council of Governments (COG) and its group of public safety committees and programs. The COG Board is advised by the National Capital Region Emergency Preparedness Council on regional preparedness planning matters, as well as by a number of specialized public safety committees in the Homeland Security Program. The TPB and its programs coordinate with the COG programs, and provide technical transportation expertise as necessary.

Within the regional Homeland Security Program, the region maintains the *Regional Emergency Coordination Plan*. The *Regional Emergency Coordination Plan* discusses how the numerous federal, state, and local agencies in the region should communicate and coordinate during emergencies. It builds from but does not replace the emergency response plans that individual jurisdictions must develop. Sections of the *Regional Emergency Coordination Plan* are designated as Regional Emergency Support Functions (RESFs) 1 through 16, following the Federal Emergency Management Agency's (FEMA's) naming convention. Some of the functional areas included are emergency management, law enforcement, fire, health, public outreach, and transportation; the emergency transportation function is referred to as RESF-1. The dedicated RESF-1 Transportation Chapter in the *Regional Emergency Coordination Plan* addresses communication and coordination among regional jurisdictions and agencies concerning regional transportation issues and activities before, during and after a regional incident or emergency.

For More Information CLRP Website: www.mwcog.org/clrp/elements/security.asp // MATOC Program: // NCR Emergency Preparedness Council: // Homeland Security Program: www.mwcog.org/security/security // Regional Emergency Coordination Plan:

Safety

Under the 2005 federal transportation bill, SAFETEA-LU, the long-range transportation plan for the region must include a safety element. The TPB Vision document calls upon member jurisdictions to provide safer transportation facilities for pedestrians, bicyclists, and persons with special needs, better enforcement of traffic laws and motor carrier safety regulations, achieve national targets for seatbelt use, and use appropriate features in facility design.

Need for Transportation Safety

Keeping transportation system users safe from death and injury is a top goal of the TPB. The Washington metropolitan area is a diverse and rapidly growing region, a major tourist destination, and a gateway for immigrants from all over the world. Growth has meant more people from more places driving, riding, and walking more miles in the Washington region than ever before. Tourists and newcomers may be unfamiliar with local traffic rules and dangers. Street design, motorist behavior, and pedestrian and bicyclist behavior must allow all to remain safe from harm while encouraging walking and bicycling.

Nearly 300 people die in traffic and 42,000 are injured every year in the Washington region. Improving safety for all modes is critical to improving quality of life and improving access for all the citizens of the region. Crash reduction is integral to the TPB Safety Program, the Congestion Management Process, the Transportation Improvement Program, and the Transportation-Land Use Connections program, and planning for the Access for All, Bicycle and Pedestrian Planning, Regional Bus Planning, and Freight Planning committees of the TPB. (Insert graphic)

Safety-Related Activities

Under its Transportation Safety Planning program, the TPB compiles and analyzes regional safety data, coordinates the metropolitan transportation planning aspects of state, regional, and local safety efforts, coordinates with other TPB committees on the integration of safety considerations, and develops and maintains the safety element of the region's long-range plan.

The Transportation Safety Subcommittee of the TPB Technical Committee includes representatives from a wide range of safety stakeholders, including the State Departments of Transportation Planning, TPB member jurisdiction planning staff, law enforcement, and public health representatives. The Transportation Safety Subcommittee advises staff on the creation and maintenance of the federally-required safety element of the CLRP. This involves coordination between TPB staff, the committee, and those staff and consultants working on the state Strategic Highway Safety Plans. The subcommittee also facilitates the exchange of information among safety stakeholders regarding ongoing activities and best practices. The subcommittee advises the TPB and TPB Technical Committee on safety matters, and may provide regional planning recommendations from the safety perspective.

Another major safety-related program sponsored by the TPB is the Street Smart Pedestrian and Bicycle Safety campaign, which consists of waves of advertising, media events, and concurrent pedestrian-related traffic enforcement. The program is intended to save lives by raising awareness of pedestrian and bicyclist safety, and changing motorist and pedestrian behavior.

For More Information CLRP Website: www.mwcog.org/clrp/elements/safety // Transportation Safety Planning Program: // Transportation Safety Subcommittee: // Street Smart Campaign: www.bestreetsmart.net

Environmental Consultation

As of 2007, MPOs are federally required to engage and consult with affected land use management, natural resource, environmental protection, conservation and historic preservation state and local agencies regarding the development of the CLRP. In compliance with these regulations, the TPB has established a dialogue with environmental agencies to create a foundation for ongoing consultation and knowledge sharing regarding environmental issues on a regional, system-wide scale. These relationships have been fostered through several consultation efforts. One product of these efforts is the creation of a series of seven regional maps showing the intersection of the CLRP with State conservation plans and inventories of natural or historic resources.

The consultation effort was initiated in March 2007 when the TPB solicited input and comments on the draft 2007 CLRP, requested suggestions on potential environmental mitigation strategies and collected environmental GIS data from natural resource and environment agencies in D.C., Maryland and Virginia.

This was followed by a meeting held in March 2008 where the TPB presented a series of draft maps showing planned transportation projects and sensitive environmental resources to state and local transportation and resource agency staff for comment. Discussion at this second outreach effort focused on the need to promote opportunities for "meaningful mitigation" through the pooling of limited mitigation resources to implement larger mitigation projects that will result in greater net environmental benefits.

In November 2009 the third outreach effort focused on opportunities for promoting the concept of advanced mitigation in the National Capital Region. This one day workshop brought together state and local transportation and resource agency staff and resulted in the development of a set of next steps to further explore opportunities for advanced mitigation in each state in the metropolitan area and guide future TPB environmental consultation efforts.

For More Information CLRP Website: www.mwcog.org/clrp/elements/environment // Environmental Mapping: www.mwcog.org/clrp/elements/environment/envmapping.asp

Land Use Coordination

The TPB recognizes that transportation and land use are inextricably linked and identifies better coordination and planning of these as one of its policy goals. The TPB and its staff work closely with COG's Housing and Planning staff to achieve this goal.

The Cooperative Forecasting Program at COG enables local and regional planning to be coordinated by using common assumptions about future growth and development. The program combines regional data, which are based upon national economic trends and regional demographics, with local projections of population, households and employment. These local projections are based on data about real estate development, market conditions, adopted land-use plans, and planned transportation improvements. The Cooperative Forecast is used extensively by TPB staff in modeling travel demand and emissions.

TPB's *The Vision* called for the development of a composite land use and transportation map of the region. This map introduced the concept of regional activity centers, areas of the region intended to have a mix of jobs, housing and services in a walkable environment. The maps and data were developed for use by local jurisdictions, the TPB and other regional bodies to encourage mixed-use development and to significantly increase the percentage of jobs and households that are found in regional activity centers.

The regional activity centers have served as a focal point for scenario planning efforts conducted over the past decade, including the *Regional Mobility and Accessibility Scenario Study* and the *CLRP Aspirations Scenario Study*. These studies have analyzed the potential benefit that more compact, transit-oriented development could have in helping to alleviate travel congestion.

The Washington Region is already nationally known for successes in concentrating mixed-use development in regional activity centers, especially those served by transit, though challenges still remain in addressing community-level challenges. Accordingly, in fall 2006 the TPB launched the Transportation/Land-Use Connections (TLC) Program. This program represents a way for the TPB to assist local jurisdictions in implementing this strategy, through providing both direct technical assistance and information about best practices and model projects through the TLC Clearinghouse.

For More Information CLRP Website: www.mwcog.org/clrp/elements/landuse.asp // Cooperative Forecasting Program: www.mwcog.org/planning/planning // TLC Program: www.mwcog.org/tlc

Scenario Planning

The TPB launched the Regional Mobility and Accessibility Scenario Study in 2001 to examine the impacts of alternative transportation and land use scenarios. Phase I of the Scenario Study examined five scenarios that shift future jobs and households and add extensive networks of new public transit facilities, to see if these scenarios point to actions the region's leaders might take to better meet the objectives of the *The Vision*. Phase II of the study included an extensive public outreach effort in which TPB staff shared the analysis of the five scenarios with audiences around the region and facilitated discussion about scenario implications and implementation challenges. This effort culminated in a Feedback Report detailing the input received at these events.

In September 2007, the TPB created a Scenario Study Task Force to explore how to integrate the study into the development of the TPB's Constrained Long-Range Transportation Plan (CLRP) and into planning efforts at the state and local levels.

"What Would it Take?" Scenario

In May 2010, the TPB completed a scenario study examining the role of regional transportation in climate change mitigation in the Washington region, called the "What Would it Take?" scenario. The scenario is a goal-oriented study that specifically asks and tries to answer the question of what it would take in the Washington region to meet aggressive greenhouse gas emissions reduction goals in transportation. The study includes the analysis of over 50 strategies from national level CAFE standards and alternative fuel mandates to regional and local level bicycle plans and congestion reduction strategies to determine their potential to reduce emissions and contribute to the environmental resilience of this region.

CLRP Aspirations Scenario

A second scenario, the "CLRP Aspirations" scenario, was developed and analysis was completed in September 2010. The CLRP Aspirations scenario seeks to create a land use and transportation vision that can serve as a de facto unconstrained plan for the region. This vision builds off of the TPB's history of land use and transportation scenario planning work. The scenario includes an aggressive land use growth vision centered on reimagining the region's activity centers and transit station areas to be walkable, mixed use, and vibrant neighborhoods. These centers are envisioned to be connected via a bus rapid transit system running on a network of priced road lanes.

The TPB's study of land use and transportation scenarios will not produce a magic formula to solve the region's transportation problems, but it will inform a growing public discussion on the direction and shape of future development. Implementing the *The Vision*—including the goals of reducing per capita driving, increasing transit use and promoting regional activity centers—formed the context and motivation for the Scenario Study. Ultimately, regional leaders hope the results of the study will help steer the region closer to this vision.

For More Information CLRP Website: www.mwcog.org/clrp/elements/scenarios.asp // Scenario Study Task Force:

Human Service Transportation Coordination

The Washington metropolitan area is a dynamic and vibrant region that relies on a complex transportation infrastructure of various modes to support it. This transportation system must serve equally the needs of all who rely on it. Some transportation-disadvantaged groups – persons with disabilities, individuals with income limitations and those with limited English proficiency – have specialized needs that necessitate distinct planning and coordination efforts. The TPB has taken the lead in the Washington region to improve human service transportation coordination on behalf of these transportation-disadvantaged groups.

In 2006, the TPB became the designated recipient for two FTA funding programs: Job Access Reverse Commute (JARC) and New Freedom, which provide approximately $1 million per program per year to support transportation services for low-wage earners to get to job sites or for people with disabilities for any trip purpose. As the designated recipient for these programs, TPB prepared a Coordinated Human Service Transportation Plan with stakeholder input. Using guidance from this Plan as well as from a Task Force of transportation providers, human service agencies and consumers, the TPB conducts annual solicitations for projects and services tailored to low-wage earners and people with disabilities.

Since 2007, 35 projects have been funded to improve mobility for many of the region's residents, visitors, workers and students. The TPB has also played an important role in implementing two of these coordinated projects: rollDC, a wheelchair accessible taxi service pilot in DC, and a Regional Transportation Information Clearinghouse. In total, over $9 million in projects have been approved that have helped many transportation-disadvantaged individuals improve their mobility and achieve full participation in employment, healthcare, cultural and other daily activities.

For More Information CLRP Website: www.mwcog.org/clrp/elements/hstc.asp // TPB's JARC and New Freedom Programs: www.mwcog.org/tpbcoordination // rollDC: www.mwcog.org/tpbcoordination/projects/taxi.asp // Reach A Ride:

Ground Access Element of the Regional Airport System Plan

A critical and often overlooked component of the region's airport system is the transportation linkage between the airports and the surrounding communities. Significant regional growth in jobs and households and subsequent growth in air travel means that the need to maintain quick and efficient access to the region's airports for local residents, business travelers and visitors continues to be an increasing concern. To maintain economic competitiveness and quality of life, the ground access system supporting travel to and from the region's airports must continue to provide for the timely and efficient movement of passengers, workers and air cargo to maintain swift door-to-door travel.

Accordingly, the TPB has developed a *Ground Access Element of the Regional Airport System Plan*. This plan was updated in September 2010 and has three main purposes:

- Provide analysis of current and forecast ground access concerns at all three commercial airports—Reagan National (DCA), Dulles (IAD), and BWI Marshall (BWI) airports
- Integrate airport system ground access and facility planning into the overall regional transportation planning process for the National Capital region
- Develop recommendations for essential highway and transit improvements needed to maintain efficient and convenient ground access to the region's airports in the future

For More Information Continuous Airport System Planning Program: www.mwcog.org/transportation/activities/airports/elements.asp

Transportation Demand Management

Transportation Demand Management (TDM) strategies are meant to reduce the number of vehicle trips, the amount of vehicle miles of travel, or both. These measures reduce roadway congestion and vehicle emissions by promoting alternative modes of transportation.

The Employer Outreach Program aims to market and implement employer-based TDM programs for the private sector. A TDM specialist coordinates the regional outreach efforts of the program. Employees are encouraged to use transit, rideshare, walking or bicycling for their commute trips. Related to this, the Gauranteed Ride Home Program offers commuters using alternative transportation (rideshare, transit, bicycle, or walking) a ride home in the event of an unexpected personal emergency or unscheduled overtime. Various cab companies and a car rental company provides this service for stranded commuters.

Other TDM strategies, such as Rideshare Tuesday's, Bike to Work Day, and telework resources, are provided by TPB's Commuter Connections Program.

For More Information Commuter Connections: www.mwcog.org/commuter2

Management, Operations & ITS

Getting the most out of the existing transportation system is an important goal of the TPB, notably by means of actively managing the system. Efficient system Management and Operations (M&O) has been promoted by the U.S. Department of Transportation. M&O encompasses the day-to-day actions and agency responses to the region's transportation system. Examples include routine activities such as reconstruction and maintenance, snow plowing and salting, providing real-time traveler information, and traffic signalization. Management of the transportation system in special circumstances is also important, such as traffic plans for special events, and also falls under the umbrella of M&O.

By focusing on the evolving technology of Intelligent Transportation Systems (ITS) and the day-to-day activities of M&O, TPB and the region's transportation operators and planners have a greater opportunity of providing more efficient and effective solutions to the region's transportation problems. TPB's Management, Operations, and Intelligent Transportation Systems (MOITS) Policy Task Force and MOITS Technical Subcommittee meet regularly to discuss coordination and ways in which transportation technology can improve congestion, safety, maintenance, and system efficiency. MOITS brings short-term operational needs into consideration as important input to the region's CLRP.

In June 2010, the *Strategic Plan for the MOITS Planning Program* was finalized. The strategic plan identifies projects and actions that will support effective M&O in the region, and advises member agencies on management, operations, and technology deployments for meeting common regional goals and objectives.

Advanced technologies are also key to M&O. ITS are defined in the transportation field as the application of current and evolving technology (particularly computer and communications technology) to transportation systems. Examples include up-to-the-minute traffic and transit information, traffic detection systems, and advanced technology traffic signals. Such technologies often show a particularly strong benefit-cost relationship and are good investments for the region.

Key focuses in the MOITS program include:

- Regional ITS architecture
- Traveler information
- Traffic signal operations
- Transportation safety
- Metropolitan Area Transportation Operations Coordination (MATOC) Program

For More Information CLRP Website: www.mwcog.org/clrp/elements/moits // Strategic Plan for the MOITS Planning Program:

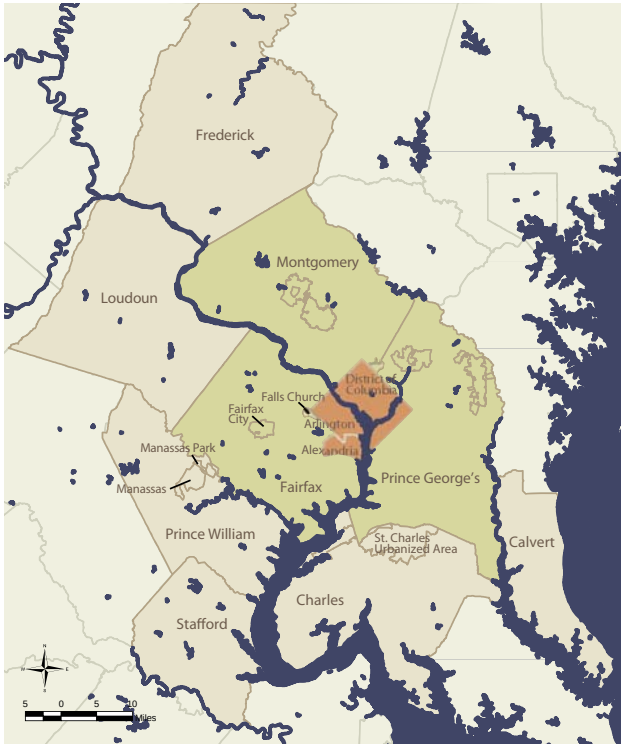
Addressing our Regional Transportation Goals

The purpose of this chapter is to describe the expected performance of the 2010 CLRP in relation to the region's transportation goals. The first section presents the plan's anticipated overall performance based on travel demand forecasts. The second section provides an indication of how the plan is expected to perform in a few areas in relation to the regional transportation goals presented earlier in Chapter 2: Shaping the Plan (see the Policy Framework section, p 10).

CLRP Performance

Regional transportation demand projections for the plan, developed from the TPB travel forecasting process, provide background information on the overall expected performance of the 2010 CLRP. The travel forecasting process utilizes land use forecasts of households and jobs 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 the resulting system performance. 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 the Washington, DC-MD-VA Metropolitan Statistical Area (MSA), which is a subset of the entire modeled area, and also serves as the area for air quality planning for the region. The MSA area is shown in the figure to the right along with the TPB planning area.



Jurisdictions in the MSA
(as defined in 1983)

Regional Core: District of Columbia; Arlington County and the City of Alexandria in Virginia

Inner Suburbs: Montgomery and Prince George's Counties in Maryland; Fairfax County and the Cities of Fairfax and Falls Church in Virginia

Outer Suburbs: Loudoun, Prince William and Stafford Counties in Virginia, Frederick, Calvert and Charles Counties in Maryland

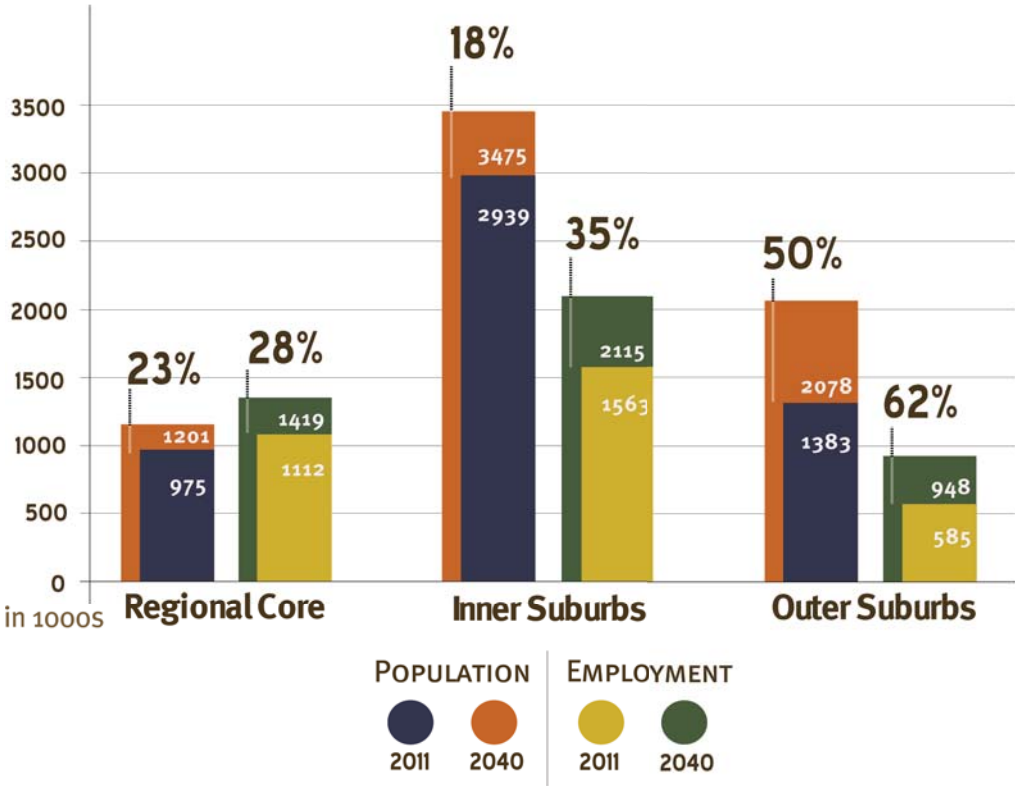
The performance analysis for the 2010 CLRP was conducted for jurisdictions within the Washington, DC Metropolitan Statistical Area (MSA) as defined in 1983 by the US Census Bureau. Population and employment estimates are based on the Revised Round 8.0 Cooperative Land Use Forecast. Travel forecasts were generated by the Travel Demand Model Version 2.2.

Metropolitan Growth

As an introduction to forecast conditions and the plan's performance, information on how the region is expected to develop is helpful because metropolitan growth greatly impacts the transportation challenges this region is facing. Land use changes expected over the next 30 years were discussed in Chapter 2: Shaping the Plan (see the Metropolitan Growth and Development section, p 12). The region is forecast to grow by almost 1.5 million people and slightly more than 1.2 million jobs over the next 30 years—a 28 percent increase in population and a 37 percent increase in employment.

As the figure to the right shows, the regional core will grow at a slower rate than the outer suburbs, which will see dramatic increases in population and employment. Despite the dramatic growth in the outer suburbs, the inner parts of the region (the regional core and inner suburbs) are still expected to have the highest concentrations of jobs and people in 2040. However, while most of the employment is in the regional core and inner suburbs, most of the population is located in inner and outer suburbs.

FIGURE X: Change in Population and Employment Forecast, 2011-2040



Travel Demand

Over the next three decades, rising population and jobs will lead to additional vehicles, trips and congestion on the region's transportation system. While vehicle miles of travel (VMT) per capita, which is a measure of how much people drive, is actually forecast to decline slightly, overall VMT is increasing faster than new freeway and arterial lane miles slated for construction in the plan.

Transit work trips are forecast to increase by 43% as an increasing number of people are expected to use transit to commute to work. This will inevitably create even more crowding on the Metrorail system, since the ability of the transit system to expand its capacity is limited by funding constraints.

The road network will also experience a gap between forecasted demand and additional capacity. Given funding constraints, lane miles are only expected to increase 11%, while VMT is expected to rise 22%, resulting in a 38% rise in lane miles of congestion. Nearly all of this increased congestion will occur in the suburbs, with the Inner Suburbs experiencing the worst congestion in the region. However, it is the Outer Suburbs that will experience the most dramatic increase in congestion, with a 111% increase in lane miles of congestion by 2040.

FIGURE X: Change in Land Use and Travel Forecast, 2011-2040

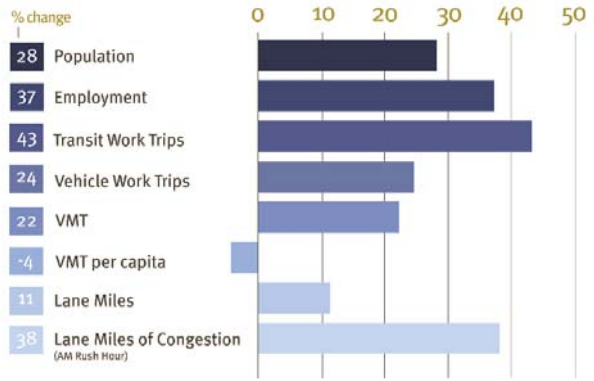


FIGURE X: Lane Miles of Congestion (AM Rush Hour), 2011-2040

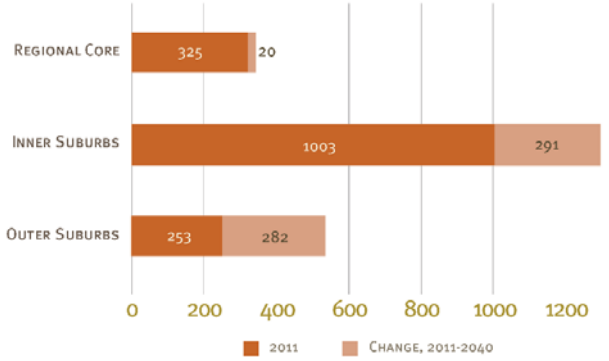


FIGURE X: Summary of Regional Travel Forecasts, 2011-2040

	2011	2020	2030	2040	Absolute Change 2011-2040	Percent Change 2011-2040
Demographics						
Population	5,296,576	5,850,819	6,371,195	6,753,590	1,457,014	28%
Employment	3,259,958	3,718,343	4,138,943	4,482,288	1,222,330	37%
Forecast Daily Travel						
Truck Trips	440,670	497,935	550,268	597,000	156,330	35%
Total Vehicle Trips	17,773,185	19,516,933	21,277,987	22,651,275	4,878,090	27%
Total Daily VMT	121,070,560	132,563,848	141,760,962	147,963,117	26,892,557	22%
Total Daily VMT Per Capita	22.86	22.66	22.25	21.91	-0.95	-4%
Lane-Miles of Roadway	15,461	16,626	17,017	17,136	1,675	11%
Forecast Work Travel						
All Person Work Trips	3,873,670	4,288,125	4,635,086	4,900,637	1,026,967	27%
Auto Person Trips	3,264,970	3,548,666	3,826,952	4,033,195	768,225	24%
Auto Driver Trips	2,878,723	3,094,749	3,333,248	3512,580	633,857	22%
Auto Passenger Trips	386,247	453,917	493,704	520,615	134,368	35%
Vehicle Trips on HOV Facilities	28,992	43,440	49,956	53,523	24,531	85%
Average Auto Occupancy*	1.13	1.15	1.15	1.15	0.01	1%
Transit Work Trips	608,700	739,459	808,134	867,442	258,742	43%
Transit Share of Work Trips	15.71%	17.24%	17.44%	17.70%	1.99%	13%
Transit Share of Work Trips in District Core	75.4	78.7	79.7	80.7	5.30	7%
Unconstrained Transit Work Trips	608,700	739,459	818,536	886,147	277,447	46%
Unconstrained Transit Share of Work Trips	15.71%	17.24%	17.66%	18.08%	2.37%	15%

Job Accessibility

Another way to measure the performance of the plan is by accessibility to jobs by auto and transit. The maps show that the average accessibility to jobs by auto is expected to increase slightly between 2011 and 2040, and accessibility by transit is forecast to increase more significantly. However, overall accessibility by transit will still remain less than by auto.

FIGURE X: Job Accessibility by Auto, Change in # of Jobs Within 45 Minutes

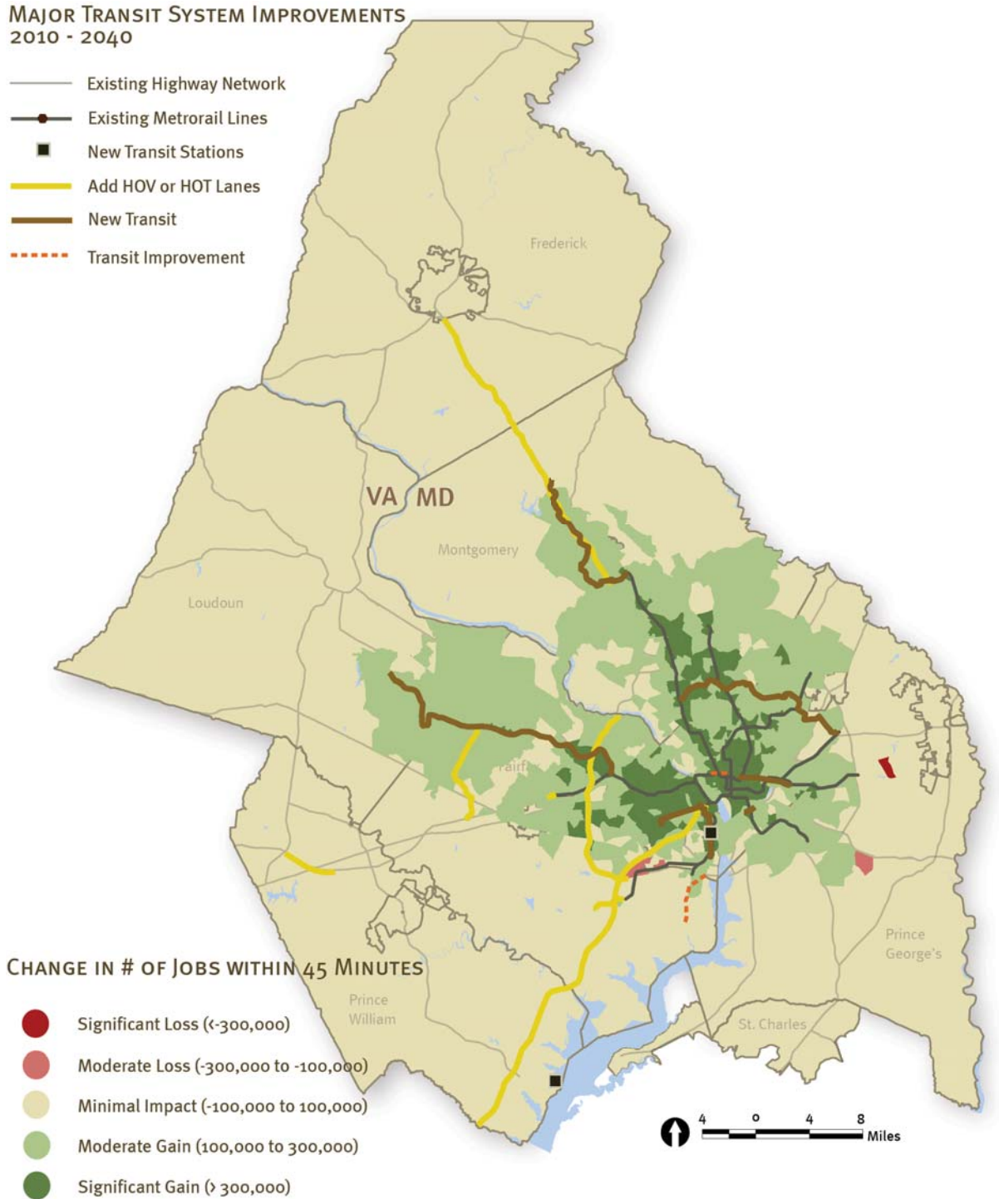
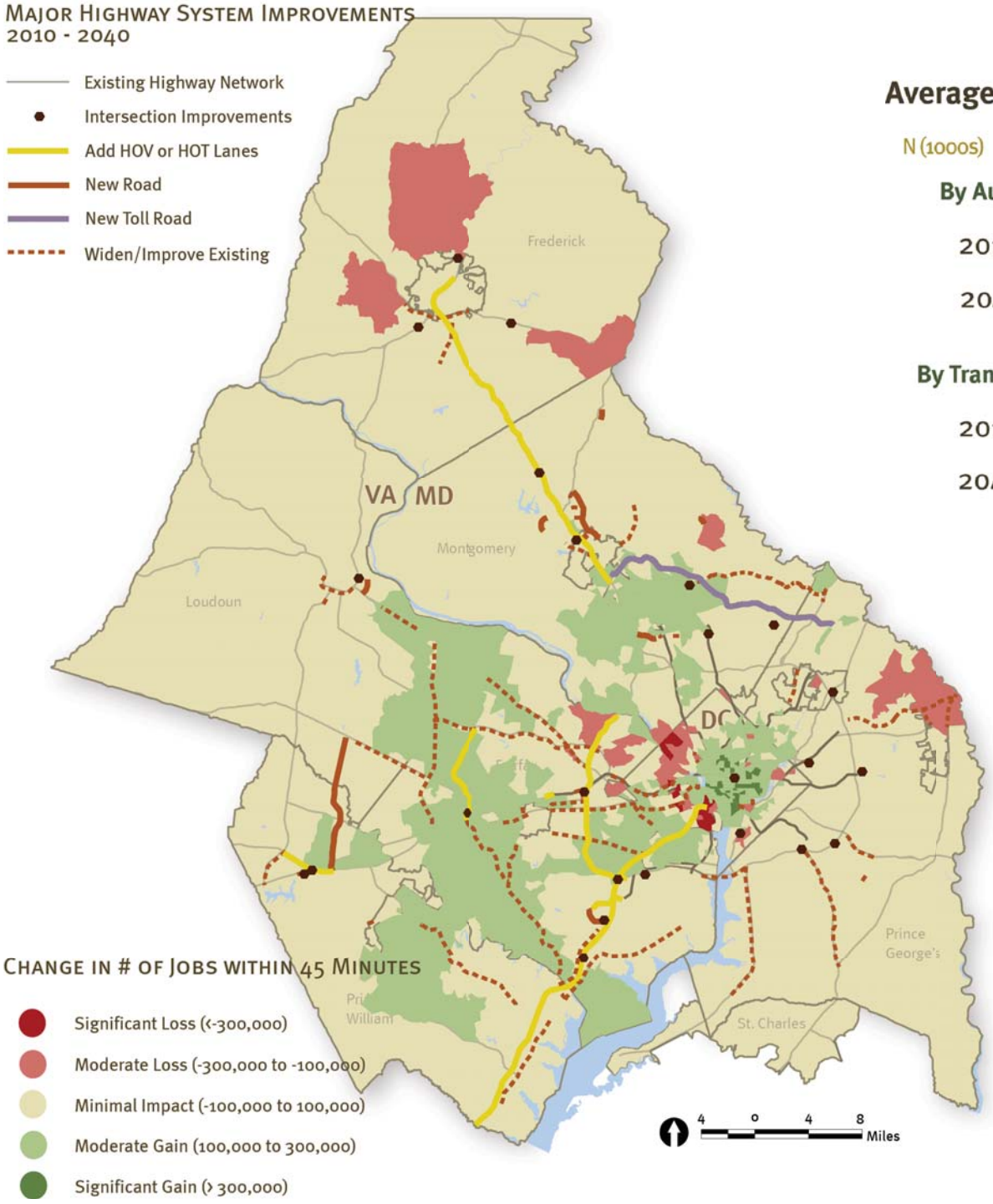
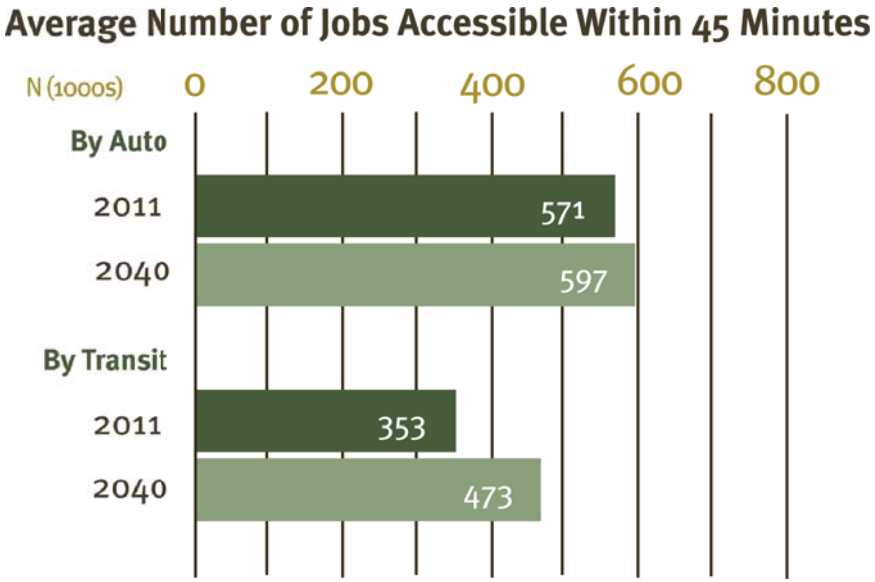


FIGURE X: Job Accessibility by Transit, Change in # of Jobs Within 45 Minutes

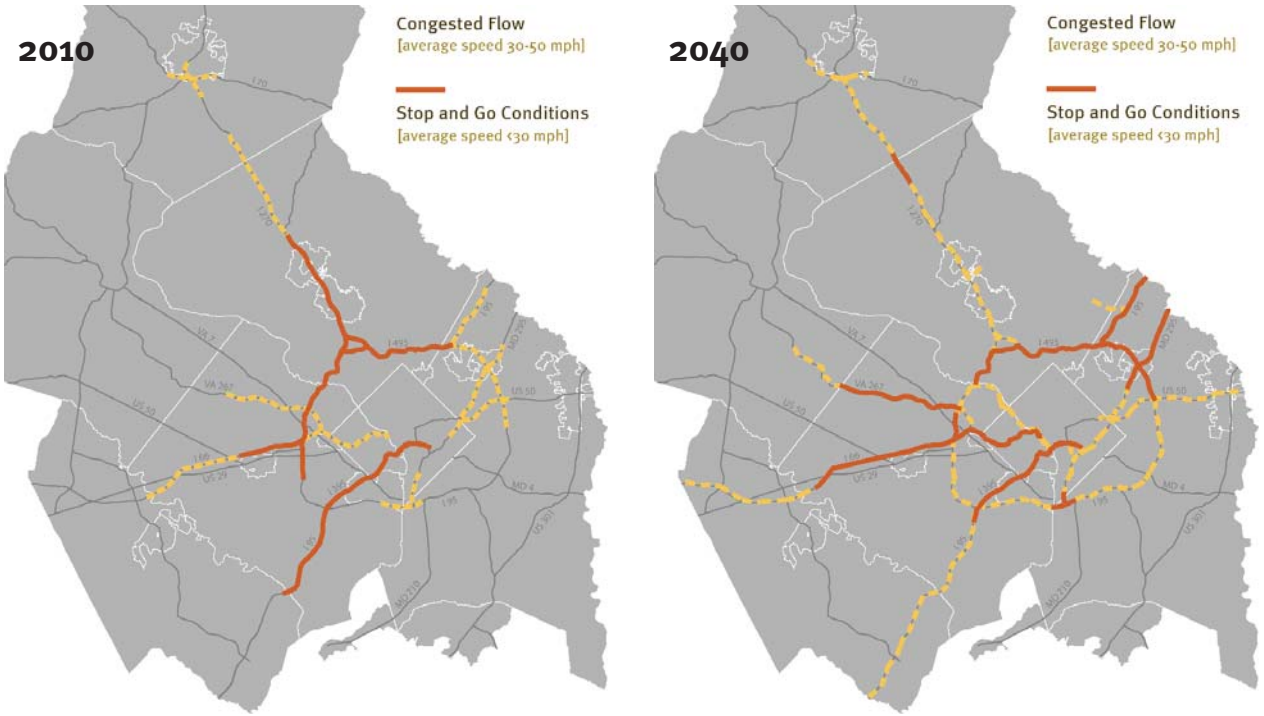




Highway Congestion

Figure X displays the expected changes in evening peak-hour highway congestion by 2040 based on the improvements in the plan. The 2010 levels are based on aerial photosurveys of highway traffic, and the expected congestion levels for 2040 are based on travel demand forecasts. Severe stop and go congestion is expected to be prevalent throughout the entire region in 2040, not just in isolated areas. In 2040, there are some areas of forecasted improvement, such as I-95 and I-495 in Virginia, which will benefit from the HOT lane projects included in the 2010 CLRP.

While travel forecasts and simulations of the transportation system predict more congestion in the future, it is less clear how people during the next 30 years will adjust to those conditions. As the durations of the daily peak congestion periods spread, increasing numbers of commuters and others may change their times of departure, seeking less congested travel times. Employees may be more likely to try telecommuting. Automobile users may be more likely to carpool or ride transit. As congestion becomes more pervasive, people may be more likely to combine trips with different purposes and take shorter trips in order to avoid frustrating delays. People also might be more likely to seek jobs closer to where they live, or conversely, to seek housing closer to where they work.



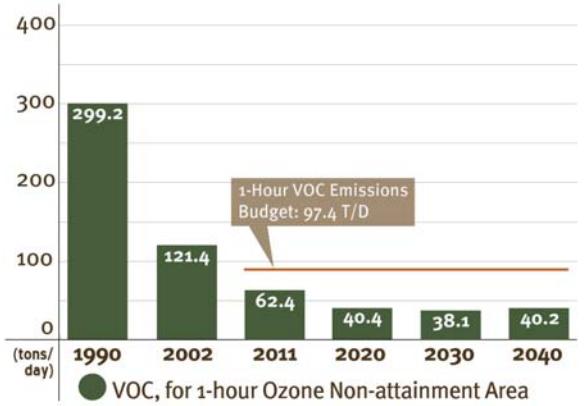
Air Quality: Mobile Source Emissions

Under the Clean Air Act, the CLRP is required to conform to regional air quality improvement goals. Before the CLRP can be approved, the TPB must approve 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, which is done in close coordination with development of the CLRP.

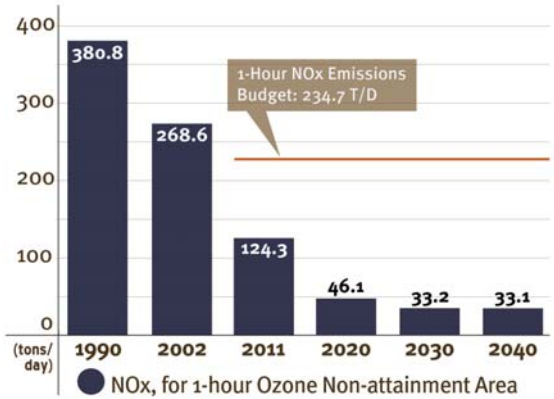
Sometimes called smog, ozone is formed on hot summer days when Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx) combine in sunlight. Motor vehicles, as well as power plants and other sources, emit these pollutants. In addition to NOx and VOCs, the plan must track and estimate particulate matter of less than 2.5 micrometers in size (PM2.5). PM2.5 is of special concern because these ultra-fine particles can easily lodge into the lungs and cause health problems. Concern about PM2.5 has developed relatively recently, therefore PM2.5 was not tracked or estimated in 1990.

Analysis of the plan shows dramatic reductions 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 shows that estimated emissions are within the mobile source emissions budget of each pollutant for 2011, 2020, 2030, and 2040. Largely, these results reflect the impact of fleet turnover, better vehicle standards, and cleaner fuels. Absent any further improvements to vehicle standards, once the fleet has completely turned over the amount of mobile source emissions will begin to rise. Historical emissions reductions from the Clean Air Act Amendments of 1990 have been well documented in the past.

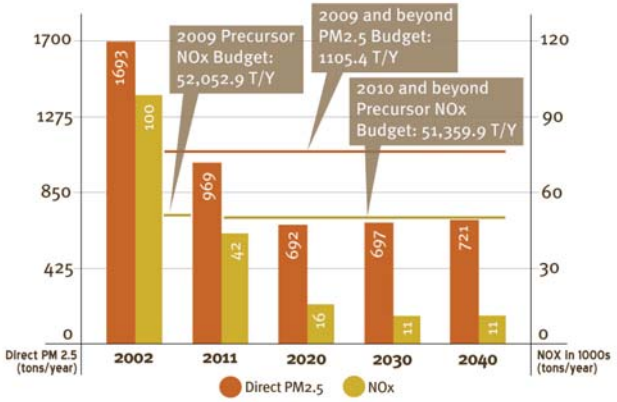
Volatile Organic Compounds (VOC) Emissions



Nitrogen Oxide (NOx) Emissions



Particulate Matter and Precursor NOx Emissions



Goals Assessment

The region's transportation goals are a symbol of regional consensus and serve as a guide for the region's transportation investments. Looking at the goals can provide the region with important information on shortcomings of the CLRP in relation to regional ambitions. Identifying areas in need of specific attention can inform subsequent CLRP updates.

The following assessments of each regional transportation goal provides information on what the 2010 CLRP does by 2040 and challenges to be addressed in future plan updates. Travel demand and land use activity forecasts are the main sources of information used to describe the plan's performance, but some other sources of data are considered too.

1. Provide a Comprehensive Range of Transportation Options

The Vision calls for "reasonable access at reasonable cost" (Vision Goal 1) and *Region Forward* calls for "a range of transportation choices which maximize accessibility and affordability".

Transportation system users in the region already have a comprehensive range of transportation options, including Metrorail, Metrobus, local bus, commuter rail, paratransit, highways, arterials roads and HOV lanes. The 2010 CLRP further expands these options.

The Metrorail system will expand by 24%, from 106 to 131 miles by 2040, with the completion of the Dulles Corridor Metrorail project. Also, an infill Metrorail station is planned for Potomac Yard in Alexandria.

A number of new lightrail, streetcar, and transitway projects are planned throughout the region. DC will add two streetcar lines and complete a transitway along K Street. In Maryland, the Corridor Cities Transitway and Purple Line projects will be added. Virginia plans to construct a streetcar line along VA 244 Columbia Pike, a busway to serve Crystal City and Potomac Yard in Arlington and Alexandria, and a new VRE commuter rail station in Cherry Hill.

Regarding HOV/HOT lanes, 157 more lane miles will be added to the region. Lane miles of arterials and freeways are planned to increase 10% from 15,240 miles to 16,758 miles by 2040.

Bicycle and pedestrian accommodations are included in __% of the projects in the plan and _ % of the plan's projects are primarily bicycle or pedestrian related. However, at the current rate of construction only 60% of the TPB's *Bicycle and Pedestrian Plan* will be built by 2040.

Data from the TPB's Household Travel Survey tell us that between 1994 and 2007/2008 there has been a somewhat significant gain in transit use for commuting to work, perhaps coming at the expense of HOV, and there's been a slight increase in single-occupant vehicle commuting. Looking ahead, travel forecasts indicate that the 2010 CLRP facilitates an increase in transit use for commuting across the region, with significant gains expected in the region's core and suburban activity clusters.

Work trips are an important piece of the picture because during the morning commute is often when the worst congestion is experienced on the region's transit and highway systems; but recognizing that work trips comprise only about 20% of all travel, it is also important to consider the trends in mode choice for overall daily travel. Contrary to the trend for commute trips,

FIGURE X: Change in Commuting Modal Share

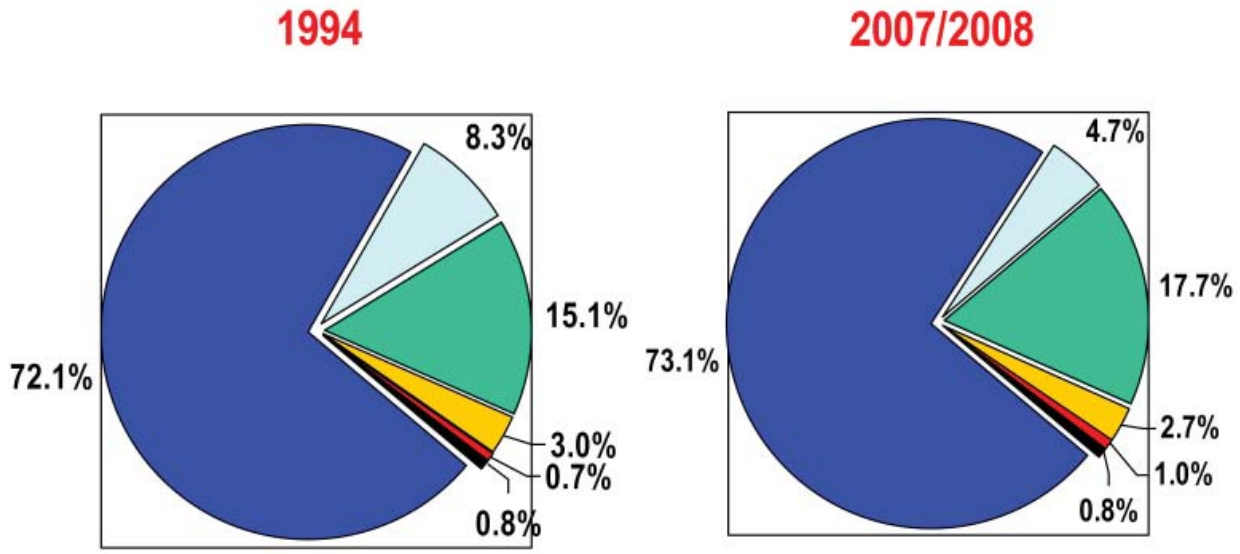
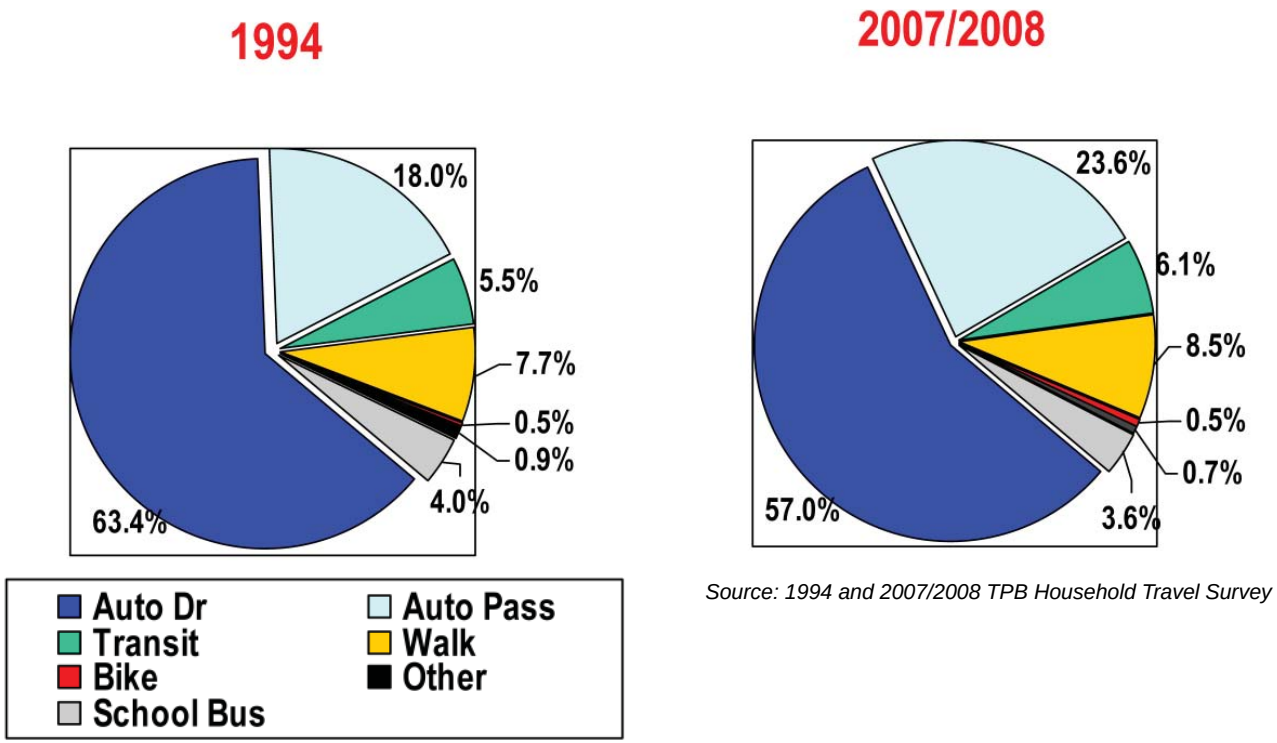


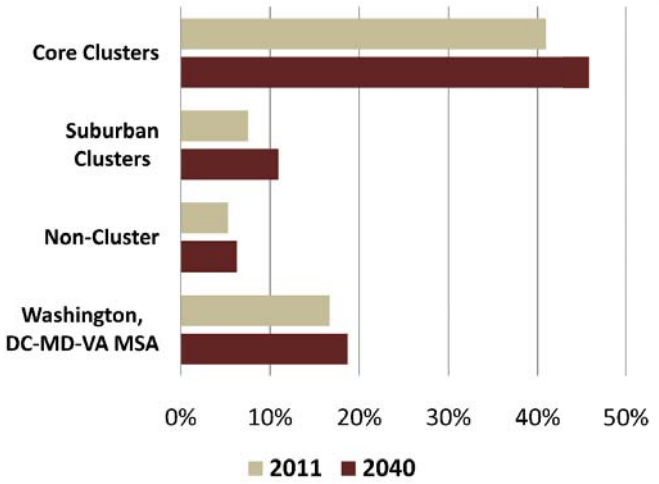
FIGURE X: Change in Daily Trip Modal Share



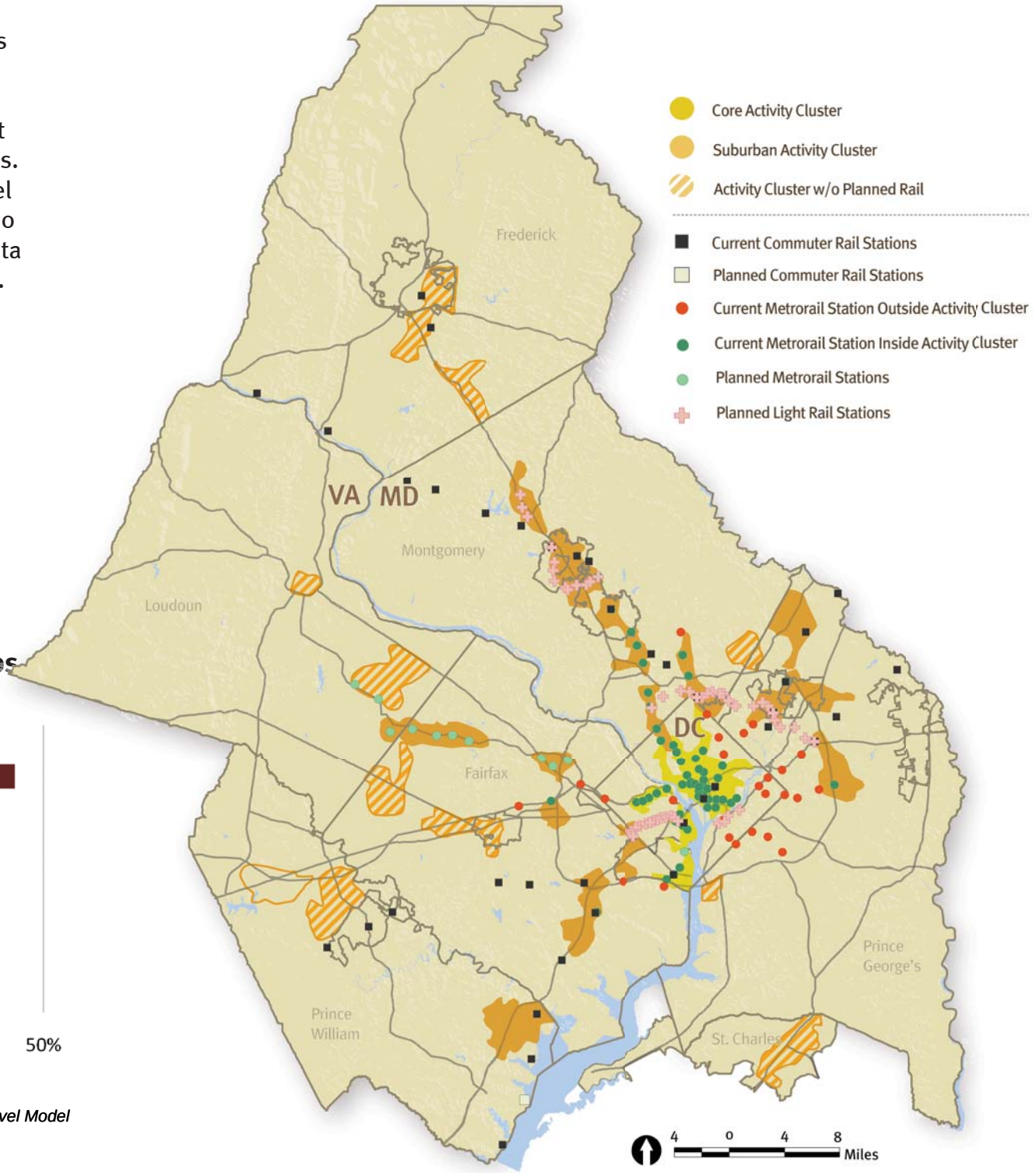
Source: 1994 and 2007/2008 TPB Household Travel Survey

the percentage of single-occupant trips has decreased substantially between 1994 and 2007/2008, with more people sharing car trips and slightly more people using transit and walking to meet their daily travel needs. The trend of less driving to meet daily travel needs is expected to continue with the 2010 CLRP, where it is forecast that VMT per capita will decline by 4% between 2011 and 2040.

FIGURE X: Transit Share of Work Trips



Source: Round 8.0 Cooperative Forecasts, Version 2.2 Travel Model



2. Improve Access and Mobility

As previously noted, overall VMT is forecast to grow 22% while new lanes miles increase by only 11%, resulting in a 38% increase in lane miles of congestion across the region between 2011 and 2040. To better manage the system and ensure that access and mobility are not degraded, it is important to recognize the importance of time of day and time of year as factors influencing travel and congestion. One recent finding obtained from INRIX data is that despite the notion that roads are highly congested in the fall because people return to work and school, overall monthly VMT is actually highest between June and August. Much of the extra VMT during the summer months takes place during the day, resulting in lighter peak period traffic despite the higher overall daily volume. Transit will also suffer from increased congestion over the next 30 years, particularly if there is not a commitment to provide 100% eight-car trains.

Access for People with Disabilities

While the region boasts a world-class transit system that is largely accessible, there is still progress to be made to ensure access for people with disabilities. About 40% of the region's 20,000 bus stops are not fully accessible and are lacking things such as sidewalks and curb cuts. Improving the accessibility of the fixed-route transit system, for example by ensuring that elevators in transit stations and lifts for buses are reliably available, is required to relieve some of the pressure from growth in demand and cost for paratransit.

Freight Movement

The total value of goods movement by all modes in the region is expected to grow 88% by 2040, and travel forecasts for the 2010 CLRP show a high rate of growth in truck trips. This is an important consideration because of the stress that truck traffic places on the region's roads.

FIGURE X: Growth in Truck Trips, 2011-2040

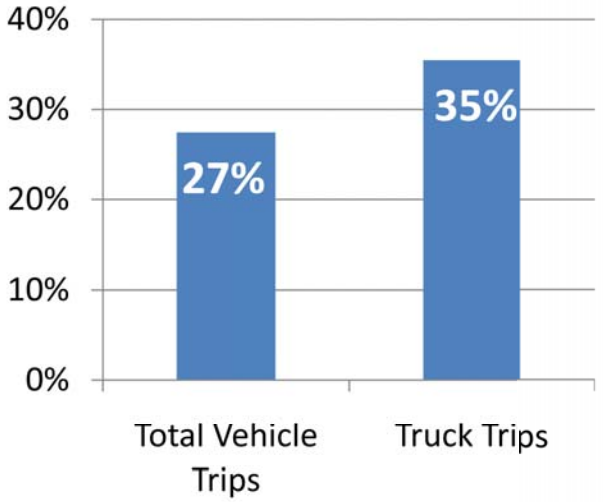
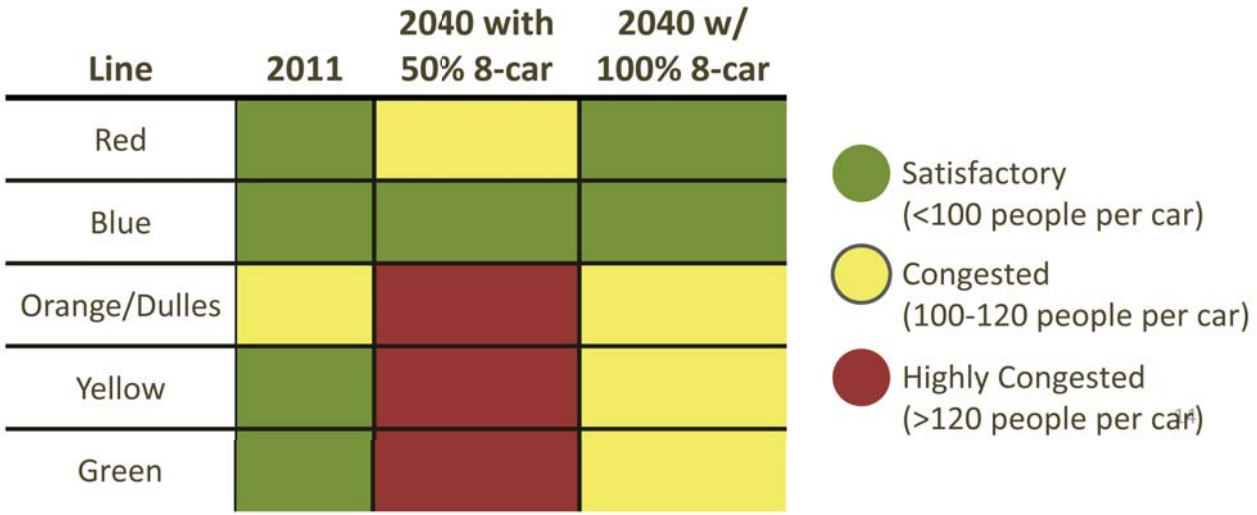


FIGURE X: Peak Hour Metrorail Passenger Loads, 2011-2040



Source: WMATA Regional Transit Plan

3. Prioritize Maintenance and Preservation of the Existing System

The region will spend approximately $222.9 billion on the plan over the next 30 years. About 70% of that funding will be spent on operating and preserving the transit and highway system.

Data from VDOT shows that bridges in Northern Virginia are fairly well maintained, as compared to statewide trends, but there may be room for improvement when it comes to roadway pavement conditions. MDOT also reports that their bridges in the TPB area are being maintained at and above statewide levels, but similar to Virginia the maintenance of pavement conditions in the region is lagging. DDOT…

Regarding transit, reporting from WMATA tracks the availability of escalators and elevators across the system… Other data from WMATA show that bus fleet reliability is improving with improved maintenance and the replacement of older, less reliable buses.

Non-model:
Elevator/Escalator Availability (WMATA)
Bus fleet reliability (mean dist. bet. failures) (WMATA)

FIGURE X: Non-Deficient Bridges

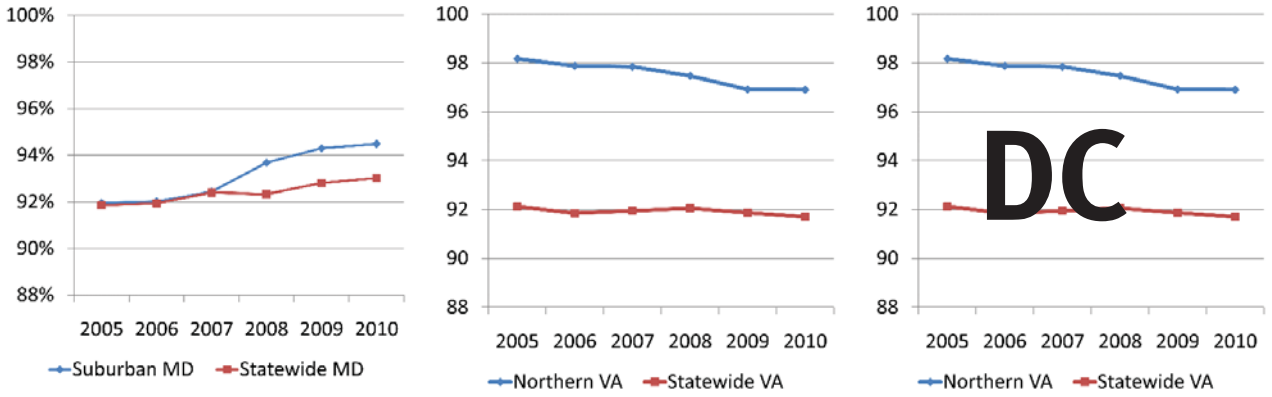
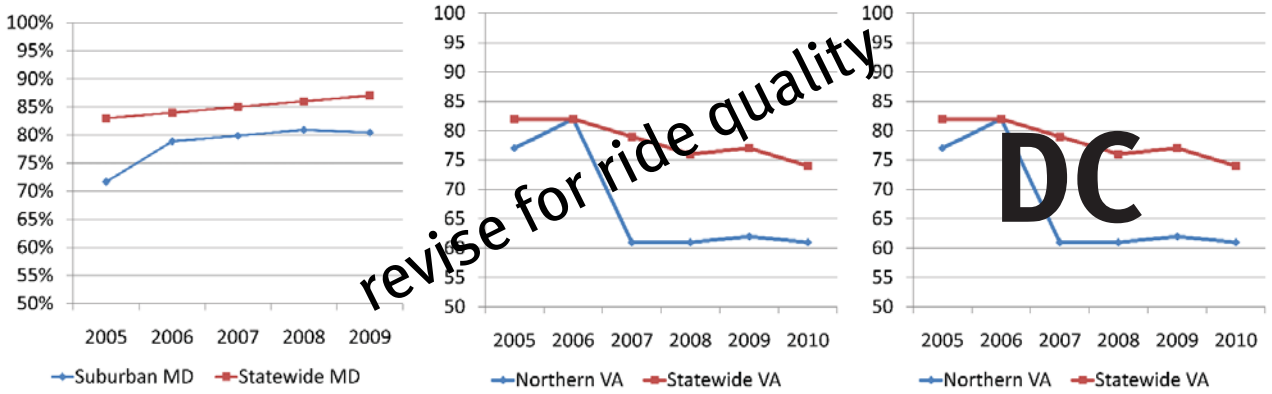


FIGURE X: Pavement in Fair or Better Condition



Source: MDOT/SHA

Source: VDOT Dashboard 3.0

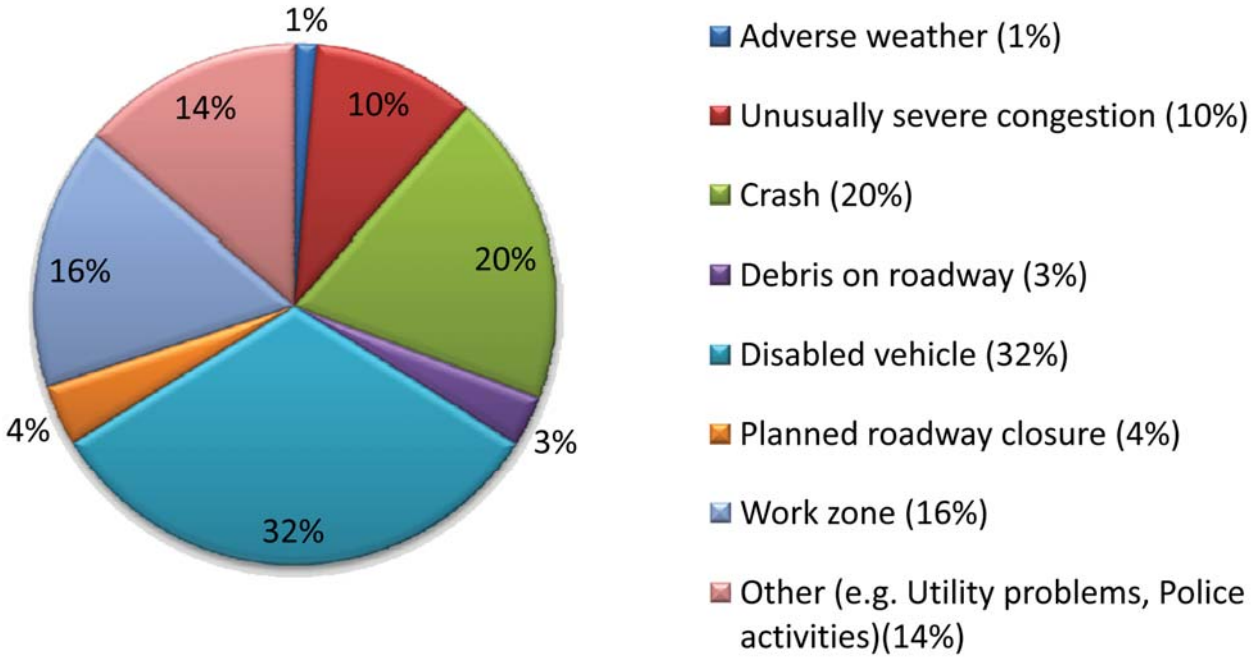
Source:

4. Maximize System Effectiveness Through Management and Operations

Reducing crashes, managing incidents and congestion, making transit more user-friendly, and providing timely, accurate information on which to base travel decisions have great potential to maximize the capacity of our existing system and improve the overall quality of life in the region. This will be critically important as more jobs and households are added to the region and funding constraints limit the ability to add new capacity to the transportation network. Looking at roadway capacity, the construction of new HOV/HOT facilities are expected to somewhat improve conditions in those areas, but the region as a whole is facing increased congestion and stop-and-go conditions.

The Metropolitan Area Transportation Operations Coordination (MATOC) Program is one way that the TPB and its partner agencies are working together to maximize system effectiveness. There are approximately 4,000 incidents with possible regional implications that are reported each month. Of those, MATOC is involved with 40 to 60 incidents per month. A study of MATOC found that the program operates at a 10:1 benefit-cost ratio.

FIGURE X: Different Types of RITIS-Recorded Incidents in the TPB Planning Area, 2010



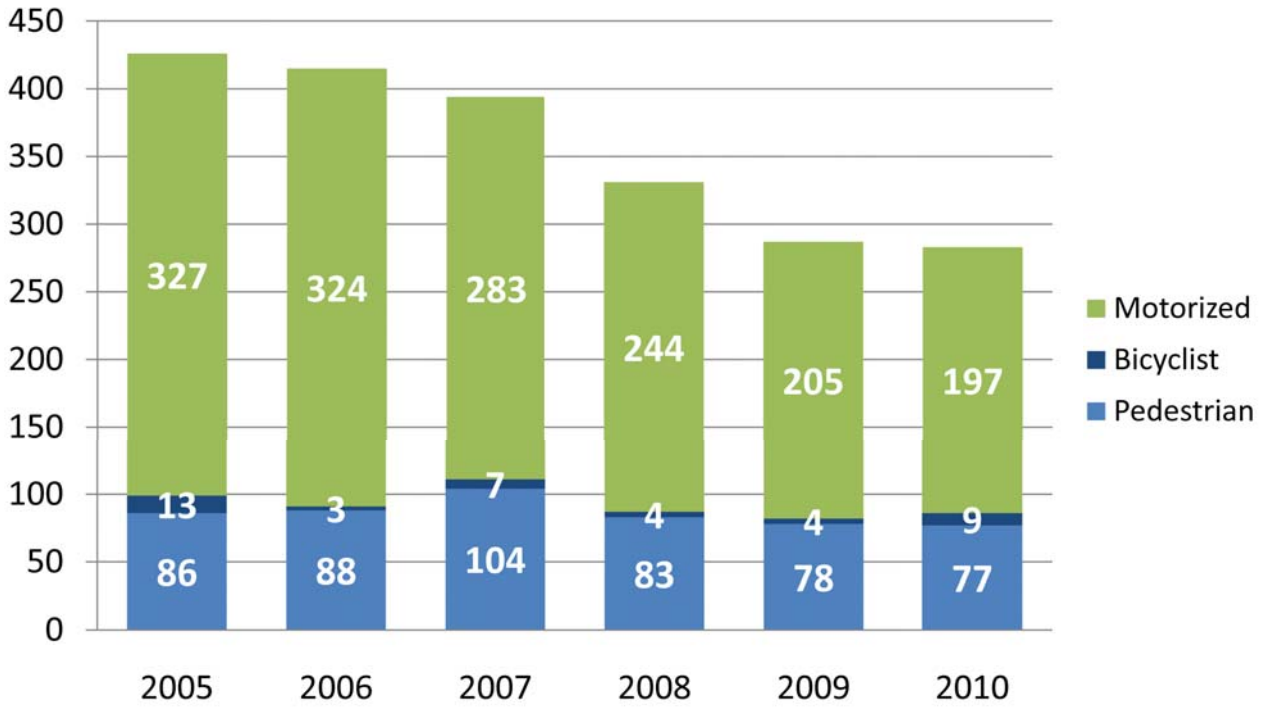
Source: Regional Integrated Transportation Information System (RITIS)

5. Improve Safety of All Transportation Modes and Facilities

The Vision calls for making the region's transportation facilities safer (Vision Goal 1, Strategy 3), and *Region Forward* calls for monitoring of pedestrian and bicycle fatalities to ensure that the region is making progress toward reducing their occurrence (RF Target 7). While motorized traffic fatalities have shown a clear trend in their decline over the past six years, pedestrian and bicycle fatalities have not. Also, WMATA reports on the injury rate for passengers using their transit services.

Safety is a top priority of the transportation agencies in the region; the D.C., Maryland and Virginia Departments of Transportation (DOTs) have robust State Strategic Highway Safety Plans. Safety is also a priority for WMATA which is working on significant safety initiatives. The TPB created a Transportation Safety Subcommittee to provide advice on safety elements and programs, and serves as a forum to exchange information on best practices in transportation safety planning.

FIGURE X: Traffic Fatalities in the Washington region



Source:

6. Promote Transportation Connections, Walkability and Mixed Use Development in Activity Centers

The Vision calls for a transportation system that supports a strong regional core and activity centers (Vision Goal 2). *Region Forward* similarly holds a goal of maximizing community connectivity and walkability (RF Goal 1) by promoting transportation investments that link activity centers (RF Target 3) and encouraging transit accessibility for all activity centers (RF Target 6).

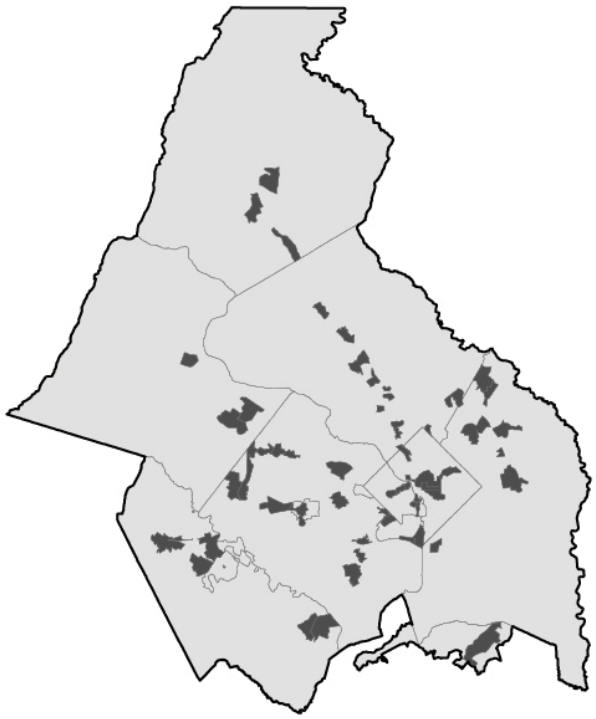


FIGURE X: Household Growth & Activity Centers, 2011-2040

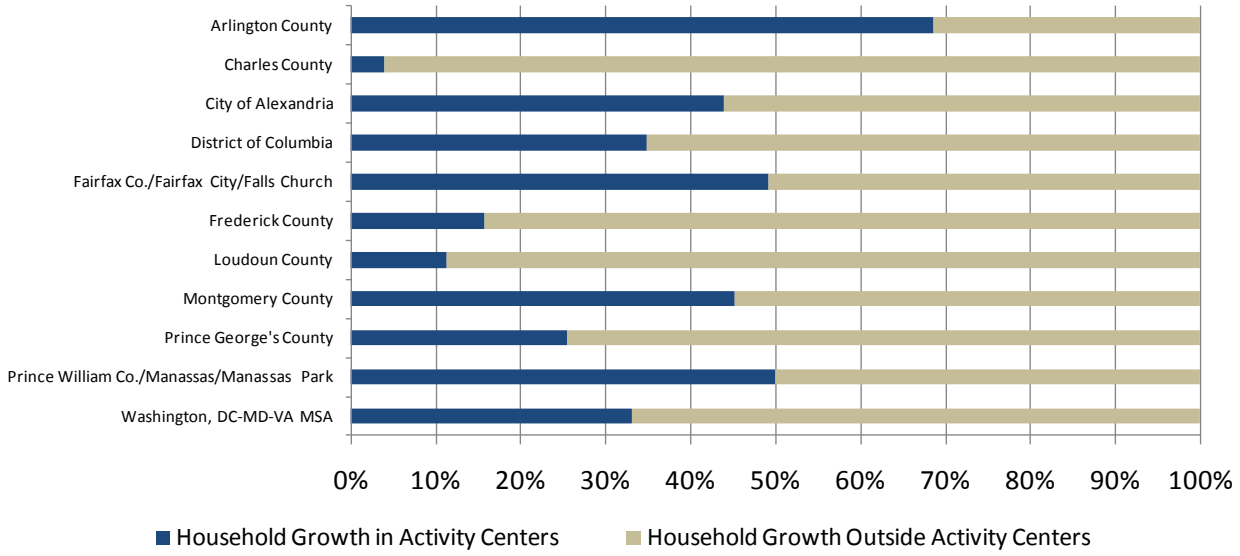
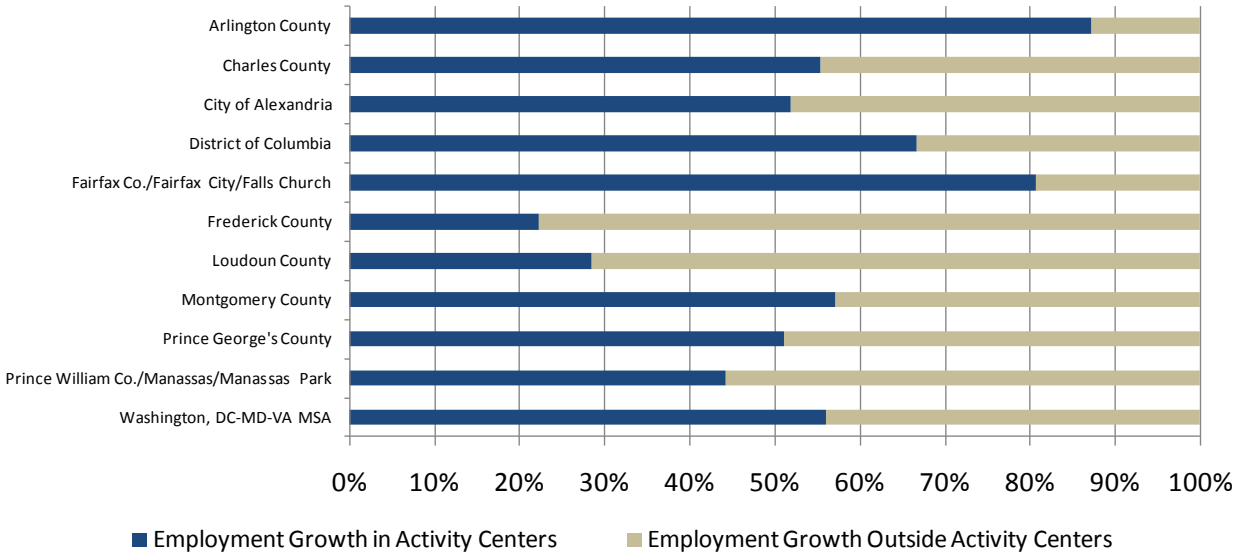


FIGURE X: Employment Growth & Activity Centers, 2011-2040



Source: Round 8.0 Cooperative Forecast, Revised Round 7 Activity Center Boundaries

FIGURE X: Jobs-Household Ratio by Activity Center Type

Activity Center	Jobs 2011	Households 2011	2011 Jobs to HH Ratio	Jobs 2040	Households 2040	2040 Jobs to HH Ratio	2011-2040 Ratio Change
DC Core	596,798	61,284	9.7	718,492	84,990	8.5	(1.3)
Mixed-Use Centers	342,578	85,126	4.0	467,970	134,022	3.5	(0.5)
Employment Centers	295,681	22,400	13.2	401,778	51,520	7.8	(5.4)
Suburban Employment Centers	482,617	86,057	5.6	737,925	154,578	4.8	(0.8)
Emerging Employment Centers	85,337	28,375	3.0	152,610	67,491	2.3	(0.7)
All Activity Centers	1,803,010	283,241	6.4	2,478,775	492,601	5.0	(1.3)

Improving the region's jobs-housing balance is one way to improve access and mobility. Land use forecasts indicate that 56% of new employment and 33% of new households are expected to be accommodated in regional activity centers. In each of the TPB member jurisdictions, varying degrees levels of new employment and households will be in activity centers. Regionally, the jobs-household ratio sits at 1.6 and this number will increase slightly to 1.7 in 2040, as more jobs are added to the region than households. Contrary to this trend, the jobs-household ratio in activity centers is decreasing from 6.4 in 2011 to 5.0 in 2040. The addition of more housing to activity centers indicates that they are becoming less employment focused and more mixed-use.

There are a total of 59 designated activity centers. In 2011, 31 activity centers were served by Metrorail or commuter rail. As a result of the 2010 CLRP, this number will increase to 37 in 2040; however there will still be 22 activity centers that are not served by rail transit in 2040.

Related to walkability, the number of blocks per square mile can be calculated for the existing street network. This street block density measure can serve as a proxy for walkability, with higher densities generally corresponding with greater connectivity and walkability. While this measure cannot be forecast for the entire region, it can be calculated for individual activity centers if there is a plan developed for the area that includes information about the proposed future street network. The average street block density for different activity center

FIGURE X: Rail Transit in Activity Centers

	2011	2040
Regional Activity Centers	59	59
Metrorail Stations	86	98
Commuter Rail Stations	52	53
Regional Activity Centers with Rail Transit	31 with rail 25 Metrorail 15 Commuter Rail	37 with rail 31 Metrorail 15 Commuter Rail
Regional Activity Centers without Rail Transit	28	22
Rail Stations Not Located in Regional Activity Centers	73 37 Metrorail 36 Commuter Rail	76 39 Metrorail 37 Commuter Rail

types implies that the more mixed-use activity centers become, the more walkable they will likely become too.

FIGURE X: Bus Stop Coverage in Activity Centers

	within 1/4 mile of a bus stop
Centers with High Bus Stop Coverage (>75% Area)	38 (65%)
Centers with Medium Bus Stop Coverage (50%-75% Area)	9 (15%)
Centers with Low Bus Stop Coverage (<50% Area)	9 (15%)
Centers with No Bus Stop Coverage	3 (5%)
(59 Activity Centers in Total)	

FIGURE X: Street Block Density in Activity Centers

Activity Center Type	Street Block Density
DC Core	131
Mixed-Use Centers	104
Employment Centers	41
Suburban Employment Centers	25
Emerging Employment Centers	16

7. Enhance Environmental Quality, Protect Human Health and Improve Energy Efficiency

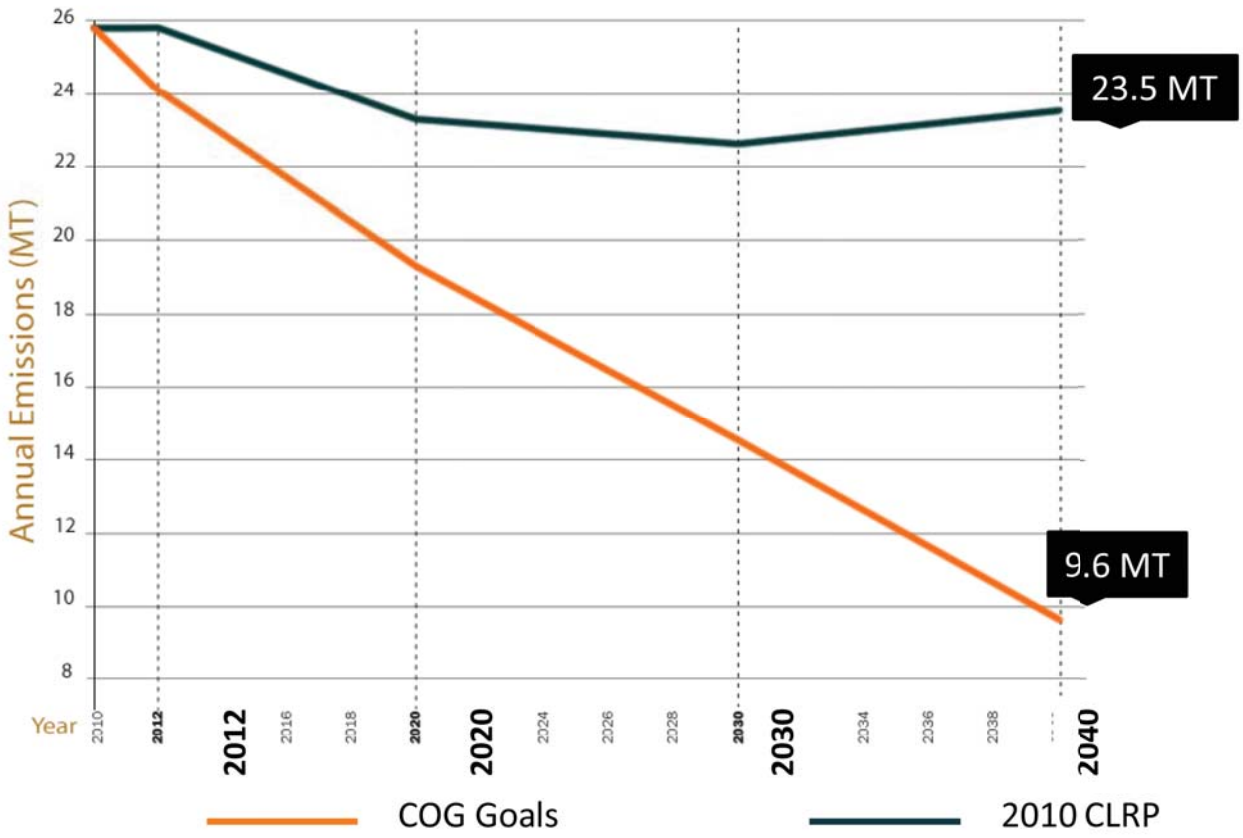
The Vision calls for the development of a transportation system that enhances and protects the region's natural environmental quality, cultural and historic resources, and communities (Vision Goal 5). In pursuit of this, both *The Vision* and *Region Forward* call for a reduction in VMT per capita, an increase in the walk, bike and transit trips, and measurement of transportation-related emissions.

As previously mentioned, the 2010 CLRP will see a 4% reduction in VMT per capita between 2011 and 2040, and rates for transit, ridesharing, and walk have increased between the 1994 and 2007/2008 TPB Household Travel Surveys. Also, the region continues to meet conformity with its air quality improvement goals. However, one significant finding of the air quality conformity assessment is that some emissions begin to increase slightly between 2030 and 2040. This is likely due to the fact that federal regulations requiring cleaner, more efficient vehicles will have worked their way into the fleet by this point. In the absence of higher standards, continued growth in VMT will result in increased emissions.

8. Contribute to the Reduction of Regional Climate Change Impacts

Based on climate science and consideration of policies of jurisdictions in the region, the *COG Climate Change Report* set a goal of reducing the region's CO2 output to 80% below 2005 levels by 2050. Interpolating this non-sector specific goal and applying it to transportation results in a call to reduce the region's transportation-related contribution of CO2 emissions to 60% below 2005 levels by 2040. While there is some reduction in CO2 emissions, the target is not being met. Also, as with some other emissions, CO2 emissions are projected to increase between 2030 and 2040. The fact that CO2 emissions accumulate in the atmosphere over time makes this an ever greater concern.

FIGURE X: Annual CO2 Emissions (MT)



Challenges for the Future

Summary of Challanges - Priorities Plan & the 2014 CLRP

This section summarizes the main findings of the assessment of the 2010 CLRP. Conclusions concerning the plan's accomplishments and the challenges that remain are intended to provide guidance for future updates to this plan.

Summary of Challenges

Chapter 5 presented the performance analysis of how the 2010 CLRP performs in relation to eight regional transportation goals. The challenges that were identified based on that analysis are summarized below for each goal. These challenges will be used to guide future updates to the CLRP and provide direction for the Priorities Plan which is currently under development.

1. **Provide a Range of Transportation Options**

    a. *Further reduce the percentage of people driving alone, for all trip purposes*. While the region has made some progress toward reducing single-occupant vehicle travel for daily trips there is still more progress to be made, particularly related to commute trips.

    b. *Continue to promote transit and other transportation alternatives for residents and workers*. The transit share of work trips is forecast to increase slightly for the region, with larger increases expected for Activity Clusters.

    c. *Further reduce VMT per capita by shifting more short trips to non-auto modes*. The region could do even more to reduce VMT per capita in future years, and encouraging people to walk and bike for shorter trips is a promising strategy to reach this goal.

    d. *Accelerate the rate of construction for the TPB's Bicycle and Pedestrian Plan*. At the current rate of construction, only 60% of the TPB's Bicycle and Pedestrian Plan will be implemented by 2040.

2. **Improve Access and Mobility**

    a. *Recognize the importance of time of day and time of year as factors influencing travel and congestion*. Anticipating further increases in congestion within our region's transportation system, utilizing new data sources to better understand and manage growing travel demand is required to ensure that the access and mobility needs of residents and businesses are met.

    b. *Mitigate negative impacts of travel delays and unpredictable travel times on quality of life and the economy by managing congestion*. Metropolitan growth and development will place additional strain on the region's transportation infrastructure. Improved management of the transportation system can include promoting alternative commute programs, value pricing, incident management and ITS technologies.

    c. *Identify funding and management strategies to eliminate projected Metrorail capacity constraints*. The region has not identified funding to address Metrorail capacity constraints after 2020. The region should identify both funding and managements strategies to efficiently expand Metrorail capacity and maintain the entire system.

    d. *Address the significant unmet freight transportation needs identified in the TPB Freight Plan*. The total

value of goods movement by all modes in the region is forecast to grow 88% by 2040, and an increase in truck traffic is expected. The region needs to prepare itself to accommodate this additional freight traffic.

e. *Improve reliability, coverage and efficiency of transit services for people with disabilities*. Access to bus, rail and taxis has improved but the challenge of ensuring access remains, with the growing demand and cost for paratransit making this an even more pressing matter.

3. **Prioritize Maintenance and Preservation**

a. *Identify sufficient revenues to adequately maintain and operate the existing system*. With limited funding for transportation available, maintenance of the existing system protects costly investments that have already been made and keeps today's transportation system in operation. With maintenance of the region's rails, buses, bridges, and roads consuming about 70% of all transportation dollars, ensuring an appropriate amount of funding is available into the future to maintain the existing system is an important task.

4. **Maximize System Effectiveness**

a. *Dedicate sufficient resources to managing regional incidents*. With approximately 4,000 incidents with possible regional significance occurring each month, managing these incidents is essential to minimizing disruption to travel. The MATOC Program is one way that the TPB is working to address this issue.

b. *Consider causes of incidents in designing incident response strategies*. Understanding the common causes of incidents can help to better manage the region's transportation system and address the congestion that results from these incidents.

5. **Improve Safety of All Modes**

a. *Reduce bike and pedestrian fatalities, as well as motorized fatalities*. While motorized traffic fatalities have shown a clear trend in their decline over the past several years, pedestrian and bicycle fatalities have not.

b. *Continue to focus on operating a safe transit system*. (text to be inserted)

6. **Promote Accessibility of Activity Centers**

a. *Continue to focus employment and housing in Activity Centers to promote an efficient transportation system*. Across the region, 56% of new employment and 33% of new housing added between 2011 and 2040 will be in Activity Centers.

b. *Improve the jobs and housing balance in Activity Centers*. The jobs-household ratio for the region is currently 1.6 and it will increase slightly to 1.7 by 2040, as more jobs are added to the region than households. The jobs-household ratio in Activity Centers is expected to decrease from 6.4 in 2011 to 5.0 in 2040, indicating that they are becoming more mixed-use.

c. *Seek opportunities for improving the match of rail transit and Activity Centers*. In 2040, 22 of the 59 Activity Centers will not be served by rail transit and there will be 76 rail stations that are not located in Activity Centers.

d. *Increase bus stop coverage in the Activity Centers*. In

2011, most Activity Centers are served by bus transit, and about 2/3 of Activity Centers have a high level of access to bus stops.

e. *Increase walkability in Activity Centers*. (text to be inserted)

f. *Increase accessibility to and from Activity Centers*. (text to be inserted)

7. **Enhance Environmental Quality**

a. *Continue to meet federal air quality conformity requirements and address rising levels of some emissions beyond 2030*. The 2010 CLRP meets federal air quality conformity requirements, but after decades of forecasted declines some mobile source emissions are expected to increase between 2030 and 2040.

8. **Reduce Regional Climate Change Impacts**

a. *Reduce CO2 emissions, which accumulate in the atmosphere over time*. While transportation-related CO2 emissions are forecast to decrease through 2030, the declines are not keeping pace with the COG goal of reducing CO2 emissions to 80% below 2005-levels by 2050. Also, between 2030 and 2040, transportation-related CO2 emissions are forecast to begin increasing.

Addressing the Challenges

Many of the challenges identified through the performance analysis cannot be met through transportation strategies alone but will required supportive strategies from other sectors such as Land Use, Technology, and Education and Enforcement. In fact, very few challenges are solely "transportation" problems with "transportation" solutions. Figure X illustrates this shared responsibility, underscoring the need to work together across sectors to address many of the challenges facing the region.

FIGURE X: Key Challenges

		TRANSPORTATION	LAND USE	TECHNOLOGY	EDUCATION & ENFORCEMENT
1a	Further reduce the percentage of people driving alone, for all trip purposes	●	●		
1b	Continue to promote transit and other transportation alternatives for residents and workers				
1c	Further reduce VMT per capita by shifting more short trips to non-auto modes	●	●		
1d	Accelerate the rate of construction for the TPB's Bicycle and Pedestrian Plan	●	●		
2a	Recognize the importance of time of day and time of year as factors influencing travel and congestion				
2b	Mitigate negative impacts of travel delays and unpredictable travel times on quality of life and the economy by managing congestion	●	●	●	
2c	Identify funding and management strategies to eliminate projected Metrorail capacity constraints	●			
2d	Address the significant unmet freight transportation needs identified in the TPB Freight Plan	●			
2e	Improve reliability, coverage and efficiency of transit services for people with disabilities	●	●	●	
3a	Identify sufficient revenues to adequately maintain and operate the existing system	●			

FIGURE X: Key Challenges (cont.)

		Transportation	Land Use	Technology	Education & Enforcement
4a	Dedicate sufficient resources to manage incidents	●		●	●
4b	Consider causes of incidents in designing incident response strategies				
5a	Reduce bike and pedestrian fatalities, as well as motorized fatalities	●	●	●	●
5b	Continue to focus on operating a safe transit system				
6a	Continue to focus employment and housing in Activity Centers to promote an efficient transportation system				
6b	Improve the jobs and housing balance in Activity Centers				
6c	Seek opportunities for improving the match of rail transit and Activity Centers	●	●		
6d	Increase bus stop coverage in the Activity Centers	●	●		
6e	Increase walkability in Activity Centers	●	●		
6f	Increase accessibility to and from Activity Centers				
7a	Continue to meet federal conformity requirements and address rising levels of some emissions beyond 2030	●	●	●	
8a	Reduce CO_2 emissions, which accumulate in the atmosphere over time	●	●	●	

Priorities Plan & the 2014 CLRP

In July 2010, the TPB established a Task Force to develop a scope of work and process to develop a Regional Transportation Priorities Plan for incorporation in the FY2012 Unified Planning Work Program. Unlike the CLRP, which is financially constrained based on revenues "reasonably expected to be available", the purpose of a Regional Transportation Priorities Plan is to identify ten to fifteen regional priority projects or programs that are above and beyond what is included in the CLRP. The Priorities Plan would also provide a source of specific programs and projects to draw from when discretionary funding opportunities become available. Both long-range and short-term priorities which move the region towards addressing the challenges identified above would be included.

The TPB will use a comprehensive, consensus-building process to develop the Priorities Plan, which includes two major tasks:

1) Determine strategies to address regional challenges, and
2) Identity priorities through the use of performance measures and benefit-cost analysis.

Public input will be a key part of the process. The Priorities Plan is expected to be completed by August 2013, in time to influence the projects and programs that will be a part of the next major CLRP update, the 2014 CLRP.

For More Information TPB Priorities Plan:

Contact the National Capital Region Transportation Planning Board (TPB)

There are several ways members of the public can get involved in the development of the long-range plan.

Write: National Capital Region Transportation Planning Board
777 North Capitol Street NE
Suite 300
Washington, DC 20002-4239

Call: (202) 962-3262, TDD: (202) 962-3213

Email: TPBPublicComment@mwcog.org

Click: www.mwcog.org/transportation/publiccomment

Speak: Interested citizens may make a statement during the public comment period at the beginning of each TPB meeting, at 12 noon on the third Wednesday of every month, except August. To participate, call (202) 962-3315.

Contact your state or regional transportation agency.

District of Columbia
Department of Transportation
(202) 673-6813
ddot@dc.gov
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Maryland
Department of Transportation
(410) 865-1142
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Maryland Transit Administration
MTAInfo@mdot.state.md.us

State Highway Administration
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Virginia
Department of Transportation,
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(703) 383-VDOT
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WMATA
Washington Metropolitan Area
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