THE FINANCIALLY CONSTRAINED

LONG-RANGE TRANSPORTATION PLAN

FOR THE **NATIONAL CAPITAL REGION**

Adopted November 17, 2010

THE NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD

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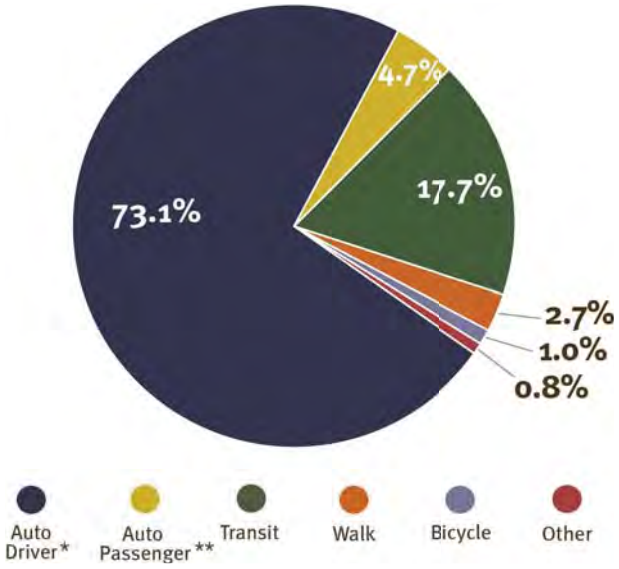
Plan Overview

The Washington metropolitan region is made up of the District of Columbia, Northern Virginia and Suburban Maryland (Figure 3), and includes 8 counties and 12 independent cities. It is home to the nation's capital, and more than 5.3 million people and 3.2 million jobs. The region's transportation system has over 15,000 lane-miles of highways, 106 miles of Metrorail and 226 miles of commuter railways. Roughly 73% of area commuters drive alone to work while nearly 18% take some form of transit. About 5% of commuters carpool (Figure 1).

Over the next 30 years, the region is expected to grow significantly. The population is forecast to increase by 1.5 million people, or 28%. The number of jobs is expected to grow by 1.2 million, or 37%. These "best estimates" were developed cooperatively by planning agencies across the region and are used by transportation agencies to plan for future projects.

The 2010 Financially Constrained Long-Range Transportation Plan (referred to in this document as "the CLRP" or "the Plan") is a comprehensive plan for the region's transportation system that looks out to 2040. The CLRP includes highway and transit investments that the region's transportation agencies have committed to fund, build and operate. The Plan has been developed through a regional process that is comprehensive, cooperative and continuous. The Plan is financially constrained in that it includes only transportation projects for which funding is "reasonably expected to be available."

Figure 1: How Commuters Get to Work in the Washington Metropolitan Region, 2007-2008



About 70% of the region's transportation funding is dedicated to simply maintaining and operating the existing highway and transit system, meaning that only 30% of revenues are available for new roads or transit. Expansion projects in the Plan include some big-ticket items that have received considerable public attention and discussion: the Purple Line and I-270 improvements in Maryland; the Dulles Metrorail extension and HOT Lanes on the Capital Beltway and I-95 in Virginia; and streetcars and the 11th Street Bridges in the District of Columbia. There are hundreds of other projects in the CLRP that range from simple guardrail installations to multi-million dollar highway and transit projects.

Financial constraints are not the only challenges the region faces, however. The TPB Vision outlines numerous regional goals that must be considered in planning transportation investments in the region. A detailed performance analysis of how the projects and programs in the CLRP help achieve these regional goals is described in Chapter 4.

To introduce the Plan, and to better understand the context in which the Plan was developed, a summary of the key challenges is provided here.

Transit and Highway Congestion

By 2040, overall vehicle miles of travel (or VMT) in the region are expected to increase by 22%. The number of lane-miles planned will only increase the region's highway capacity by 11%. Using the typical morning

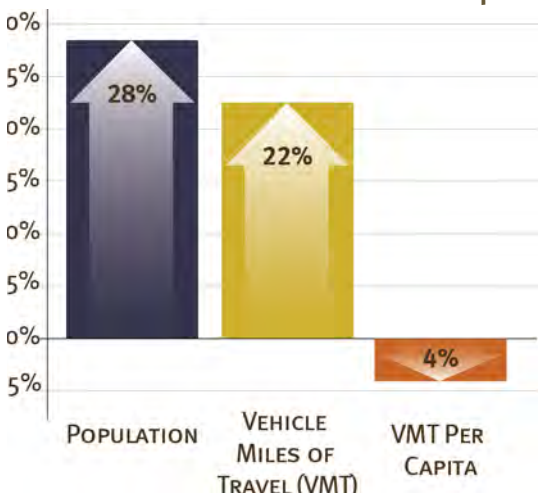
* Auto Driver indicates trips taken by individuals as drivers of an automobile.
** Auto Passenger indicates trips taken by individuals as passengers in an automobile.

rush hour as an indicator, lane-miles of congestion are expected to increase by 38% by 2040. Increases in congestion are expected to be most noticeable in the outer suburban areas of the region, which includes Frederick, Loudoun and Prince William Counties.

A similar problem faces the region's transit system. Funding has not yet been identified to continue the expansion of Metro's fleet of rail and bus vehicles beyond 2020 levels, resulting in an insufficient number of 8-car trains to meet the growing demand on the system. Projections for 2040 show four out of the five existing Metrorail lines as being either congested or highly congested, with more than 120 people per car.

Some indicators of the performance of the region's transportation system are encouraging, however. While both VMT and population are projected to increase, VMT per capita is projected to drop by 4% as population growth exceeds the growth in VMT (Figure 2). The increasing number of people who are expected to be able to bike and walk to work will also contribute to the decline in VMT per capita.

Figure 2: Changes in Population and Travel Between 2011 and 2040



Serving Dispersed Population and Employment Centers

Many of the region's challenges cannot be answered with transportation solutions alone. Land use is a critical link that must be addressed by continuing to concentrate jobs and housing in the region's Activity Centers and making sure those Centers are walkable and well-served by a variety of transportation options.

Maintaining, Operating and Managing Our Transportation System

Funding for transportation remains the most significant challenge facing the region. As the region's transportation dollars become more scarce, CLRP project completion dates are being pushed out towards 2040, and some projects have had to be removed from the Plan altogether. Moving forward, the top priorities for available funds will be: 1) the maintenance and operation of the existing and planned system of roads and transit; and 2) the need to fund Metrorail beyond the identified capacity constraints that will occur after 2020 in order to accommodate projected growth in ridership.

Enhancing Environmental Quality and Reducing CO_2 Emissions

As fuel and vehicle technologies advance, emissions of pollutants such as Nitrogen Oxides (NOx), Volatile Organic Compounds (VOCs), and particulate matter (PM) will decrease and remain well below EPA standards. For the first time in its history, this update to the CLRP addresses regional emissions of greenhouse gases like carbon dioxide (CO_2). Although emissions of CO_2 are projected to decrease through 2040, additional reductions will be needed to meet adopted regional goals.

For More Information

This document represents a snapshot of the CLRP as it was approved by the TPB on November 17, 2010. The projects included in the CLRP, along with their scopes and costs, are subject to change. For the latest updates, please visit: www.mwcog.org/clrp

Context for the Plan

What Is the TPB?

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

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

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

Figure 3: TPB Planning Area

TPB Planning Area

The TPB's planning area covers the District of Columbia and surrounding jurisdictions in Northern Virginia and Suburban Maryland (Figure 3). This area reflects the membership of the TPB. However, for many planning activities, such as air quality analysis and travel demand forecasting, a larger area is examined. Specifically, the TPB analyzes demographic changes using data for the US Census Bureau's 1983 Metropolitan Statistical Area (MSA), and models travel demand for the even larger "Modeled Area" shown on the left.

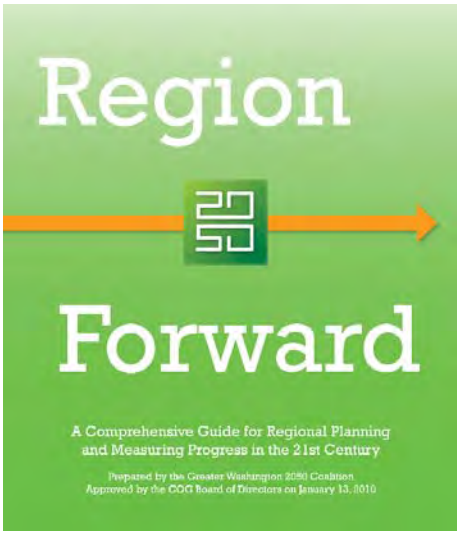
TPB's "The Vision" and COG's "Region Forward"

TPB's "The Vision" and COG's "Region Forward" are two separate policy documents that provide consistent guidance on transportation planning efforts in the Washington region.

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

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

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



COG's "Region Forward" is a planning guide that emphasizes a comprehensive, regional approach to tackling interrelated challenges, including: population growth; aging infrastructure; traffic congestion; energy costs; environmental restoration and protection; affordable housing and sustainable development; and education, economic and health disparities.

Region Forward was initiated in 2008 by the Greater Washington 2050 Coalition, which comprised a diverse group of public officials and business and civic leaders. Coalition members created a voluntary Compact Agreement to facilitate the strong regional support necessary to create action and move toward implementation of Region Forward.

Region Forward explicitly builds upon past planning activities. The report states: "rather than launch a new visioning process that could take several years, the Coalition's challenge was to tie together earlier work in a comprehensive way." For transportation, the primary building block for Region Forward was the TPB Vision. As a result, the transportation goals of Region Forward are consistent with those of the The Vision.

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

The Vision Goals

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

Development of the 2010 CLRP

Development of 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 2009, the TPB issued its annual "Call for Projects" to solicit from each agency a list of projects to be added to the CLRP. Project submissions were due at the beginning of April 2010.

On April 15, 2010, the TPB released the list of proposed additions for a 30-day public comment period. Several new projects were submitted for both DC and Maryland, but the transportation agencies in Maryland and Virginia also delayed or removed many projects from the CLRP.

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

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

On October 14, 2010, the TPB released drafts of the CLRP, the TIP and the 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

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

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

DEB KERSON BILEK

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

To ensure ongoing participation from low-income and minority communities and people with disabilities, the TPB created the Access for All Advisory (AFA) Committee to advise the Board on transportation issues, programs, policies and services that are important to these communities, and to ensure their concerns are being addressed by the TPB process. The AFA provided comments on the 2010 CLRP to the TPB on October 20, 2010.

Metropolitan Washington Growth: Past and Future

The economy that has evolved in the region is largely the result of the role of Washington, DC, 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 metropolitan region, employment in the government and services sectors are closely linked, as both are driven by federal spending.

Growth over the past 30 years fueled a surge in commercial construction that has resulted in the emergence of suburban employment centers like Tysons Corner in Virginia and New Carrollton in Maryland. The new jobs added in these centers have shifted commuting patterns throughout the region. In addition to the existing suburb-to-core commuting patterns that have long existed, significant suburb-to-suburb commuting has become more prevalent.

For much 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 development and adequately planning for future growth.


Tyson's Corner

Population and Employment Growth Forecasts

Information on how our region is expected to develop is essential to forecast transportation conditions and the Plan's performance. Both population and employment in the region are expected to continue growing over the coming decades. The portion of the region encompassed by the US Census Bureau's 1983 Metropolitan Statistical Area (MSA) is forecast to grow from 5.3 million to nearly 6.8 million people between 2011 and 2040 (a 28% increase). Employment in the region is forecast to grow from 3.3 million to 4.5 million jobs in 2040 (a 37% increase).

While the region as a whole will see dramatic growth, some areas are growing faster than others. The outer suburbs are expected to grow much faster than the regional core, with steady increases in both population and employment. The result of this growth pattern is that inner suburbs and the regional core are expected to have higher concentrations of jobs in 2040, while the inner and outer suburbs are expected to have higher concentrations of households (Figure 4).

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 many jobs and households become farther 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 4: Change in Population and Employment

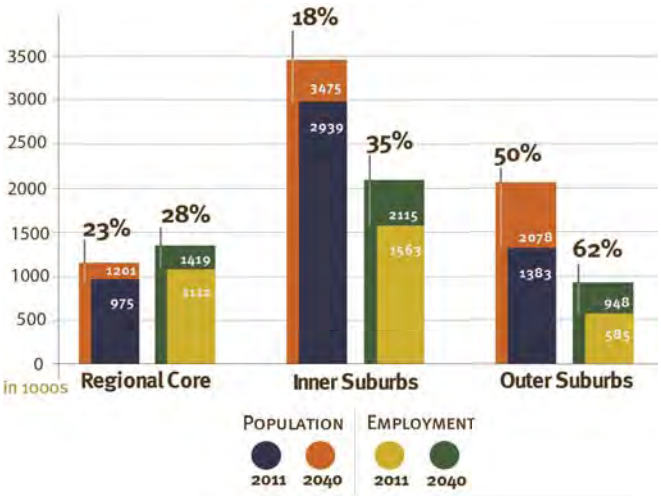
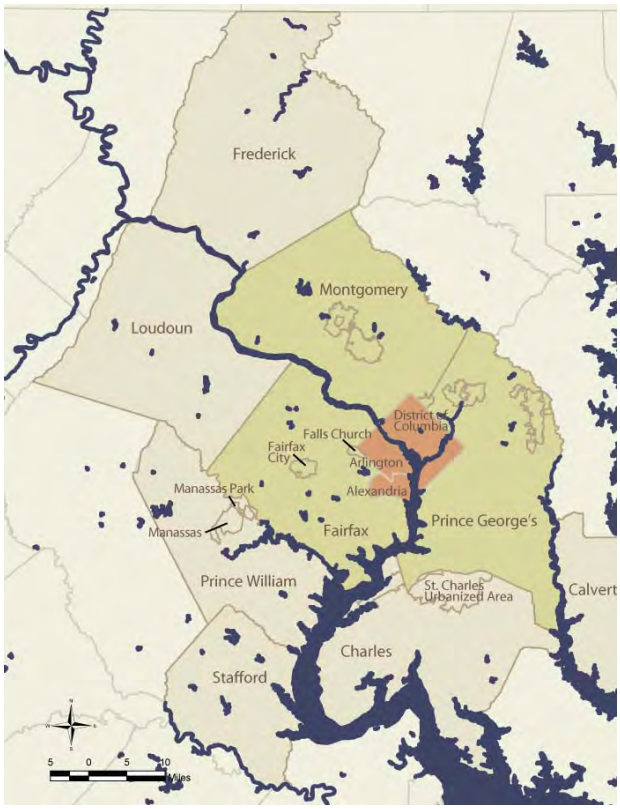


Figure 5: Jurisdictions in the MSA



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

Land-Use Forecasts

COG has developed a cooperative process with its local governments through which it prepares forecasts of population, households, and employment by small area traffic analysis zones for the entire region. These forecasts are conducted in 5-year increments for a 30-year period, providing a picture of short and long-term challenges.

In carrying out the federally-required transportation planning process, the TPB relies on these forecasts as inputs to computer models that forecast regional transportation patterns, including the number and types of trips made by the region's residents and workers. The forecasts are updated at regular intervals, and the transportation models themselves are updated regularly to reflect updated techniques and information.

DEAMOND

For More Information
Growth Trends to 2040: www.mwcog.org/2010clrp/growth

Key Issues and Challenges Facing the Region

An efficient and reliable transportation network plays a critical role in moving people and goods around the region, and in supporting such a dynamic region as metropolitan Washington. Many complex issues present challenges to achieving a transportation system that works, and that works well, including: financing transportation improvements; understanding the relationship between land-use and transportation; monitoring and managing congestion and air quality; coordinating different transportation modes; and managing travel demand. To the extent possible, each of these issues has been considered in developing this plan.

Dispersed Population and Employment Centers

The decentralization of people and jobs and the emergence of large suburban activity centers are trends seen throughout the United States, and they pose many long-term challenges. Serving an increasingly far-flung set of individual and commercial activities will be increasingly difficult with limited resources to expand the road system and limited ability to shift existing land-use patterns in ways that provide sufficient density and mixed-use development to support transit service.

Our region is expected to add significant numbers of new people and new jobs in the next 30 years, and much of this growth will occur outside the regional core and inner suburban jurisdictions. Many are already living farther away from their jobs than they were 20 years ago, making it difficult to use alternatives like public transit. By 2040, vehicle miles of travel (or VMT)—a measure of how much we drive—is expected to increase by 22%.

While our region already has an extensive system of public transit, the need for more transit grows as the region and its population grows. 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 provide easier access to transit.

Maintaining, Operating and Managing the Transportation System

At or near the top of the transportation agenda for every jurisdiction in the region is maintenance of 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% to 65% of available transportation revenues for suburban Maryland and northern Virginia, and almost 85% of the District of Columbia's transportation revenues.

Once relatively minor in discussions of long-range planning, the issue of maintenance and operations costs is now central. This is especially true during years of economic downturn. Maintenance and operations costs limit the region's ability to pay for expansion of the current system. 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 Process and each of the states' pavement and bridge management systems, provide state and local departments of transportation with comprehensive information to better manage and operate these systems in the future. There are several approaches to managing existing facilities. One approach involves making simple capital investments, such as traffic signal improvements, while another approach involves using regulatory tools like carpool lane restrictions or charging tolls on congested routes to discourage unnecessary travel. 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

It is well understood that automobile traffic and roadway congestion have been increasing steadily in the region. This increase in driving also creates environmental challenges. Automobile emissions are a major source of ground-level ozone (smog) and fine particulates in the air, and they make a sizeable contribution to total regional emissions of greenhouse gases that are responsible for global climate change.

In addition to these negative effects on air quality and the atmosphere, the travel time reliability and safety of vehicle users and pedestrians are also impacted, and many regional residents believe that 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 significantly increase the supply of roadway capacity. Instead, strategies and tools that reduce the need for vehicular use must be employed in order to manage demand for our roadways. These strategies include:

- Telecommuting (working in or near the home);
- Transit and rideshare incentives;
- Improved transit services;
- Land development and site-planning techniques that reduce the need to travel as far or as frequently by car; and,
- Regulatory tools, such as increased parking fees, employer-based controls on solo commuting or charging tolls on congested roads.


DEAMOND

One question that will need to be answered in the future is: "To what extent should more ambitious demand management strategies be pursued?" While direct strategies to curb auto use (such as user charges or restrictive parking taxes) are potentially the most effective tools available to reduce congestion and auto emissions, they may not be acceptable to the public in the near-term. Any policies involving charging drivers directly for their use of the roads must be carefully developed and special attention must be given to their potential impacts on different groups of residents throughout the region.

Serving Diverse Markets

The Washington metropolitan region is home to a diverse international community of people with a wide variety of ethnic backgrounds. Over 40% of the region's population is non-white, including many recent immigrants to the region. Individuals with limited-English proficiency make up slightly more than 10% of the population. Despite the region's overall affluence, more than 375,000 residents in 2009 had incomes below the poverty level and an estimated 393,000 persons have physical or sensory disabilities that may qualify them for specialized transportation services.

DDOT

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, including:

- How to sustain adequate bus services and provide appropriate alternative support services like paratransit 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 make roads safer for elderly drivers and those around them, as the region's elderly population increases; 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.

Base Realignment and Closure (BRAC) Impacts

The BRAC Commission recommendations, which were enacted into federal law in 2005, are already having a major impact throughout the Washington region. As federal defense-related employment in places like Crystal City in Arlington shrinks, employment at 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 Walter Reed National Military Medical Center in Bethesda, and other locations.

National Naval Medical Center

Moving Towards Intermodalism

Different modes of transportation—from private automobiles to public bus and rail—have often been planned for in isolation from one another. The public sector planning, construction, and operation of many of the facilities that serve each mode have been conducted by separate agencies with little communication or cooperation. A similar situation previously 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 over the past 30 years into one in which multi-modal planning of public facilities, and some forms of intermodal cooperation in the private sector, have begun to occur. Federal laws have increasingly begun to acknowledge the value of coordinated approaches to planning and operating the various modes through new planning and management provisions.

This CLRP takes a multi-modal approach to developing a future transportation system: it includes highway, transit, air, rail, freight, and bicycle and pedestrian improvements. One example of a multi-modal improvement

is the further development of biking facilities around Metrorail stations in the region. Another example is the Ground Access Element of the Regional Airport System Plan, which identifies both highway and transit projects designed to improve access to the region's airports. Ensuring the coordination of planning across modes is important to promoting an integrated and well-functioning transportation system.

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. Several regional projects that have been proposed have 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 construct 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.

Scenario planning efforts conducted by the TPB have investigated how a 1,650-mile regional network of priced highway lanes could provide an infusion of revenue for new transportation projects and services in our area. Some projects featuring priced lanes are already moving forward in the region, such as the Intercounty Connector in Maryland, and the I-495 High Occupancy/Toll Lanes in Virginia. The experience gained from these projects will influence future plans to price lanes on more roads in the region.

Additional funding for transportation will not come easily, as any effort to develop major new revenues will require substantial cooperation and agreement among the states and local jurisdictions in the region. Finding new sources of funding for transportation will also require much greater public commitment to and political support for transportation improvements.

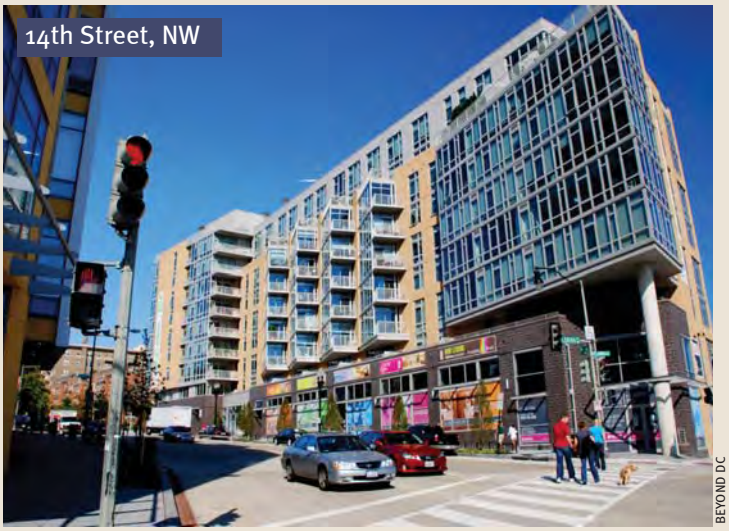
The Intercounty Connector

The Regional Planning Framework: Ongoing Activities

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

Transportation & Land-Use Coordination

The coordination of transportation and land use planning in the Washington metropolitan region is one of the TPB's top policy goals. TPB staff work closely with the Housing and Planning staff at the Metropolitan Washington Council of Governments (COG) to achieve this goal.


14th Street, NW

BEYOND DC

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 economic and demographic data with projections of population, households and employment at the local level. These local projections are based on trends in real estate development, market conditions, adopted land-use plans, and planned transportation improvements in the local area. The Cooperative Forecast is used extensively by TPB staff in modeling travel demand and emissions for the region.


DC Streetcar

BEYOND DC

The TPB 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 focal points for scenario planning efforts conducted over the past decade, including the Regional Mobility and Accessibility Scenario (RMAS) Study and the CLRP Aspirations Scenario Study. These studies have analyzed the potential benefits that more compact, transit-oriented development could have in reducing the number of vehicle trips, thus, alleviating travel congestion.

Scenario Planning: "What Would it Take?" and "CLRP Aspirations"

In May 2010, the TPB completed a scenario study examining how changes in regional transportation policy could aid efforts to reduce regional emissions of greenhouse gases. "What Would it Take?" was a goal-oriented study that specifically asked and tried to determine what it would take in the Washington region to meet aggressive greenhouse gas emissions reduction goals for the transportation sector. The study included analysis of more than 50 strategies—from changes in national fuel-economy 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 the region.

A second scenario completed in September 2010 sought to create a land-use and transportation vision that could serve as an unconstrained transportation plan for the region. The "CLRP Aspirations" scenario includes an aggressive land-use growth vision that defines the region's activity centers and transit station areas as walkable, mixed use, and vibrant neighborhoods. These centers are envisioned to be connected by a robust system of bus-rapid transit (BRT) running on a network of priced road lanes.

The CLRP Aspirations scenario builds on earlier land-use and transportation scenario planning work at the TPB. In 2001, the TPB launched the Regional Mobility and Accessibility Scenario (RMAS) Study to examine the impacts of alternative transportation and land-use scenarios on the region and its people. Phase I of RMAS examined five scenarios in which different spatial patterns of jobs and housing growth and the addition of extensive networks of new public transit facilities were tested to see what actions the region's leaders might take to better meet the objectives of the TPB Vision.

Phase II of the RMAS 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 discussions about the implications of the scenarios and the implementation challenges they presented. 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 RMAS study into the development of the CLRP and into planning efforts at the state and local levels. While the resulting Scenario Study has not produced a single formula to solve the region's transportation problems, it will inform a growing public discussion on the direction and shape of future development in the Washington metropolitan region.

Making the TPB Vision a reality—especially the goals of reducing per capita driving, increasing transit use and promoting regional activity centers—has been the driving force behind the TPB's latest scenario planning efforts. Ultimately, regional leaders hope the results of these studies will steer the region closer to its vision.

For More Information
CLRP Website: www.mwcog.org/2010clrp/scenarios

The Transportation/Land-Use Connections (TLC) Program

In an effort to assist local jurisdictions in implementing strategies suggested by the Scenario Study, the TPB created the Transportation/Land-Use Connections (TLC) Program in 2006. The TLC Program addresses the "how-to" challenges related to improving transportation/land-use coordination and realizing an alternative future for the region by providing both direct technical assistance and information about best practices and model projects. Through the program, the TPB provides communities with up to $60,000 worth of technical assistance to catalyze or enhance planning efforts. Any local jurisdiction that is a member of the TPB is eligible to apply.

In addition to providing direct technical assistance on specific local projects, the TLC program also supports an online clearinghouse of information about transportation/land-use coordination, including regional and national experience with transit-oriented development and other key strategies.

For More Information
CLRP Website: www.mwcog.org/2010clrp/landuse
TLC Program: www.mwcog.org/tlc
Cooperative Forecasting Program: www.mwcog.org/planning

Congestion Management and Operations

The TPB is required by federal law to adopt a Congestion Management Process (CMP) for the region. The CMP has four main components:

- Monitor and evaluate the performance of the transportation system;
- Define and analyze management and operations strategies to improve the performance of the system;
- Implement and assess improvement strategies; and,
- Compile project-specific congestion management information.

The data, strategies, and regional programs involved in congestion management are detailed in the 2010 CMP Technical Report.

The Region's Congestion Management Process (CMP) and the CLRP

The CMP defines and analyzes a wide range of potential demand management and operations management strategies to be considered for inclusion in the CLRP. The TPB, through its Technical Committee, and its Travel Management and Travel Forecasting Subcommittees, reviews where congestion regularly occurs in the region and considers potential strategies to address it. Projects in the CLRP and TIP are cross-referenced with the locations of congestion to guide decision makers in prioritizing areas for current and future projects and associated CMP strategies.

The region also employs non-capital congestion management strategies through its Commuter Connections program and the Management, Operations, and Intelligent Transportation Systems (MOITS) program. Commuter Connections offers incentives to encourage commuters in the region to rideshare or use transit as an alternative to driving alone. Assessments of these programs are analyzed, along with regular updates of travel monitoring to look at trends and impacts, to inform future CLRP cycles.

Ben Schumin

Monitoring the Performance of the Transportation System

To monitor the performance of the transportation system, the TPB measures travel speeds and congestion on interstate and arterial highways in the region. The TPB uses aerial photography (provided by Skycomp, a private traffic monitoring firm) and a number of other travel monitoring activities to analyze current congestion, which in turn supports the CMP and helps to calibrate the computer models that forecast future travel demand. The data from Skycomp illustrates locations of existing congestion while computer models predict future travel patterns. Together, this information provides a regional picture of current and future congestion, and helps set the stage for state and local departments of transportation to consider and implement specific CMP strategies. Some CMP strategies will be integrated into capacity-increasing roadway projects.

In addition to aerial photography techniques, since 2008 the TPB has also used data from INRIX, Inc., a national provider of traffic information for in-vehicle navigation devices and smartphones. The INRIX data, which was made available through the I-95 Corridor Coalition's Vehicle Probe Project, provides traffic information for nearly 200 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.

Finally, the TPB monitors traffic on arterial roadways in the region by using global positioning system (GPS) devices on some 60 vehicles. The GPS-equipped vehicles measure travel speeds on more than 400 miles of major arterial roadways in the region on a rolling, three-year basis, so that any given road will be monitored once every three years. Field data collection is usually conducted during the Fall and Spring and final results are made available in June.

Congestion in the Region: Today and in the Future

Congestion varies based on time of day and day of the week, and it can also vary from month to month and year to year. For example, during economic downturns, congestion declines as individuals conserve on auto trips and increase their use of transit. When the economy is strong, more people choose to drive in personal vehicles.

While congestion is likely to get worse in some areas by 2040, it may remain the same or even improve in others. Measuring current congestion levels in the region and forecasting future congestion helps agencies decide which Congestion Management Program strategies to employ in what areas. In some cases, successful CMP strategies accompany projects that add new capacity to existing roads.

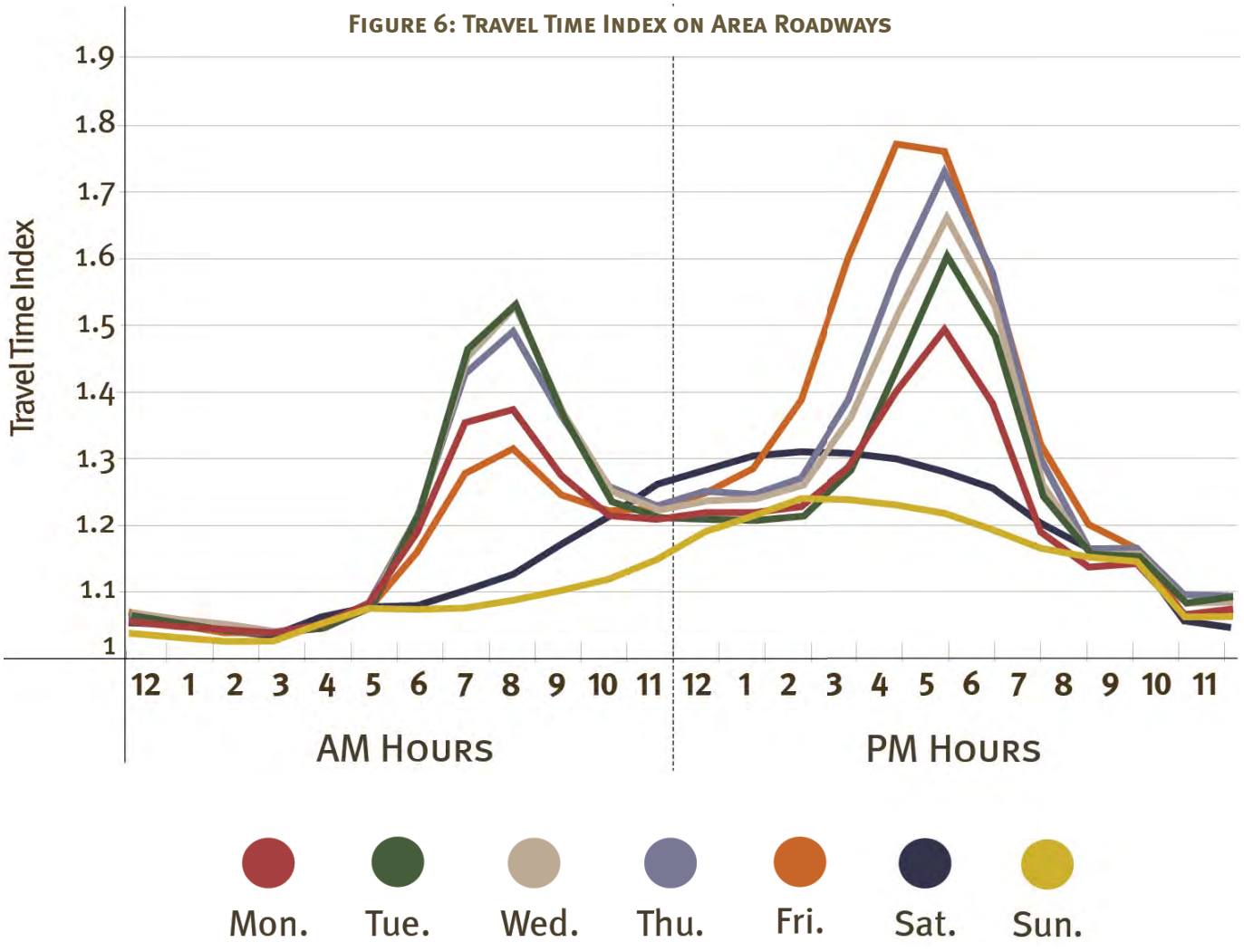
Congestion on Our Highways

From 2005 to 2008, vehicle miles of travel (VMT) fell 3.1% nationally as well as in the District of Columbia, Maryland and Virginia. This was the first time since the Skycomp aerial surveys began in 1993 that VMT had dropped. Starting in the second half of 2008, however, VMT and congestion began increasing again.

Although VMT in the region has not yet returned to pre-recession levels, congestion remains a serious problem. The Spring 2008 Skycomp survey identified regional bottlenecks by measuring the number of vehicles per lane per mile. The 2010 CMP Technical Report details the results of this analysis.

In addition to Skycomp surveys, INRIX data for the region's highway network was used to calculate a travel time index that compares observed travel times on area roads to the travel times that would be expected in free-flowing traffic conditions. Travel time index values using 2009 INRIX data reveal that Tuesday mornings and Friday afternoons were the busiest peak periods during the week in 2009, and that Friday evening rush hour began about one hour earlier than the evening rush hour observed on the other four weekdays. Saturday was found to have more traffic than Sunday, but both weekend days showed considerably less traffic than weekdays.

Figure 6: Travel Time Index on Area Roadways



Congestion on Our Transit System

The region's diverse transit system of Metrorail, commuter rail, and express and local bus services is also subject to the effects of congestion. Highway congestion can slow bus services, even on priority routes where buses are able to take advantage of specially-designated travel lanes and prioritized signal timing. Because of this, relieving congestion on highways not only benefits automobile drivers, it also improves bus transit operations.

Congestion can also be an issue for transit systems in the form of crowded transit vehicles or stations. If the demand for bus and rail transit is high and the capacity cannot keep up with that demand, then transit becomes overcrowded. Some transit stations, especially multimodal transit centers like Union Station, already experience serious congestion. These stations need to expand their capacity in order to meet existing demand and to accommodate future increases in transit ridership.

For More Information

CLRP Website: www.mwcog.org/2010clrp/cmp
2010 CMP Technical Report: www.mwcog.org/2010clrp/cmpreport
Commuter Connections: www.mwcog.org/commuter2

Ben Schumin

Management, Operations and Intelligent Transportation Systems (MOITS)

Getting the most out of the existing transportation system is an important goal of the TPB. Actively managing the system through strategic system management and operations (M&O) has been promoted by the US Department of Transportation. M&O refers to the day-to-day actions and agency responses to the region's transportation system. Examples include routine activities including reconstruction and maintenance, snow plowing and salting, providing real-time traveler information, and programming traffic signals. Management of the transportation system in special circumstances is also important, such as traffic plans for special events like sporting activities or evacuations due to security threats or natural disasters.

By focusing on the evolving technology of Intelligent Transportation Systems (ITS) and the day-to-day activities of maintenance and operations, the TPB and the region's transportation operators and planners have an opportunity to provide more efficient and effective responses to transportation challenges in the region. 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 address congestion, safety, maintenance, and system efficiency. MOITS helps identify short-term operational needs that can be included in the CLRP and implemented to help reduce congestion.

In June 2010, the Strategic Plan for the MOITS Planning Program was finalized. The 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. Intelligent Transportation Systems 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 generally good investments for the region.

The MOITS program focuses on five main elements:

- Building a comprehensive regional system of Intelligent Transportation Systems
- Providing timely, up-to-date traveler information
- Coordinating traffic signal operations
- Ensuring the safety of users of the transportation system
- Managing major transportation incidents

For More Information

CLRP Website: www.mwcog.org/2010clrp/moits
Strategic Plan for the MOITS Planning Program: www.mwcog.org/2010clrp/moitsplan

Transportation Demand Management

Transportation Demand Management (TDM) strategies seek to reduce the number of vehicle trips in the region, total vehicle miles of travel, or both. These measures reduce roadway congestion and vehicle emissions by promoting alternative modes of transportation like ridesharing, public transit, bicycling and walking, and teleworking.

One of the most successful TDM strategies in the region is the TPB's Commuter Connections program, which makes it easier for people to find and use alternatives to driving alone to work. The Commuter Connections ride-sharing program helps commuters connect with potential carpool partners, while the Guaranteed Ride Home (GRH) program offers free taxi rides home to carpoolers and transit riders who have emergencies during the workday and need to get home. Commuter Connections also uses other marketing and outreach strategies like Rideshare Tuesdays, Car-Free Day, and Bike to Work Day to promote use of alternative modes.

Human Service Transportation Coordination

The Washington metropolitan area is a dynamic and vibrant region that relies on a complex transportation network of various modes to support it. This transportation system must serve the needs of all who rely on it. Some transportation-disadvantaged groups—especially persons with disabilities, older adults, individuals with income limitations, and those with limited English proficiency—have specialized needs that require focused planning and coordination efforts. The TPB has taken the lead in the Washington region to improve coordination on behalf of these transportation-disadvantaged groups through its Human Service Transportation Coordination Task Force

TPB Chair, Muriel Bowser introduces "rollDC".

Between 2007 and 2010, the TPB has awarded 35 grants totaling approximately $10 million to provide needed services to these populations. Grants have supported: low-interest car loan programs for low-income families with limited or no access to transit; "rollDC," implementing the first 20 wheelchair accessible taxicabs in the District of Columbia; travel training projects for older adults with disabilities, as well as those with visual or hearing impairments, to learn how to travel independently on public transit; and Reach a Ride, an information service that provides contacts for the multitude of public and specialized transportation options available in the metropolitan Washington region for individuals who are in need of specialized services.

For More Information
JARC and New Freedom Programs: www.mwcog.org/tpbcoordination
HSTC Task Force: www.mwcog.org/2010clrp/HSTCTF

Bicycle & Pedestrian Planning

Bicycling and walking are important modes for the region's overall transportation system. Many of the bicycle and pedestrian projects in the CLRP accompany larger projects like the Woodrow Wilson Bridge, 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 bicycle and pedestrian projects, the TPB prepares a Bicycle and Pedestrian Plan which provides a detailed overview of the existing bicycle and pedestrian facilities in the region and identifies both funded and unfunded priority projects. Recently updated in October 2010, the Bicycle and Pedestrian Plan identifies the capital improvements, studies, actions, and strategies the region proposes to carry out by 2040 for major bicycle and pedestrian facilities.

The Bicycle and Pedestrian Plan is intended to inform development of the CLRP and TIP, and to be a resource for planners and the public. In contrast to the CLRP, however, the Bicycle and Pedestrian Plan includes both funded and unfunded projects, which means that funding for projects in the plan has not necessarily been identified. The plan currently 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 is implemented, by 2040 the region will have added more than 450 miles of bicycle lanes, 630 miles of shared-use paths, hundreds of miles of signed bicycle routes, more than 80 pedestrian intersection improvements, and 10 pedestrian/bicycle bridges or tunnels. A new bicycle and pedestrian crossing over the Potomac River would be created at the American Legion Bridge, and bridges over the Anacostia River would be improved for pedestrians and bicyclists as well. In addition, 21 major streetscaping projects would improve pedestrian and bicycle access and amenities in Washington, DC, the Ballston-Rosslyn corridor in Virginia, Columbia Pike, Tysons Corner, and other locations. With these improvements, there will be over 1,700 miles of bike lanes and multi-use paths by 2040, more than three times the current total.

DEAMOND

Priority Regional Bicycle and Pedestrian Projects

Each year the TPB's Bicycle and Pedestrian Subcommittee selects a short list of unfunded or partially funded high-priority bicycle and pedestrian projects to be considered for inclusion in the TIP. The most recent list was adopted in October 2010. The TPB is briefed on the list annually. The 11 priority projects identified in October 2010 include:

- 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)

For More Information
CLRP Website: www.mwcog.org/2010clrp/bikeped
Bicycle and Pedestrian Plan: www.mwcog.org/2010clrp/BikePedPlan

Major Bicycle and Pedestrian Improvements

This list includes projects that are greater than 3 miles in length or greater than $400,000 in cost. Funding has not necessarily been guaranteed for all projects on this list.

District of Columbia

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

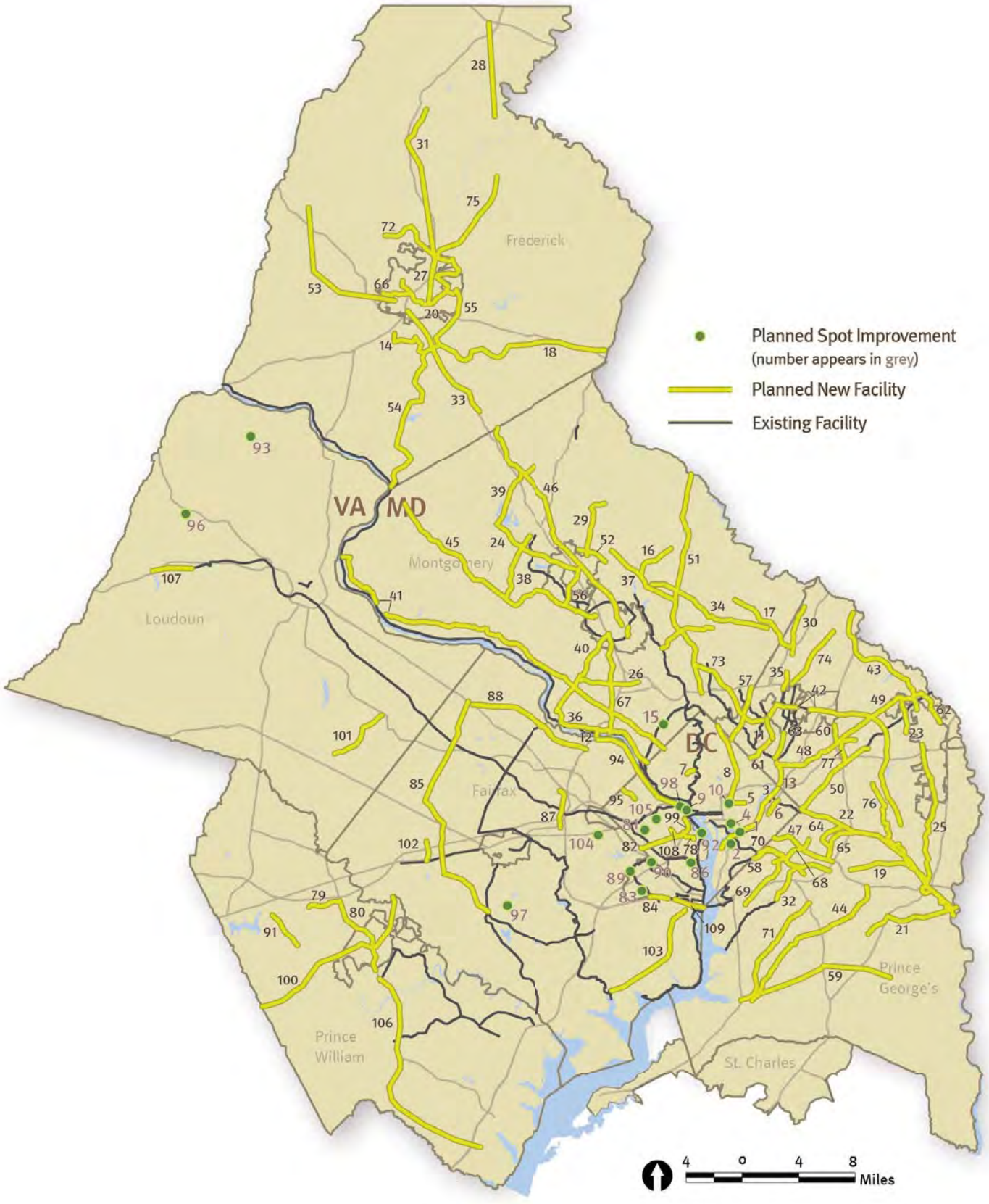
Maryland

11. Adelphi Rd. 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 Rd. Bike Lanes
17. Briggs Chaney Rd. 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 Ave.-Highbridge Rd. Sidepath
24. Clopper Rd./Diamond Ave. Bikeway
25. Collington Branch Trail
26. Democracy Blvd. Bike Path
27. East St. Rail Trail
28. Emmitsburg Railroad Trail
29. Goshen Rd./Brink Rd. Bike Path
30. Gunpowder Rd. 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 Blvd. Bikeway
37. MD 115 (Muncaster Mill Rd.)/Norbeck Rd. Bike Path
38. MD 118 (Germantown Rd.) Bike Path
39. MD 121 (Clarksburg Rd.)/Stringtown Rd. Bike Path
40. MD 189 (Falls Rd.) Bike Path
41. MD 190 (River Rd.) Bike Path
42. MD 193 Bikeway
43. MD 197 Sidepath
44. MD 223 Sidepath
45. MD 28 (Darnestown Rd.) North Bikeway
46. MD 355 (Frederick Rd.) - 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 Ave.) 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 Ave. Bikeway
58. Oxon Run Trail
59. Piscataway Creek Trail
60. Princess Garden Parkway Sidewalks and Bike Lanes
61. Queens Chapel Rd. Sidewalks and Bike Lanes
62. Race Track Rd. Sidepath and Bike Lanes
63. Rhode Island Ave. Trolley Trail Extension
64. Ritchie Branch Trail
65. Ritchie Marlboro Rd. Bike Path
66. Rock Creek Trail - Frederick City
67. Seven Locks Rd. Bikeway
68. Silver Hill Rd. Sidewalks and Bike Lanes
69. St. Barnabas Rd. Sidewalks and Bike Lanes
70. Suitland Parkway Trail
71. Tinkers Creek Trail
72. Tuscarora Creek Trail
73. University Blvd. Bike Path
74. US 1 Bikeway
75. Walkersville to Woodsboro Corridor Phase III Bike Path
76. Western Branch Trail
77. Whitfield Chapel Rd. Sidewalks and Bike Lanes

Virginia

78. Army-Navy Dr. - Joyce St. Bike Facilities
79. Balls Ford Rd. Widening Bike Path
80. Bus 234 Add Signalized Crosswalks
81. Carlin Springs Rd. Bridge Replacement
82. Columbia Pk. Complete Streets
83. Duke St. Pedestrian Bridge
84. Eisenhower Trail
85. Fairfax County Parkway Trail
86. Four Mile Run Pedestrian and Bicycle Bridge
87. Gallows Rd. On-Road Bicycle Facility
88. Georgetown Pk. Multi-Use Trail
89. Holmes Run Greenway Tunnel
90. King St./Beauregard/Walter Reed Interchange
91. Linton Hall Rd. Widening Bike Path
92. Long Bridge Park Esplanade Bridge
93. Lovettsville Ped and Bike Path Network
94. Mount Vernon Trail Extension
95. Old Dominion 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 Rd.) Widening
102. Stringfellow Rd. Bikeway
103. US 1 (Richmond Highway) Ped and Bike Improvements
104. US 50 Pedestrian Improvements
105. VA 120 (Glebe Rd.) Pedestrian Intersection Improvements
106. VA 234 Bike Trail
107. W&OD Trail Extension
108. Washington Blvd. Trail Phase II
109. Woodrow Wilson Bridge

Figure 7: Major Improvements in the Bicycle and Pedestrian Plan



Freight Planning

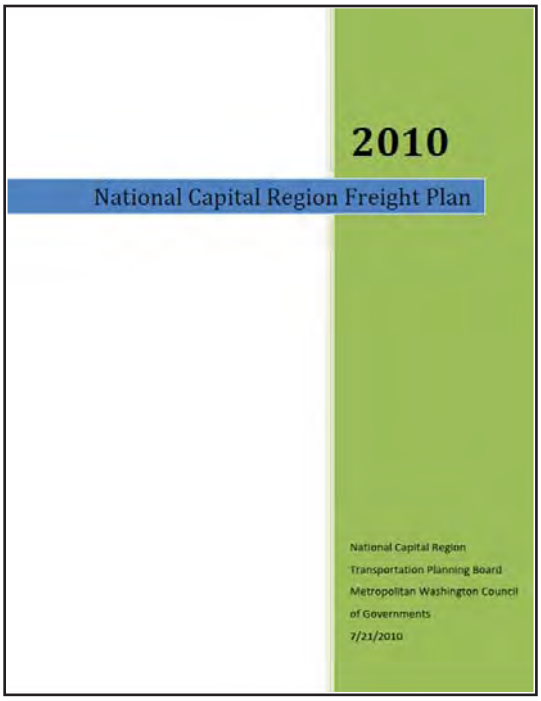
The most recent reauthorization of federal transportation legislation in 2005 directed Metropolitan Planning Organizations (MPOs) for the first time to address freight planning at the regional level. Future renewal of this legislation is expected to maintain and perhaps expand upon freight programs as freight-related issues come to be seen by federal, state, and local leaders as increasingly important to generating and sustaining economic vitality. The TPB's Freight Program is the result of a freight analysis prepared for the TPB in 2007—"Enhancing Consideration of Freight in Regional Transportation Planning"—and the federal government's growing interest in MPOs examining freight transportation at the regional level.

Coordinating Freight Planning

A vital activity of the Freight Program is the development of relationships with regional freight stakeholders. The TPB's Freight Subcommittee was created in April 2008 to do just that. Meetings are held bimonthly and usually include special presentations by freight industry representatives, updates 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 a list of 10 high-priority freight projects for the region, known as the "Highlighted Freight Transportation Projects". The Subcommittee also tours local freight facilities to learn about various freight operations in the region.

National Capital Region Freight Plan

The TPB's 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 and the TPB's freight program, current and future freight conditions in the region, land-use and environmental 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 that are expected to be beneficial to freight movement in our region. All projects in the database were gathered from existing plans and reports (or those that are in progress), and from nominations by the Freight Subcommittee. Several of the projects in the CLRP support freight movement by improving major truck routes in the region. The database also provides a foundation for the Freight Subcommittee's work toward the development of its list of 10 high-priority freight projects for the region.

Current Freight Conditions

Currently, trucks carry approximately 76% of all goods that travel to, from, and within the region, and they face growing congestion on the region's road networks. In a TPB survey of freight-related businesses in the region, congestion on Interstates 495, 95, and 66 were repeatedly mentioned as significant challenges to doing business in metropolitan Washington. 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 region is primarily a through corridor for freight rail, with 95% of all freight rail traffic travelling through the region. Two "Class One" railroads operate in the region—CSX Transportation, Inc., and Norfolk Southern Corporation. Cooperative track-sharing agreements allow the region's commuter rail services (MARC and VRE) and national intercity passenger rail service (Amtrak) to operate on tracks owned by these two railroads.

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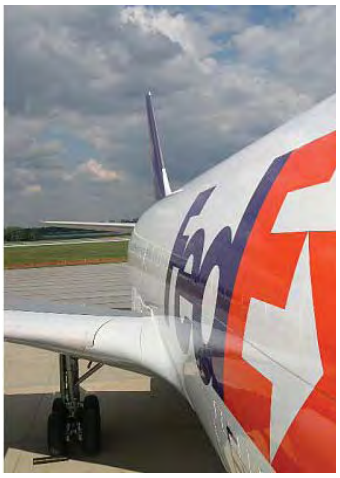


Air freight is also a major component of moving goods in and out of the region. Air freight commodities are typically high in value, light in weight, and time sensitive. Freight is moved either on dedicated all-cargo planes (for example, by FedEx or UPS) or in the cargo holds of passenger planes. Washington Dulles International Airport and the Ronald Reagan Washington National Airport are located within the region, and the Baltimore-Washington International Thurgood Marshall Airport is located just outside the region in neighboring Anne Arundel County, Maryland. Dulles International and Baltimore-Washington International are the two primary air cargo airports that serve the Washington metropolitan region. Supplemental facilities provided at Dulles and BWI, such as refrigerated and heated warehouses and customs agents, help to speed the movement of goods through the supply chain to their final destination.

A small amount of barge movement occurs on the Potomac and Anacostia Rivers. These movements transport petroleum and construction aggregates, such as rock and sand. According to figures included in the USDOT's 2002 Freight Analysis Framework, one million tons of goods worth $69 million are moved by water in the region every year.

Accommodating Regional Freight Growth

The Washington metropolitan region is among the fastest growing areas in the country. As the economy grows, so, too, does demand for goods. Demand for more goods results in 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 or at home. These goods need to be delivered to our local groceries, big box retailers, hospitals, offices, and schools daily, often with multiple deliveries each day.

Current efforts to expand the Panama Canal—which are expected to be completed in 2014—will almost certainly result in significant growth for ports and freight movement on the East Coast of the US. The canal currently has the width and capacity for ships carrying up to 5,000 standard shipping containers. 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.

As facilities on the West Coast of the US reach capacity, the expanded canal will impact route selection for shipping companies. This is likely to influence the relationship between truck and rail movements as intermodal shipments (shipping containers and truck trailers on rail cars) grow. According to the Association of American Railroads, the share of freight moved by rail instead of by truck or other means (measured in revenue ton-miles) grew from 30% to 43% between 1980 and 2006. In this same period, intermodal shipments were the fastest growing segment of traffic on the rail system.

In order to be competitive in the future environment, both of the Class One railroads in our region have undertaken major initiatives to improve their railway network. Both companies are seeking to provide opportunities for increased rail efficiencies, truck to rail diversions, and fewer vehicle 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 that currently prevent double-track and/or double-stack movements. In addition, five new and two upgraded intermodal facilities are planned, including one near Baltimore, Maryland. Thirteen National Gateway projects fall within the Washington metropolitan region. The Virginia Avenue Tunnel project in Washington, DC, will update the antiquated single-track tunnel under 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 other efficiencies. The Crescent Corridor will also build or enhance 11 intermodal facilities along its route, which runs parallel to two major north-south interstates used by truckers—Interstates 81 and 95.

For More Information

CLRP Website: www.mwcog.org/2010clrp/freight
National Capital Region Freight Plan: www.mwcog.org/2010clrp/FreightPlan

Bus Planning

The TPB facilitates and helps to coordinate long-range bus planning by local, state, and regional agencies in the Washington area through its Regional Bus Subcommittee. Regional bus plans are incorporated into the CLRP and TIP, and they outline specific projects and improvements designed to enhance the quality of the region's bus services.

High-quality regional bus service depends on successfully linking different services, routes, stops and stations in ways that make bus travel easier for passengers to use, and it requires linking operating facilities, maintenance shops and storage yards in ways that make bus service more efficient and cost-effective for public agencies to provide. Supplying customer information where and when needed and facilitating transfers within and among the services of multiple transit operators and other travel modes is also essential. The TPB's bus planning efforts seek to facilitate the regional coordination required in order to provide such high-quality services.

In February 2010, the US Department of Transportation awarded the TPB a $59 million grant to implement Priority Bus Transit Improvements across the region. The federal Transportation Investment Generating Economic Recovery (TIGER) grant will improve bus transportation along priority corridors in the District of Columbia, Maryland, and Virginia, enable priority bus transit to connect Prince William and Fairfax Counties and the City of Alexandria with the District of Columbia, and create a multimodal transit center in the Takoma/Langley Crossroads area in Prince George's County, Maryland.


DEAMOND

Ground Access to Airports

A critical component of the region's airport system is the transportation linkage between the airports and surrounding communities. Significant regional growth in jobs and households will result in increased demand for air travel. The need to maintain quick and efficient access to the region's airports for local residents, business travelers and visitors will become an even greater concern as the region grows. 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.

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

- To provide analysis of current and forecast ground access concerns at all three commercial airports (Reagan National, Dulles International, and Baltimore-Washington International);
- To integrate airport system ground access and facility planning into the overall regional transportation planning process for the Washington metropolitan region; and,
- To 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/2010clrp/airports

Safety

Under current federal transportation legislation, the long-range transportation plan for the region must address the safety of users of the transportation system. The TPB Vision calls on member jurisdictions to: provide safer transportation facilities for pedestrians, bicyclists, and persons with special needs; ensure better enforcement of traffic laws and motor carrier safety regulations; and achieve national targets for seatbelt use and appropriate design of facilities.

Importance of Transportation Safety

Protecting transportation system users from death and injury is a major concern of the TPB. The Washington metropolitan region is a diverse and rapidly growing area, 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 should keep travelers safe while encouraging walking and bicycling.

DEAMOND

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

Safety-Related Planning 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 (DOTs), the planning staff of the TPB member jurisdictions, and representatives of law enforcement and public health. The Transportation Safety Subcommittee advises TPB staff on creating and maintaining 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 provides regional planning recommendations from the safety perspective.

A 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 designed 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/2010clrp/safety
Transportation Safety Subcommittee: www.mwcog.org/2010clrp/safetysubcommittee
Street Smart Campaign: www.bestreetsmart.net

Environmental Consultation

As of 2007, MPOs such as the TPB are required by the federal government to engage and consult with state and local government agencies that are concerned with land-use management, natural resources, environmental protection, conservation and historic preservation in developing long-range transportation plans. In order to comply with these regulations, the TPB has established a dialogue with environmental agencies in the region to create a foundation for ongoing consultation and knowledge-sharing regarding environmental issues on a system-wide scale. These relationships have been fostered through several consultation efforts. One product of these efforts is a collection of regional maps showing the intersection of the CLRP with state conservation plans and inventories of natural and historic resources.

G. EDWARD JOHNSON

The consultation effort with environmental agencies in the region 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 resources and environmental protection agencies in the District of Columbia, Maryland and Virginia.

In March 2008, 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" by pooling limited mitigation resources to implement larger mitigation projects that will result in greater net environmental benefits.

In November 2009, the third main outreach effort focused on opportunities for promoting the concept of advanced mitigation in the Washington metropolitan 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 to guide future TPB environmental consultation efforts.

For More Information
CLRP Website: www.mwcog.org/2010clrp/environment
Environmental Mapping: www.mwcog.org/2010clrp/envmapping

Air Quality Planning

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

The air quality analysis is documented in a report that describes the technical elements of the analysis, including travel demand forecasting, emissions calculation procedures, and impacts of transportation emission reduction measures. The analysis must demonstrate that mobile source emissions, estimated for the TIP and for each analysis year of the long-range plan, do not exceed standards (called "emissions budgets") for the following pollutants as established by the Metropolitan Washington Air Quality Committee (MWAQC) and the EPA:

- Carbon monoxide (CO)
- Volatile organic compounds (VOCs)
- Nitrogen oxides (NOx)
- Fine particulate matter (PM2.5)

Tests are also done to ensure that PM2.5 pollutant emissions (of both direct PM2.5 and precursor NOx emissions) are not greater than base-year 2002 emissions.

Once the TPB finds that the CLRP meets regional air quality requirements, federal agencies certify the plan is "in conformity." In other words, the TPB ensures the CLRP "conforms" to federal and state air quality improvement goals. If the TPB encounters difficulty in meeting conformity—or expects to—it may choose to adopt Transportation Emission Reduction Measures (TERMs), such as ridesharing and telecommuting programs, improved transit and bicycling facilities, clean fuel vehicle programs or other actions.

The Metropolitan Washington Air Quality Committee (MWAQC) is the entity certified by the air management agencies of the District of Columbia, Maryland and Virginia to prepare regional air quality plans for the Washington region. MWAQC includes local elected officials, representatives of the state and DC air management and transportation agencies, state legislators and the chairperson of the TPB. Like the TPB, MWAQC is housed at the Council of Governments (COG), which provides its staff.

Transportation is integral to any air quality planning effort. Regional air quality plans for CO, ozone (VOCs and NOx), and PM2.5 each include one or more emissions budgets for emissions from mobile sources (cars, trucks and buses), as well as emissions reduction requirements for non-mobile sources of air pollution, such as power plants. The TPB must show that its transportation plans will conform to the mobile source emissions ceilings for specific milestone years established in the regional air quality plan and transportation plans.

For More Information
CLRP Website: www.mwcog.org/clrp/elements/air_quality.asp

Climate Change Mitigation

In addition to ensuring that federally mandated conformity requirements are met for air quality, the TPB has also begun to analyze carbon dioxide (CO_2) emissions as a performance measure with each update of the CLRP. Since no national standard has been set to cap or control the amount and concentration of CO_2 emissions, the output of this measure is compared to regional goals defined by the 2008 National Capital Region Climate Change Report. This report includes short-term, intermediate and long-term targets for reducing CO_2 emissions based on international scientific consensus.

The TPB has also compiled the "What Would it Take" (WWIT) scenario, the first major climate change and transportation study for the Washington region. The study focused on the transportation sector to understand what could be done to reduce mobile CO_2 emissions throughout the region. It included a baseline "inventory" of CO_2 emissions and future forecasts for the region, a list of possible reduction strategies, with analyses of their effectiveness and cost-effectiveness, and how long it might take to implement each of the possible strategies. WWIT will be used by the TPB in determining future regional transportation priorities.

Emergency Preparedness and 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 that the region must be as prepared as possible to respond to emergencies and disasters.

Transportation plays many different roles in regional incidents and emergency situations. 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 advises agencies in responding to major incidents using 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 in an overall public safety 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, which outlines 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 one of 16 Regional Emergency Support Functions (RESFs), numbered 1 through 16 following the naming and numbering convention used by the Federal Emergency Management Agency (FEMA). 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/2010clrp/security
MATOC Program: www.mwcog.org/2010clrp/matoc
NCR Emergency Preparedness Council: www.mwcog.org/2010clrp/ncrepc
Homeland Security Program: www.mwcog.org/security/security
Regional Emergency Coordination Plan: www.mwcog.org/2010clrp/recp

Major Corridor & Sub-Area Studies

Many potential projects are studied by TPB member agencies for years before they are included in the CLRP. Frequently, the TPB provides technical assistance to these studies. While studies can eventually become CLRP projects slated for construction, they currently do not have financial plans, detailed project scopes, alignments or costs associated with them and they are not included in the CLRP's air quality conformity analysis.

District of Columbia

1. Union Station to Washington Circle transit service improvements
2. Benning Rd. Streetcar Feasibility Study
3. Anacostia Streetcar Project Phase II Environmental Assessment

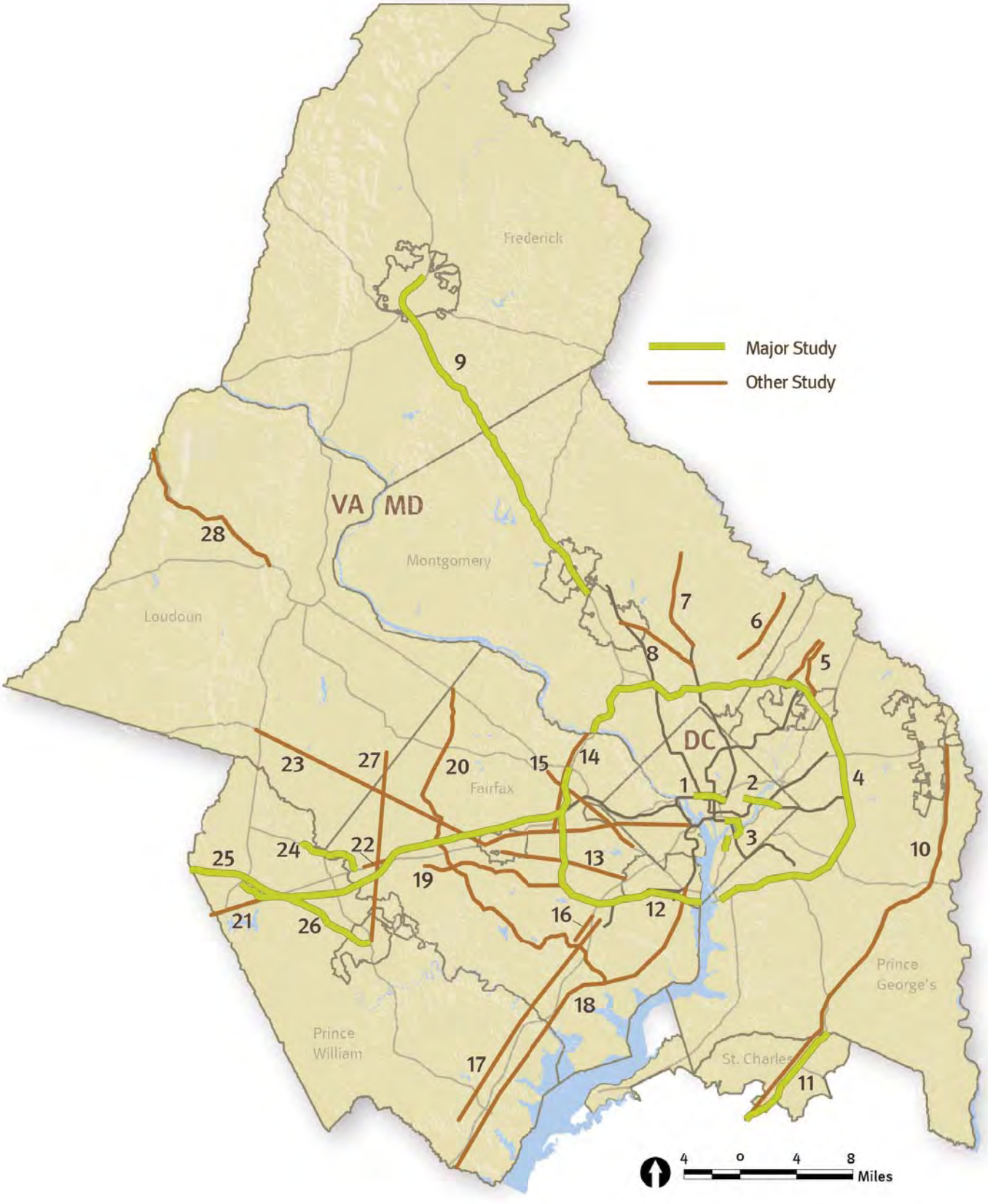
Maryland

4. Capital Beltway
5. US 1 and MD 201 capacity improvements the Capital Beltway to north of Muirkirk Rd.
6. US 29 (Columbia Pk.) Interchange design
7. MD 97 (Georgia Ave.) Busway between Glenmont and Olney
8. MD 586 (Viers Mill Rd.) Busway from Wheaton Metro to Rockville Metro
9. I-270/US 15 Corridor HOV and transit improvements
10. US 301 South Corridor Transportation multimodal study from US 50 to the Potomac River
11. US 301 Waldorf Bypass

Virginia

12. I-495/ I-95 Capital Beltway, HOV and transit service improvements from the Woodrow Wilson Bridge to the American Legion Bridge
13. VA 236 priority bus
14. Metrorail extension from Dunn Loring to the American Legion Bridge
15. VA 7 transit service improvements
16. People Mover from Fort Belvoir Engineering Proving Ground to Franconia/Springfield
17. Metrorail Extension 1-95 from Springfield to Potomac Mills
18. US 1 transit improvements including bus priority
19. VA 620 (Braddock Rd.) HOV, VA 645 to Capital Beltway
20. VA 7100 Priority Bus
21. US 29 improvements I
22. US 29 improvements II
23. US 50 transit service improvements
24. US 29 (Lee Highway) Bypass around the Manassas National Battlefield Park (US 29)
25. I-66 HOV and Transit service improvements, includes park and ride lots, ramps at US 29 in Arlington
26. VRE Extension from Manassas to Haymarket
27. Light rail from Manassas to Dulles
28. VA 9 improvements

Figure 8: Major Studies



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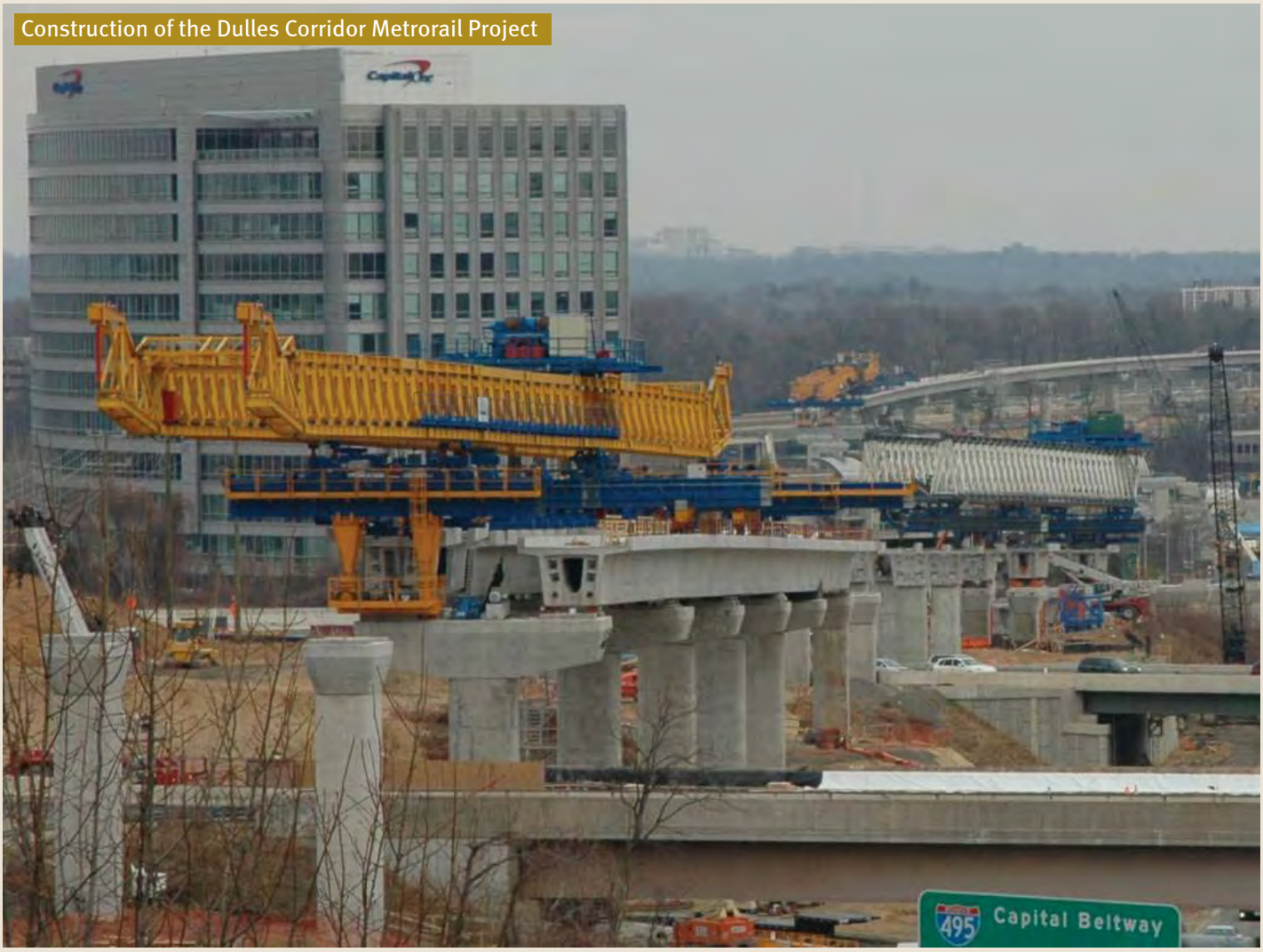
The Plan: Programs and Projects

Every four years, the TPB is required under federal planning regulations to complete an update of the CLRP, which must also include a financial plan. Over the next 30 years, the District of Columbia, Maryland and Virginia plan to invest almost $223 billion in the region's transportation system. This chapter examines where that money will come from and how it will be spent. A full 70% of the forecast $223 billion in spending is committed to the operation and preservation of the existing road and transit systems. The remaining 30% is all that is left to fund new transit and road projects.

This chapter also looks at the projects the region will invest in through 2040. There are a few new projects included in the 2010 update to the CLRP, but many projects have been delayed or removed entirely due to financial constraints.

The chapter concludes with a look back at some of the major projects the region has included in the CLRP over the last decade, and a brief look at the region's six-year Transportation Improvement Program (TIP), which identifies funding priorities for the immediate future.



Construction of the Dulles Corridor Metrorail Project

JACK RUSSELL

FINANCIAL ANALYSIS

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

The financial plan demonstrates that, 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 systems through 2040.

Revenues

The National Capital Region is expecting $222.9 billion in revenues from a variety of sources through the year 2040 (Figures 9 and 10). The largest portion of that total—$87.3 billion—will come from the District of Columbia, the State of Maryland, and the Commonwealth of Virginia. Fares from WMATA and other state and local transit systems make up the second largest revenue source, at $52.2 billion. Federal funding ranks third with $40.7 billion projected to flow into the region through 2040. County and city governments will contribute $27 billion to the total, followed by a combination of private funding, bonds, and tolls with $16 billion.

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

Figure 9: Revenues by Funding Source

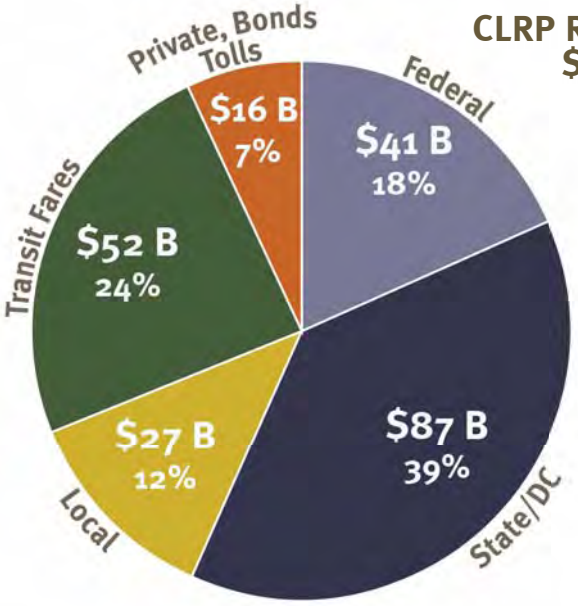
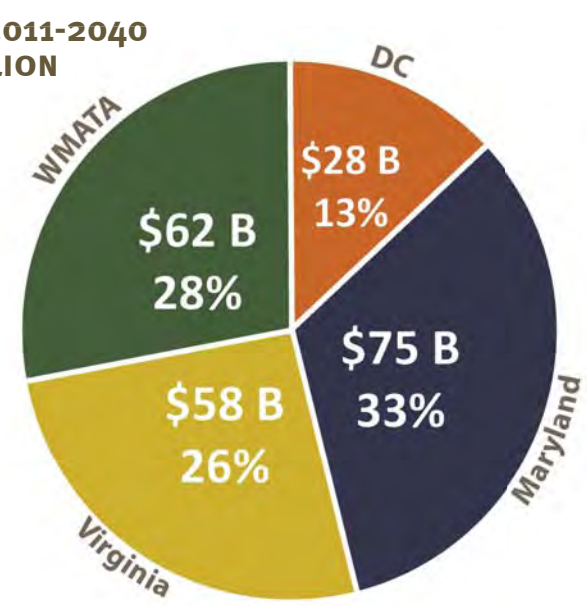


Figure 10: Revenues by Jurisdiction/Agency

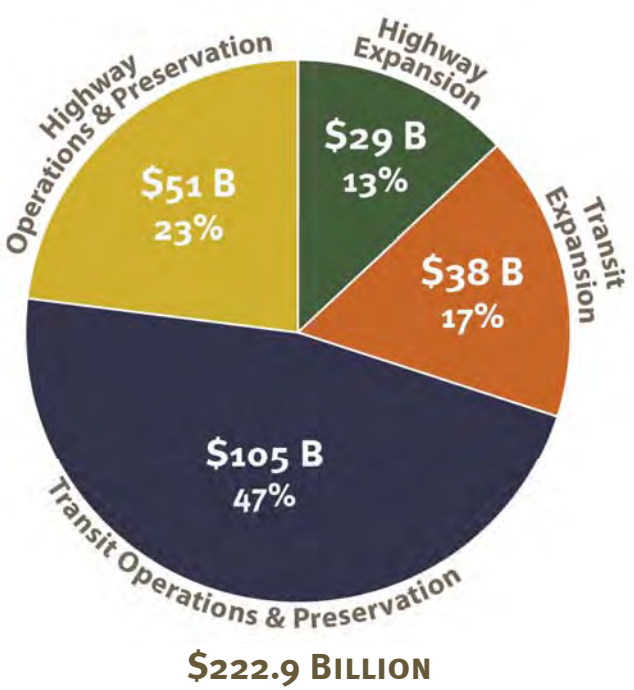


Expenditures

After determining how much revenue would be generated from these various sources, each implementing agency reviewed its costs for construction projects as well as for maintaining and operating the transportation system through the year 2040. Approximately 70% of these funds will go to operations and preservation of the existing and planned system (Figure 11). Just over $51 billion will go to maintain and operate the region's highways and other roads, while more than twice that amount - almost $105 billion - will be spent on operating and maintaining the region's transit systems.

The remaining 30% of funds will 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 construction of new transportation facilities, with $29 billion of that going toward road expansion and $38 billion going toward new transit facilities.

Figure 11: CLRP Expenditures by Type, 2011-2040



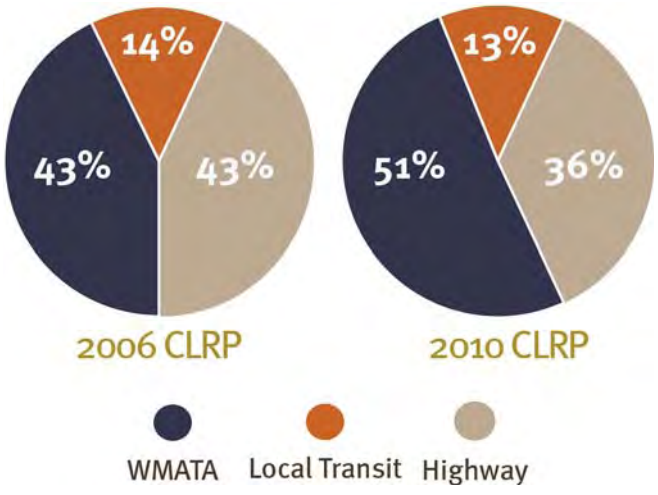
$222.9 Billion

With a financial constraint of $222.9 billion, some agencies were able to add new projects into the CLRP while others had to delay projects or remove them altogether. "New Projects and Significant Changes for 2010" in the third part of this chapter provides 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 meaningful. However, total highway expenditures (including expansion and operations and maintenance) declined from 43% to 36% of total CLRP expenditures. Local transit has stayed about the same, but expenditures for WMATA have increased from 43% to 51%.

Figure 12: CLRP Expenditures by Mode, 2006 v. 2010



Constraining Transit Ridership

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

BEN SCHUMIN

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

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

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

Recent Trends in Revenues

The Financial Plan for the CLRP focuses on long-term trends. One trend that has been clear for most of the last decade is some of the traditional revenue streams that used to pay for the construction, operation and maintenance of the region's transportation system have not kept pace with growing needs. While the recession that began in 2008 has significantly impacted funding for transportation over the last couple of years, DOTs and transit agencies had been feeling the squeeze of declining revenues for a much longer period of time.

The future picture of federal revenues for transportation remains uncertain. The most recent reauthorization of federal transportation legislation expired in 2009, and since then, authorization of a new surface transportation act has been postponed repeatedly and funding has been carried over at 2009 levels through March 2012. Looking forward, the timeline for Congress to approve new legislation remains uncertain.

Many states, including Maryland and Virginia, and the District of Columbia have implemented some creative strategies to pay for new projects, including tolling and public-private partnerships. However, there still exists a need to establish broad-based, dedicated strategies for continued transportation funding to meet the needs of a growing region.

Potential New Sources for Revenue

The CLRP's Financial Plan examines a wide range of options for generating new or enhanced revenues for transportation. It also reviews the steps that would be necessary for implementing these strategies, such as establishing a sound policy rationale for each effort, building a political consensus, and educating the public. There are many technical aspects to consider as well, including reconciling administrative responsibilities and procedures, establishing a legal framework, and introducing new technologies where needed. A critical element necessary for any new initiative is sustained leadership at the local, state, regional and federal levels.

Motor fuel taxes are the most common means of generating revenue for transportation. The Financial Plan examines the possibility of increasing the gasoline tax—either a simple rise in the per-gallon rate or by indexing the fuel tax to inflation or gas prices, or the addition of a sales tax on fuel. At 18.4 cents, the federal gasoline tax, which contributes to the Highway Trust Fund, has not been increased since 1993. The District of Columbia's gas tax is 23.5 cents per gallon and was last raised in 2009. Maryland's gasoline tax is 23.5 cents per gallon and was last raised in 1992, while in Virginia the gas tax was last raised in 1986 and is currently 17.5 cents per gallon. (A 2% additional tax in localities that are part of the Northern Virginia Transportation District is also assessed.) A number of states have indexed their fuel tax to inflation to maintain the purchasing power of their gas tax receipts. Given the recent economic recession and an unsupportive political climate, a gas tax increase of any kind seems unlikely in the immediate future.

But even with the political will to raise gas taxes, such a measure would only go so far in stabilizing revenues for transportation. One drawback to fuel-based fees is that as vehicles become more efficient and use less fuel, or move to alternative power sources altogether, the revenues they generate will continue to decline. The Financial Plan looks at a fee system that charges drivers for their use of the road on a per-mile basis. Often referred to as VMT fees, such a system would more directly link road usage to the contributions that drivers make to the expansion and upkeep of area roadways. This fee could be varied by vehicle weight so trucks and other heavy duty vehicles pay a higher share than lighter cars.

HOV/HOT Lane Construction on I-95

VDOT

Tolling and congestion pricing are fees that are levied for the use of a particular facility. Many states have used tolls to generate revenues and build new facilities. Sometimes these tolls are a flat rate for the entire facility or are based on the distance traveled. Another option uses congestion pricing to determine toll rates. As congestion increases on a facility, toll rates go up to encourage some users to find alternate routes or modes of travel, or to drive at different times so as to maintain a relatively free flow of traffic.

There are already three projects in the CLRP that feature congestion pricing: the Intercounty Connector in Maryland, and the HOT lanes projects on the Capital Beltway and on I-95 in Virginia. In Virginia, the HOT lanes will be available free of charge to high-occupancy vehicles (HOVs) as well as transit and emergency vehicles, while drivers of low-occupancy vehicles (LOVs) will be able to pay to use the facility. Both the VMT fee and congestion pricing strategies require an investment in new technology to implement.

The Financial Plan also weighs other tax options including vehicle sales taxes, vehicle registration fees, property taxes and excise taxes on vehicle sales. Other strategies considered extend beyond revenues generated by user fees or taxes. These include local option taxes, beneficiary charges and innovative financing and public-private partnerships.

Local option taxes could be applied to anything from motor fuel sales, vehicle and property sales, general sales or income. For these taxes to be designated for transportation purposes, they must be specifically enabled under state legislation and typically require approval by voters. The Financial Plan concludes that general sales taxes tend to have a higher yield compared to motor fuel and vehicle taxes.

Beneficiary charges such as impact fees and value-capture generate revenue from properties that directly benefit from transportation improvements. Value-capture and Tax Increment Financing (TIF)—implemented via land taxes or special assessment districts—can provide jurisdictions with a return on the increase in property value that is derived from improvements to transportation facilities paid for with public funds.

For More Information
CLRP Financial Plan: www.mwcog.org/2010clrp/financial

PROGRAMS IN THE PLAN

One of the goals of the TPB Vision is to give priority to management, performance, maintenance and safety of all transportation modes and facilities in the region. The CLRP includes a number of programs that are designed to meet that goal, and to maximize the efficiency of the region's existing system before adding new capacity. This section of the chapter describes the most important programs.

Commuter Connections

The Commuter Connections program makes it easier for people in the region to find and use alternatives to driving alone to work. The Commuter Connections 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.

The Commuter Connections Guaranteed Ride Home Program (GRH) offers commuters using alternative transportation modes a ride home in the event of an unexpected personal emergency or unscheduled overtime. A car rental company and various cab companies provide this service for stranded commuters.

Other marketing and outreach strategies, such as Car-Free Day, Bike to Work Day, and telework resources, are provided by TPB's Commuter Connections Program.

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

Metropolitan Area Transportation Operations Coordination (MATOC)

Following the experiences of the 9/11 attacks and other major incidents, the TPB helped establish the Metropolitan Area Transportation Operations Coordination (MATOC) program, partnering with the departments of transportation in the District of Columbia, Maryland, and Virginia, and with the Washington Metropolitan Area Transit Authority.

MATOC Program development was also advised by experts at the US Department of Transportation's Volpe Center research arm. Researchers indicated such a program would benefit the incident management work that each transportation agency was already doing, confirming that the capability of incident-response programs in the region is limited by the lack of designated accountability for undertaking regional coordination activities. Volpe researchers noted the program does not have to be a bricks-and-mortar center, but that it must be a committed, cooperative effort among key agencies. Accomplishing MATOC Program goals will rely to the greatest extent possible on existing agency personnel and effective implementation of technology.

Goals for the MATOC Program include:

- Strengthening multi-agency coordination among transportation response agencies during incidents based on improved standard operating procedures and notification practices;
- Improving the technological systems by which transportation agencies can share data with each other to aid incident management;
- Improving the quality and timeliness of the information available through current sources (e.g., radio and television stations) on transportation systems conditions, especially during incidents;
- Coordinating with the University of Maryland on the separate but related Regional Integrated Transportation Information System (RITIS), which provides real-time transportation data compiled from each of the region's transportation agencies and is the primary source of information used within the MATOC Program; and,
- Helping to ensure that information about the conditions of the transportation system is provided to emergency management and public safety agencies to aid in their responses to declared emergencies or major disasters.

Street Smart Pedestrian and Bicycle Safety Campaign

The Street Smart Campaign is an ongoing public safety program in the District of Columbia, Suburban Maryland and Northern Virginia designed to save lives by educating the public about pedestrian and bicyclist safety, and increasing awareness of pedestrian and bicycle safety laws in the region. Aimed at drivers, pedestrians and cyclists, Street Smart uses media advertising (radio, print, Metro and outdoor transit advertising) with specific messages about crossing streets safely and how to be more aware of pedestrians while driving. Law enforcement has increased its support of the program, issuing nearly 30,000 citations and more than 7,800 warnings during the Fall 2009 and Spring 2010 campaigns.

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.

Job Access Reverse Commute and New Freedom Programs

In 2006, the TPB became the designated recipient for two FTA funding programs – Job Access Reverse Commute (JARC) and New Freedom (NF) – that each provide approximately $1 million per year to support transportation services for low-wage earners to get to job sites or for people with disabilities to make trips of any kind.

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.

Between 2007 and 2010, 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: a wheelchair accessible taxi service pilot in DC (rollDC), and a web-based regional clearinghouse of information on specialized transportation services (Reach a Ride). In total, close to $10 million in projects have been approved that have helped many transportation-disadvantaged individuals improve their mobility and their ability to access and take part in employment, healthcare, cultural and other daily activities.

For More Information
CLRP Website: www.mwcog.org/2010clrp/hstc
JARC and New Freedom Programs: www.mwcog.org/tpbcoordination
rollDC: www.mwcog.org/tpbcoordination/projects/taxi.asp
Reach a Ride: www.reacharide.org

Bike Sharing

The Washington metropolitan region has become a national leader in bike sharing, which is a form of public self-service bicycle rental designed for short trips. 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 called 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 uses membership cards or credit cards to access the bicycles and to return the shared bike to any shared bike parking location. Users can sign up for an annual, monthly, multi-day or single-day membership, and are then able to take trips using any Capital Bikeshare bicycle. The first half hour of each trip is free of charge, but incremental fees are charged for those trips that are longer than thirty minutes. The bicycles are sturdy in design and comfortable to ride.

DDOT

Bike sharing is, in part, intended to solve the problem of limited bicycle parking by providing bicycles at popular origins and destinations across the city, while relieving the cyclist of the burden of bicycle ownership and maintenance. It can be an introduction to cycling in the city for the uninitiated who might consider cycling but don't yet own a bicycle of their own. Bike sharing can also provide local mobility for people who arrive by transit, extending the range of destinations accessible by modes of travel other than the automobile.

985 PHOTOGRAPHY

Eco-Driving

Eco-driving represents a new driving culture that contributes considerably to pollution reduction by encouraging drivers to make a few smart adjustments in their driving and car maintenance habits. The TPB's Commuter Connections Program has signed on to an eco-driving campaign in partnership with the I-95 Corridor Coalition and a number of state and local transportation agencies along the East Coast. These agencies are promoting a public awareness campaign called "Drive Green, Save Green," which provides drivers with tips on reducing their fuel costs and increasing the fuel efficiency of their vehicles.

Passenger Rail Investment and Improvement Act (PRIIA)

In 2008, Congress passed the Passenger Rail Investment and Improvement Act to address WMATA's capital needs for rehabilitating their fleet of rail cars and buses, and for maintenance of stations and rail tracks. The Act provides an additional $3 billion in funding through 2020, with half of that amount coming from the federal government and the other half coming from dedicated sources in the District, Maryland, and Virginia. WMATA still faces funding challenges beyond 2020, and ensuring the extension of this act will be an important priority for the TPB moving forward.

PROJECTS IN THE PLAN

While the programs described in the previous section seek to make the most out of the investments the region has made in its existing transportation system, there is also a need for new roadway and transit capacity in the region. This section describes the investments in new capacity the region is planning to make over the next thirty years. Some new projects have been added in the 2010 update, but due to the economic recession, a significant number of projects have been delayed or removed from the CLRP altogether.

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Project Development and Selection

Transportation projects in the CLRP are developed through a comprehensive, cooperative and continuous process—the "Three Cs" of transportation planning.

The project development process is comprehensive in the sense that all modes of transportation are considered in the planning process, including roads, rail, buses, bicycle and pedestrian facilities, and air travel. Many other factors are also considered when developing projects, including land-use coordination, air quality measures, environmental impacts, and equality of access for all of the region's residents.

Project development is cooperative in that transportation projects are developed by a wide range of players, and stakeholders are involved at every level. Local, state, and regional government bodies and transportation agencies, concerned citizens, and the private sector all work together in various combinations to develop projects.

One way the TPB aids the project development process is by providing a forum for agencies to discuss regional challenges and solutions. Member agencies work with and through the TPB to select projects that will receive funding not only through the CLRP, but also from the Job Access Reverse Commute (JARC), New Freedom, and Transportation Investment Generating Economic Recovery (TIGER) programs.

The project development process is a continuous one, in which the plans and projects developed at the local and state levels constantly evolve and are reviewed to find which projects will be funded and added to the CLRP each year. By the time projects make it into the CLRP, they have typically made it through multiple layers of review at state and local levels and have gained considerable political support.

Every year, the TPB produces an analysis of the air quality impacts of the Plan as a whole, including any proposed new, regionally significant projects. This continuous process enables the CLRP to respond relatively quickly to changing needs and circumstances.

Another "C" plays an important role in the project development and selection process as well. The "C" in CLRP stands for financial constraint. Every four years the member agencies of the TPB cooperatively conduct a financial analysis of the CLRP. The 2010 Financial Analysis projects the revenues and expenditures for each agency through the year 2040. Most of the funding for transportation is dedicated to operating and maintaining the existing (and planned) system of roads, rails, and vehicles. Only after these commitments are funded can new projects be considered.

An important factor that determines whether a project is included in the CLRP is when and how it will be paid for. Funding can come from several different sources—from the federal, state or local governments, or from the private sector. But these funds almost always have strings attached. There are federal categories of money that can only be used for specific types of projects, such as bridges, transit services, or safety improvements. The replacement of the Woodrow Wilson Bridge was largely paid for with federal funding since it was owned by the federal government.

Frequently, special funding packages are put together for a particular project, such as the development districts, tolls, and federal funding for the Dulles Metrorail extension. In an age of increasingly limited federal resources, state and local governments and the private sector are often stepping in to fill the gaps. The interchange on the Capital Beltway at Contee Road, for example, was only made possible by an agreement between the state, the county, and a private developer.

New Projects

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

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.

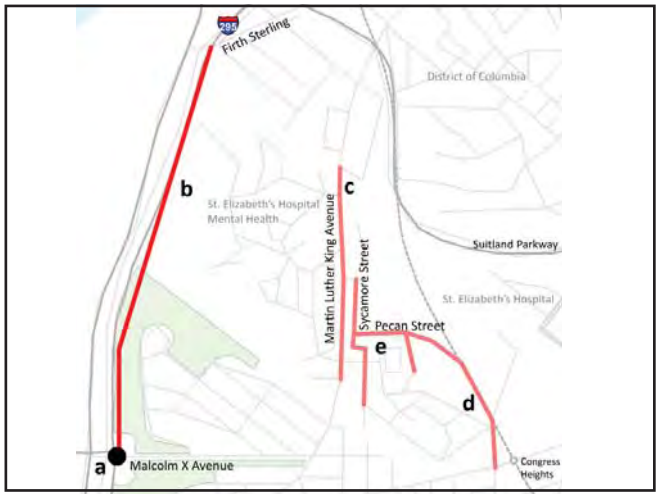
The three planned segments are:

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 Ave. (2 miles, Complete 2012)
c. Benning Rd. NE from Oklahoma Ave. NE to 45th St. NE/Benning Rd. 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 St. NW from Mt. Vernon Square to Wisconsin Ave. 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
d. Construct a 2-lane extension of 13th St. SE from Congress Heights Metro Station to Pecan St. SE
e. Reconstruct and reconfigure Pecan St. and Sycamore St. to accommodate buses.

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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 Ave. and the bike lanes will travel down the center median.

a. 9th St. NW from Constitution Ave. NW to K St. NW (0.7 mile)
b. 15th St. NW from Constitution Ave. NW to W St. NW (2 miles)
c. L St. from 11th St. NW to 25th St. NW (1.3 miles)
d. M St. from 15th St. NW to 29th St. NW (1 mile)
e. Pennsylvania Ave. NW from 3rd St. NW to 14th St. 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 need to be submitted again for air quality conformity testing.

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 Rd. 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 65):

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

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).

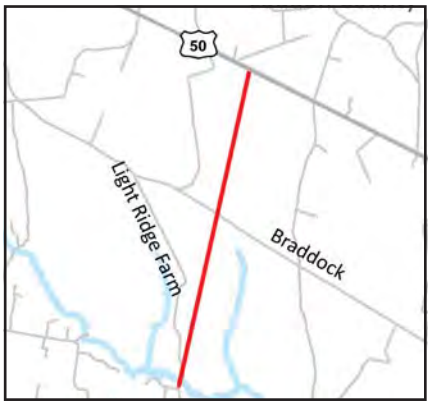
Project Limit Changed: I-270/US 15 from Shady Grove Metro Station to Biggs Ford Road

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 Rd. 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 Rd. 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.

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

- MD 2/4, construct 3 lanes from MD 765 to MD 2/4 at Lusby (~~2020~~ 2040)
- MD 4, construct interchange at Westphalia Rd. (~~2010~~ 2020)
- US 1, bus right turn lanes from VA 234 north to I-95 (~~2025~~ 2035)
- VA 7/US 15 Bypass, widen to 6 lanes from VA 7 west to US 15 south (~~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 south to VA 7/US 15 east (~~2020~~ 2035)

Projects Removed from the Plan

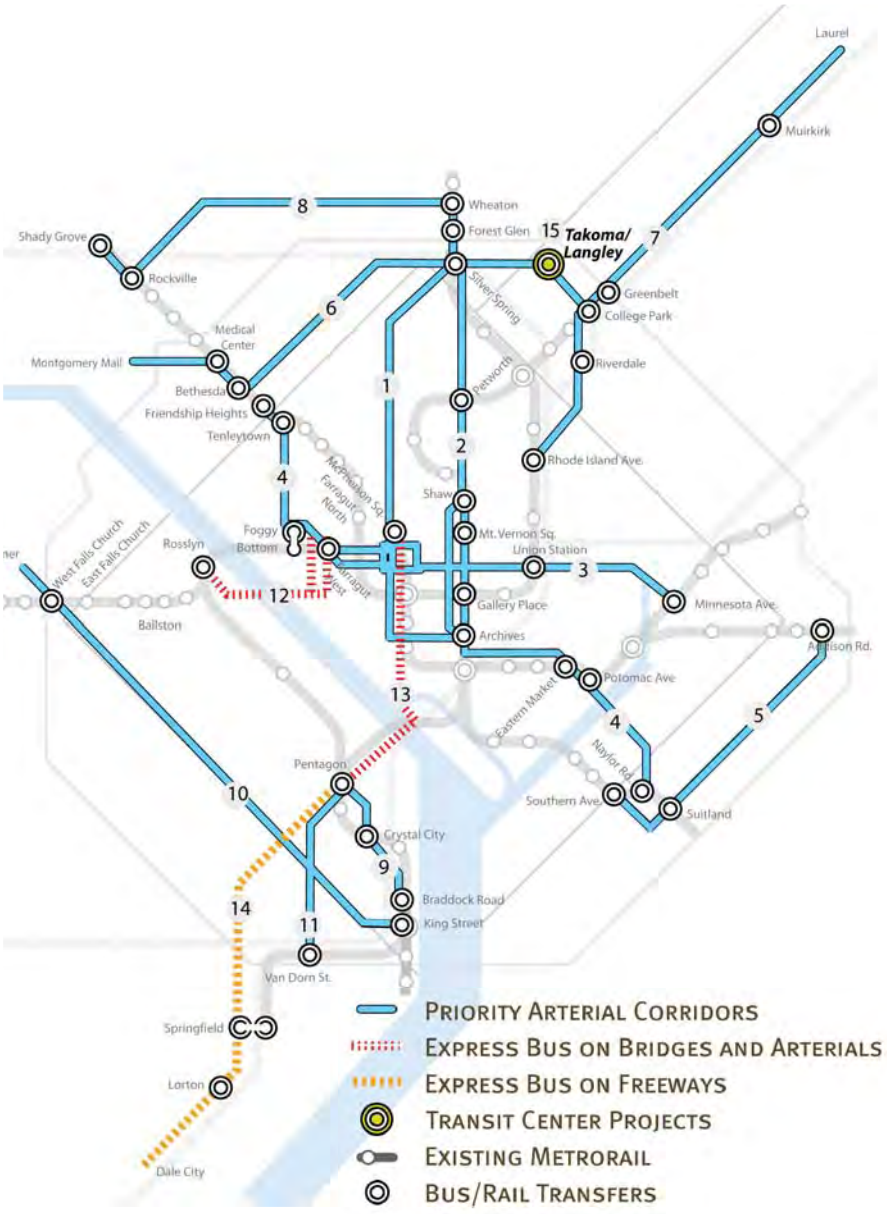
- I-95/495 Interchange at Greenbelt Metro
- US 29, Columbia Pk., upgrade from Sligo Creek Pkwy. to Howard County line
- US 201 Kenilworth Ave. from Rittenhouse Rd. to Pontiac St.
- US 301, upgrade and widen from north of Mount Oak Rd. to US 50
- I-95, construct interchange at VA 7900 (Franconia-Springfield Pkwy.)
- US 1, widen to 6 lanes from Stafford County line to Joplin Rd.
- VA 7, widen to 6 lanes from VA 9 to Market St.
- US 15 (James Madison Highway), widen to 4 lanes from VA 234 to Loudoun County line
- VA 28 (Centreville Rd.), widen to 6 lanes from north city limit, Manassas Park to Old Centreville Rd.
- US 50, widen to 8 lanes from I-66 to west city limit, City of Fairfax
- VA 7100 (Fairfax County Pkwy.), widen to 6 lanes from VA 636 to VA 640
- VA 7100 (Fairfax County 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.

TIGER Projects

The American Recovery and Reinvestment Act of 2009 (ARRA) provided more than $48 billion for transportation investments around the country. In February 2010, the TPB was awarded $58.8 million in Transportation Investment Generating Economic Recovery (TIGER) grants under ARRA for Priority Bus Transit. The following components of this project were incorporated into the 2010 CLRP, the FY 2011-2016 Transportation Improvement Program (TIP), and the air quality conformity analysis:

- [1,2,3,4] Real-time bus information (Nextbus) at bus stops on 16th St. NW, Georgia Ave., Wisconsin Ave., and H St./ Benning Rd., as well as curb extensions and a segment of bus-only lanes on Georgia Ave., implemented by DDOT.
- [5] Replacement and rehabilitation of bus stops and shelters in Prince George's County, implemented by WMATA.
- [6,7,8] Priority bus transit enhancements, including queue jump lanes, real-time bus information and bus stop and shelter improvements along University Blvd., US 1, and Veirs Mill Rd., implemented by MDOT.
- [9] Potomac Yard transit improvements in the City of Alexandria, including a Transitway along US 1.
- [10] Priority Bus Transit Improvements in Virginia, including bus shelter and pedestrian access improvements at the Pentagon and Franconia Springfield Metrorail stations, and real-time bus information at those stations and along VA 7 (Leesburg Pk.), implemented by WMATA.
- [11] Priority bus transit improvements in the City of Alexandria, including two queue jump lanes and two super stops along Van Dorn St. and Beauregard St.
- [12,13] Express bus (signal optimization and transit signal priority) on the Theodore Roosevelt Bridge from I-66 to K St. NW, and on the 14th St. Bridge from I-395 to K St NW.
- [14] Replacement buses and Computer Aided Dispatch and Automatic Vehicle Location (CAD/ AVL) system for the Potomac and Rappahannock Transportation Commission.
- [15] Takoma/Langley Park Transit Center, near the intersection of MD 193 and MD 650, implemented by MDOT.

Figure 13: TIGER Project Improvements



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

Figure 14: Major Transit, HOV and HOT Improvements

District of Columbia

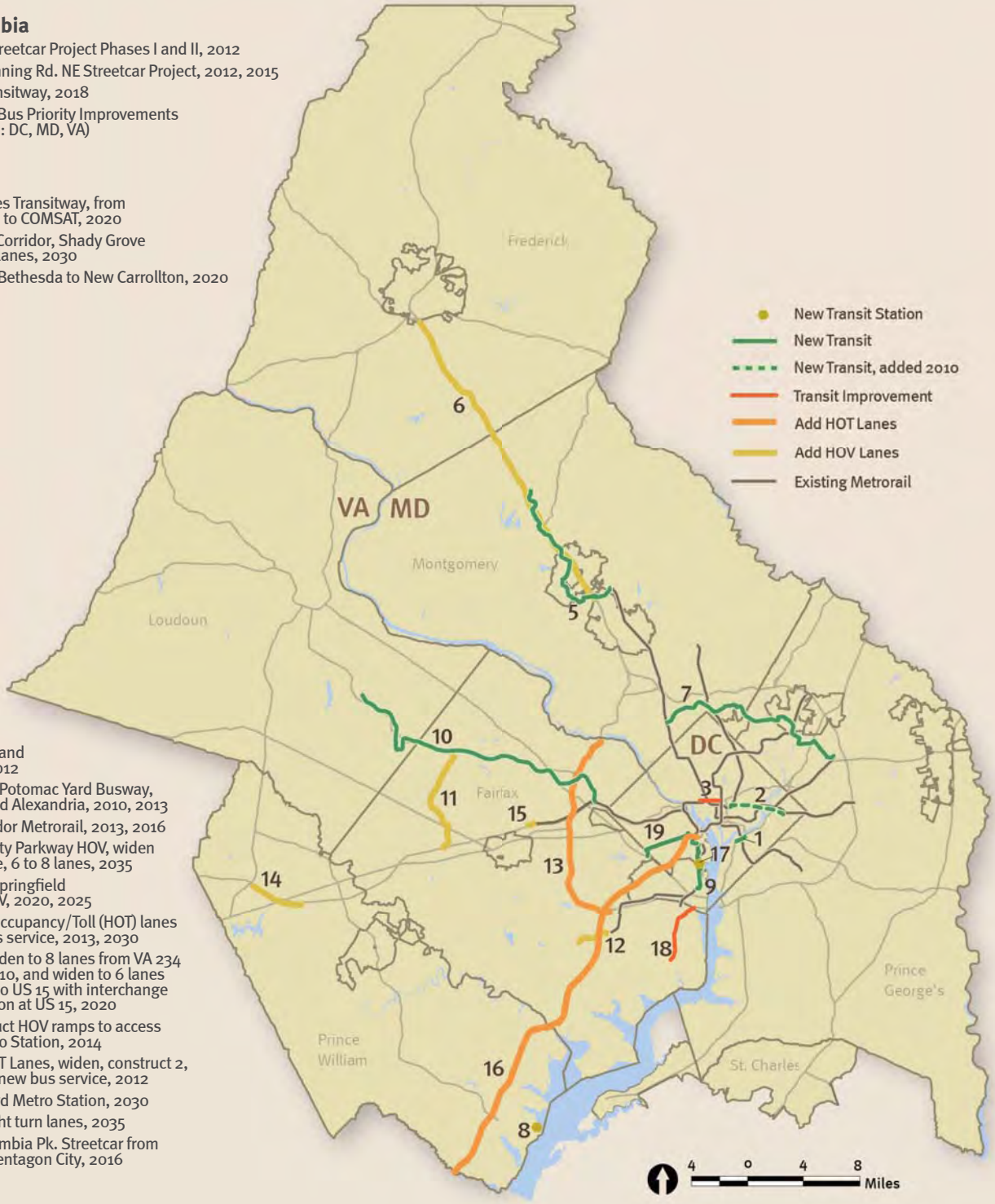
1. Anacostia Streetcar Project Phases I and II, 2012
2. H St. NE/Benning Rd. NE Streetcar Project, 2012, 2015
3. K St. NW Transitway, 2018
4. TIGER Grant Bus Priority Improvements (not mapped: DC, MD, VA)

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 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 Pk. Streetcar from Skyline to Pentagon City, 2016



Major Highway Improvements

District of Columbia

1. 11th St. Bridge reconstruction, 2013
2. I-295, reconstruct interchange at Malcolm X Blvd. to improve access to Saint Elizabeth's Campus, 2014
3. 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
4. South Capitol St. Corridor, bridge reconstruction, including interchange at Suitland Pkwy. and Martin Luther King Jr. Blvd., 2015, 2016
5. Wisconsin Ave., reconfigure from 4, 6 lanes to 4 lanes with a continuous left-turn lane, 2011

Maryland

6. Baltimore Washington Pkwy., intersection improvement at MD 193, 2025
7. Father Hurley Blvd., construct 4 lanes, 2010
8. I-270, interchange at Watkins Mill Rd. Ext., 2016
9. I-270, reconstruct interchange at MD 121, 2016
10. I-270/US 15 Corridor, Shady Grove to Biggs Ford Rd., widen and HOV or HOT, 2030
11. I-70, widen to 6 lanes, 2016
12. I-70, reconstruct interchange at Meadow Rd., 2016
13. I-95, interchange and CD lanes at Contee Rd., 2020
14. 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 Rd., 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 Rd. Extended, widen, construct 4 lanes, 2020
37. Montrose Pkwy. East, construct 4 lanes, 2015
38. Randolph Rd., widen to 5 lanes, 2020
39. Suitland Pkwy., 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 Rd. Ext., construct 6 lanes, 2011

Virginia

46. Battlefield Pkwy., construct 4 lanes, 2010
47. Dulles Access Rd., widen to 6 lanes, 2017
48. Franconia/Springfield Pkwy., 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 Ln., 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 Rd., 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 Pkwy., construct 4 lanes, 2035
82. VA 7, Leesburg Pk., 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

Figure 15: Major Highway Improvements

Highlighted Projects from 1999 through 2009

These are some of the large-scale regional projects that have been added to the CLRP over the past decade. The information presented here reflects project listings in the 2010 CLRP, adopted by the TPB on November 17, 2010.

Figure 16: Highlighted Projects

1999

1 Dulles Corridor Rapid Transit

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

2006

6 DC Streetcar: Initial Anacostia Segment

- Implement streetcars from Firth Sterling Ave. and South Capitol St. to Howard Rd. and Martin Luther King Jr. Ave.
- Cost: $21 million
- Completion: 2011

7 South Capitol Street Bridge

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

8 11th Street Bridge

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

2003

2 Corridor Cities Transitway

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

3 I-270/US 15 Corridor

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

2004

4 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: 2011

2005

5 Capital Beltway HOT Lanes

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

2007

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

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

10 Potomac Yards Transitway, Alexandria

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

2008

11 Columbia Pike Streetcar

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

2009

12 Purple Line

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

FY 2011-2016 Transportation Improvement Program (TIP)

The Transportation Improvement Program (TIP) is a six-year financial program that describes the schedule for obligating federal funds to state and local projects in the region. The TIP contains funding information for all modes of transportation including highways and HOV as well as transit capital costs. State, regional, and local transportation agencies update the program each year to reflect priority projects in the CLRP.

The TIP represents an agency's intent to construct or implement a specific project and the anticipated flow of federal funds and matching state or local contributions. In order for a project to be eligible for federal funding, those funds must be programmed in the TIP.

The TIP also serves as a schedule of accountability to the Federal Highway Administration and the Federal Transit Administration. Their annual review and certification of the TIP ensures the Washington metropolitan region continues to receive federal assistance for transportation improvements.

As approved on November 17, 2010, the FY 2011-2016 TIP programmed approximately $16 billion over six years (Figure 17), which is generally in line with the totals programmed in the past three TIP cycles. The TIP is continuously being modified and amended to reflect revised funding streams and project priorities. In order to capture this complex and ever-changing picture, the TIP is presented in a searchable database on the CLRP website.

For More Information
CLRP Website: www.mwcog.org/2010clrp/tip

Figure 17: FY 2011-2016 Funding Compared to Previous TIPs

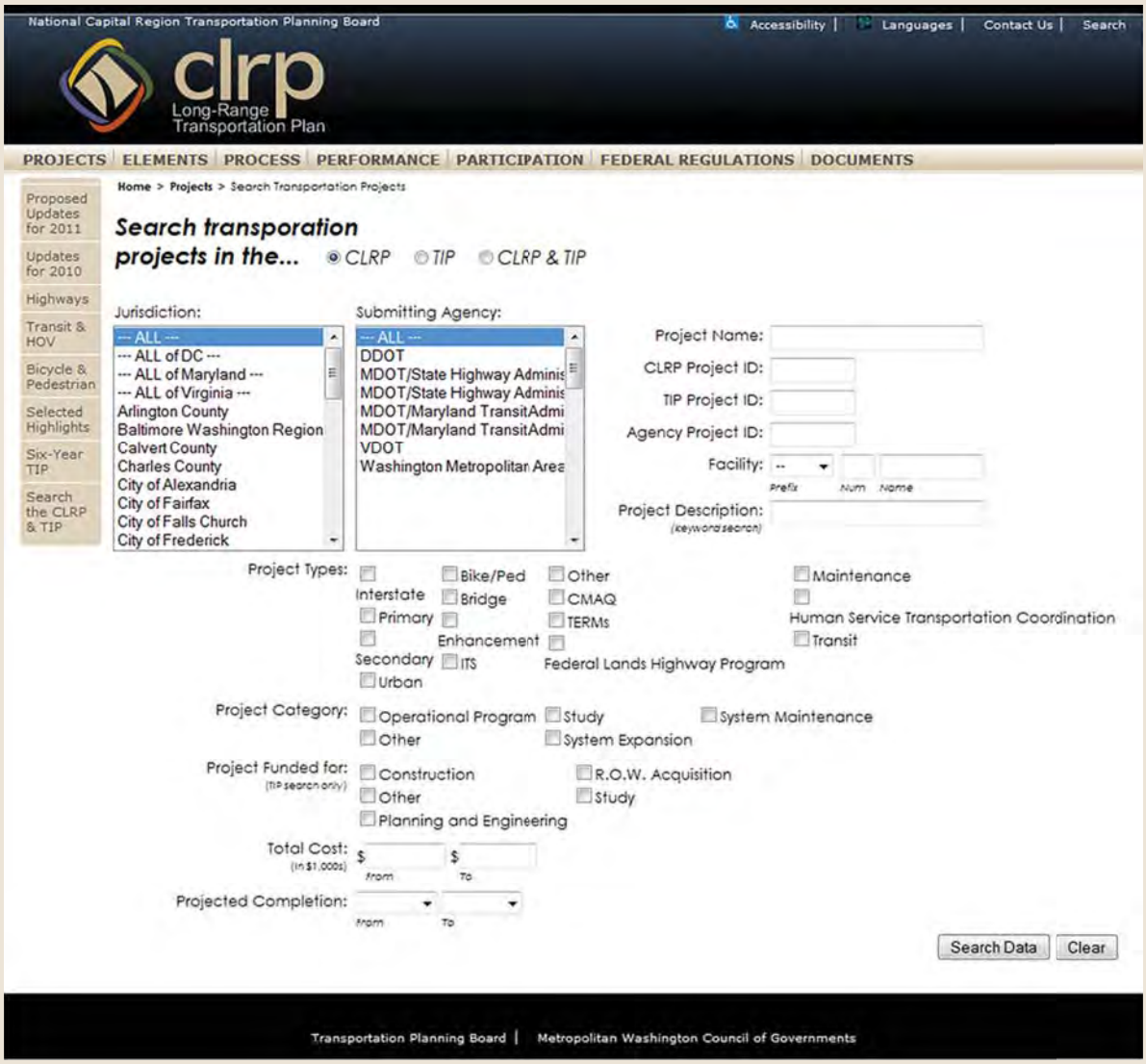
CLRP and TIP Project Database

The highway and transit projects presented in this chapter are those that are considered to be "regionally significant." The CLRP contains more than 800 projects and programs across the region that range from landscaping and street light maintenance programs to multi-million dollar highway and transit projects.

This document presents a snapshot of the CLRP and the FY 2011-2016 TIP as they were approved on November 17, 2010. Due to the multi-jurisdictional nature of the Washington region, there are many different agencies operating on different schedules. The CLRP and the TIP are updated, at minimum, on an annual basis, and sometimes even more frequently than that.

For the latest updates to the CLRP and to find out more details about each project, use the "Search the CLRP & TIP" feature available at: www.mwcog.org/clrp

Figure 18: CLRP and TIP Project Search Page



4

Outlook 2040: Expected Performance of the Plan

This chapter describes 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 number of areas related to the regional transportation goals presented earlier in "Chapter 1: Context for the Plan".

The analysis presented in this chapter shows that, while the region has made some progress toward achieving its regional transportation goals, there are several areas where challenges remain.

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 how well the system responds to those travel patterns. 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 area for which the model is run. Figure 19 shows the MSA and the TPB planning area.

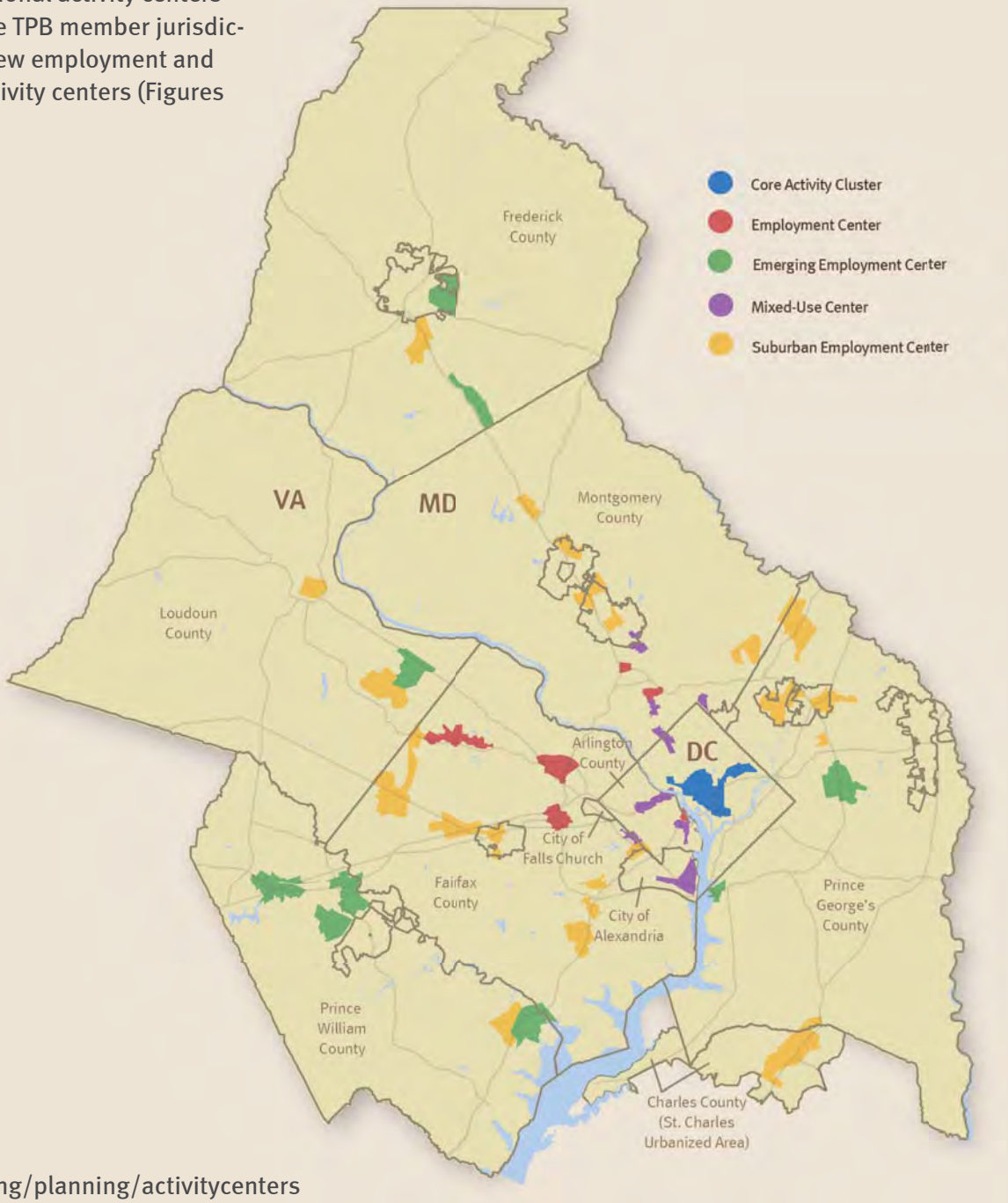
Figure 19: Jurisdictions in the MSA

Growth In Regional Activity Centers

How the region is expected to develop greatly impacts the transportation challenges the region is facing. Land-use changes expected over the next 30 years were discussed in "Chapter 1: Context for the Plan." 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% increase in population, and a 37% increase in employment.

Land-use forecasts indicate that 56% of new employment and 33% of new households are expected to locate in regional activity centers (Figure 20). In each of the TPB member jurisdictions, varying levels of new employment and households will be in activity centers (Figures 21 and 22).

Figure 20: Regional Activity Centers



For More Information
www.mwcog.org/planning/planning/activitycenters

Figure 21: Employment Growth Inside and Outside Activity Centers, 2011-2040

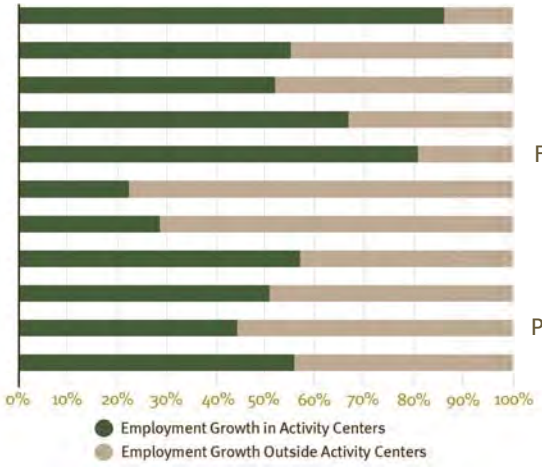
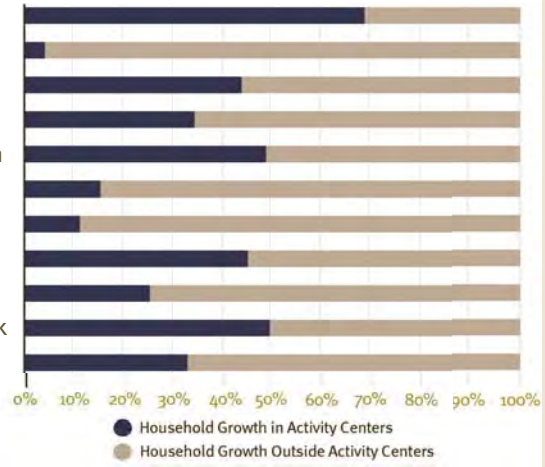


Figure 22: Household Growth Inside and Outside Activity Centers, 2011-2040



Households and average household size (persons per housing unit) are a measure of diversity of the region's population. The number of people per dwelling unit in the Washington area varies depending on location, life style, and life stage. The smallest household sizes are typically located in the central jurisdictions with large numbers of single people and couples, while larger homes and larger families are typically located in the region's outer suburbs. According to the 2010 Census, the average number of people per household in the District of Columbia was slightly more than 2.1 persons, while Loudoun County averaged more than 3 persons per unit.

Improving the region's jobs-housing balance can improve access and mobility by reducing the distance that residents must drive to reach job centers. The jobs-housing ratio is a measure of the number of jobs available in a given area compared to the number of households located there.

Regionally, the jobs-housing ratio is 1.6, which means there are 1.6 jobs for every household. This number is expected to increase slightly to 1.7 jobs per household by 2040, as more jobs than households are added to the region.

The jobs-housing ratio in activity centers is expected to decrease dramatically, from 6.4 jobs per household in 2011 to 5.0 in 2040. The addition of more housing to activity centers means that activity centers will become less employment-focused and will instead become more "mixed-use" in nature. These are important trends to consider in planning for the region's transportation future.

Figure 23: 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
Washington, DC-MD-VA MSA	3,259,389	1,994,985	1.6	4,481,394	2,628,623	1.7	0.1

Travel Demand

According to the TPB's 2007-2008 Household Travel Survey, almost three out of every four trips to and from work are currently made by people driving alone (Figure 25), while less than 5% are sharing rides with someone. Just fewer than 20% of commutes are made on transit, with walking and biking totaling less than 4%.

While our focus is typically on commuting trips, because that's when most of the congestion occurs, those commutes account for less than 20% of all trips taken in the region (Figure 24). When we look at all trips taken (Figure 26), the majority are still made by solo driving, but almost a quarter of all trips are made riding with at least one other person. The overall percentage of transit trips is just over 6%, while walking is just over 8%.

Over the next three decades, increasing population and job growth 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% (Figure 27) 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 and bus system, since the ability of the system to expand its capacity is limited by funding constraints.

The road network will also experience a gap between forecast 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% increase in the number of lane-miles of congestion. Nearly all of this congestion will occur in the suburbs, with inner suburban jurisdictions experiencing the worst congestion. The outer suburban jurisdictions, however, will experience the most dramatic increase in congestion, with a 111% increase in lane-miles of congestion by 2040 (Figure 28).

Figure 24: Trips by Purpose 2007/2008

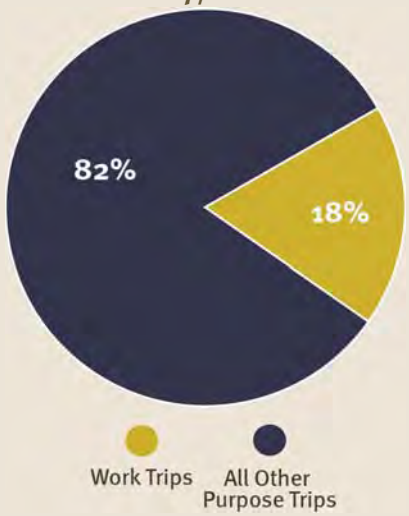


Figure 25: How We Travel for Work Trips 2007/2008

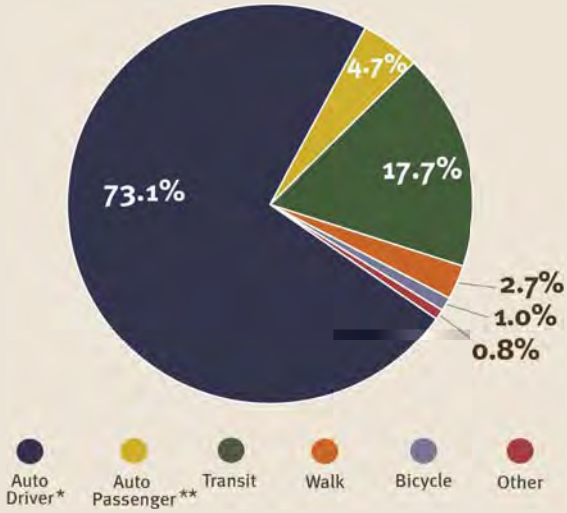
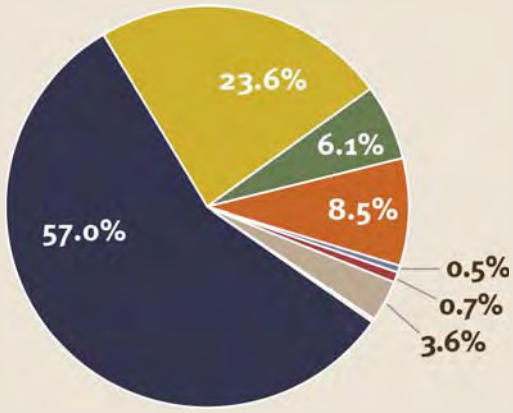


Figure 26: How We travel for All Trips 2007/2008



* Auto Driver indicates trips taken by individuals as drivers of an automobile, either alone or with passengers.
** Auto Passenger indicates trips taken by individuals as passengers in an automobile.

Figure 27: How Travel Patterns and Traffic Conditions Will Change Between Now and 2040

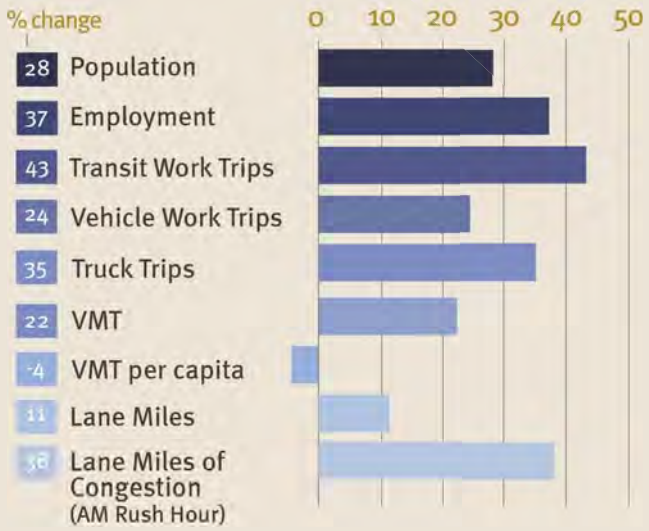
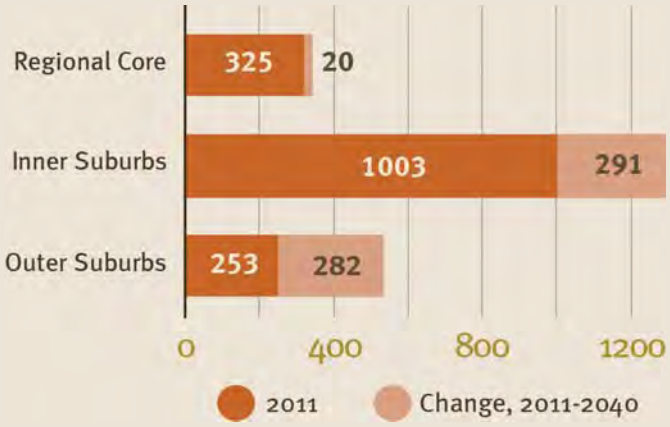


Figure 28: Lane-Miles of Congestion (AM Rush Hour), 2011-2040



Congestion

Highway Congestion

Figure 28 shows the expected changes in morning peak-hour highway congestion by 2040 based on the improvements included in the CLRP.

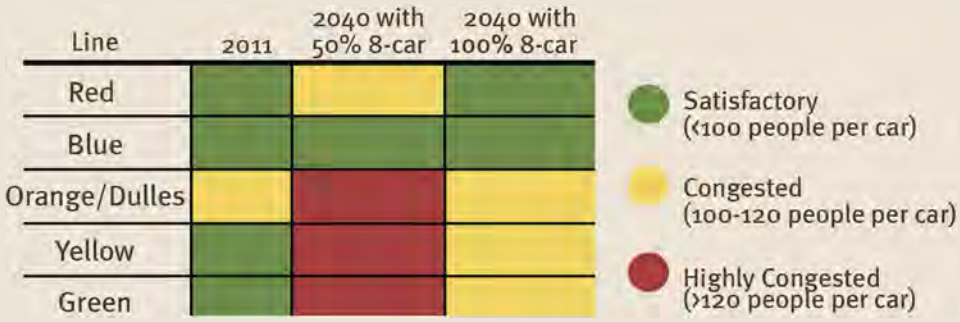
Severe stop-and-go congestion is expected to be prevalent throughout the entire region in 2040, not just in isolated areas. In 2040, there are some areas of forecasted improvement, such as I-95 and I-495 in Virginia, which will benefit from HOT lane projects included in the 2010 CLRP.

Outer suburban jurisdictions in the region will experience the greatest increase in congestion, while the already congested inner suburban jurisdictions will experience the worst overall congestion. Making matters worse, congestion will increasingly not be limited to rush-hour periods, but will also affect off-peak weekday periods and weekends.

Transit Congestion

Due to a lack of funding for capacity enhancement projects to accommodate all of the projected transit ridership growth in the region, the Metrorail system will likely reach capacity on trips to and through the regional core. According to a WMATA study (Figure 29), without additional railcars beyond those currently funded, all lines entering the core will become congested by 2040, and the Orange/Dulles, Yellow and Green lines are forecast to be highly congested.

Figure 29: Metrorail AM Congestion at Maximum Load Points, 2011-2040



Job Accessibility

Another way to measure the performance of the plan is by residents' accessibility to jobs by transit and auto, as shown in figures 30 and 31. 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 32).

Figure 30: Job Accessibility by Transit, 2011-2040

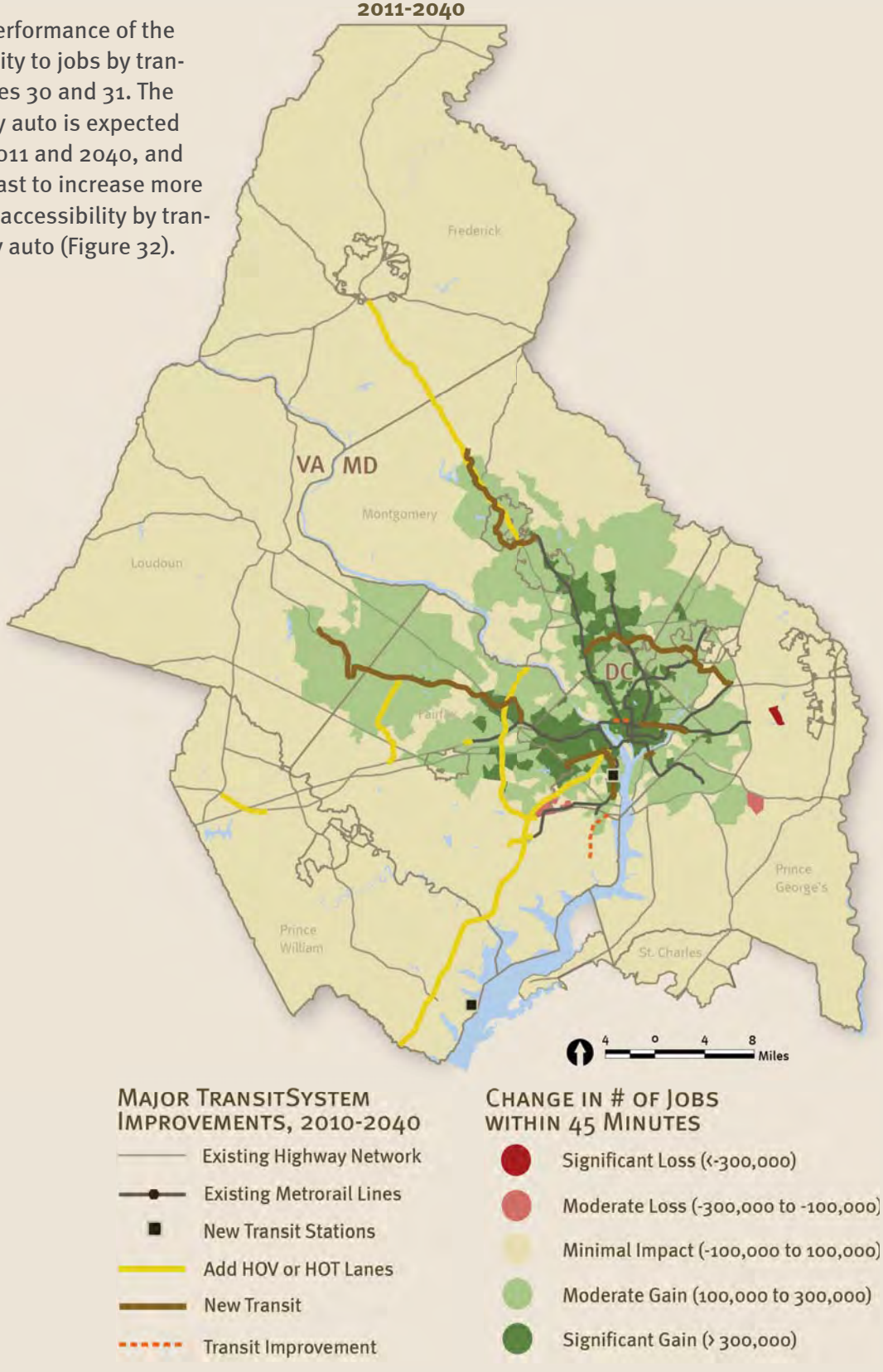
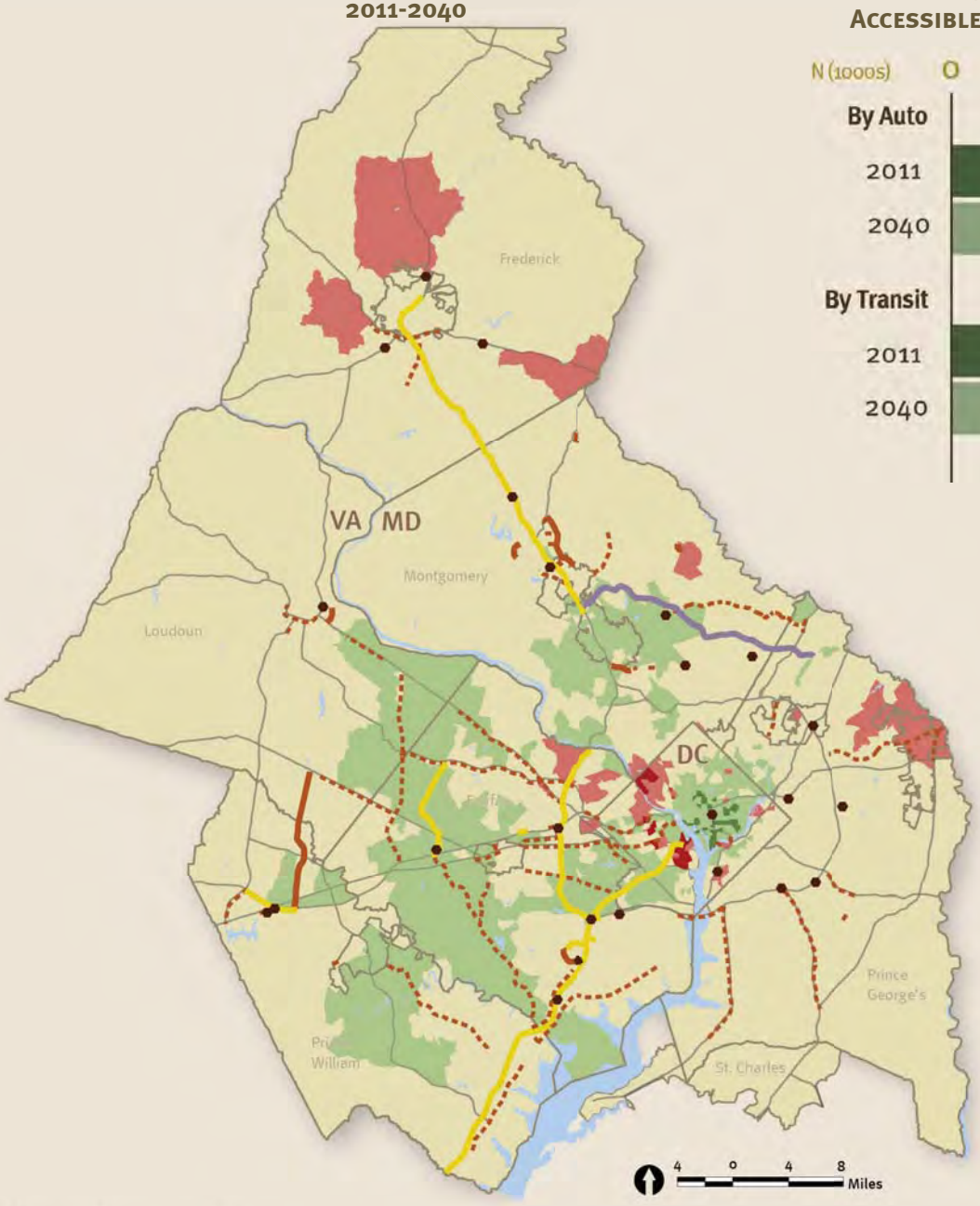


Figure 31: Job Accessibility by Auto, 2011-2040



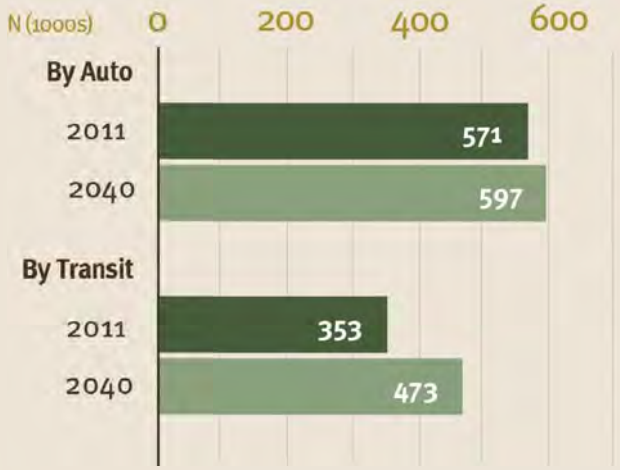
Major Highway System Improvements, 2010-2040

- Existing Highway Network
- Intersection Improvements
- Add HOV or HOT Lanes
- New Road
- New Toll Road
- Widen/Improve Existing

Change in # of Jobs within 45 Minutes

- Significant Loss (‹-300,000)
- Moderate Loss (-300,000 to -100,000)
- Minimal Impact (-100,000 to 100,000)
- Moderate Gain (100,000 to 300,000)
- Significant Gain (› 300,000)

Figure 32: Average Number of Jobs Accessible Within 45 Minutes, 2011-2040



Transit and Activity Centers/Clusters

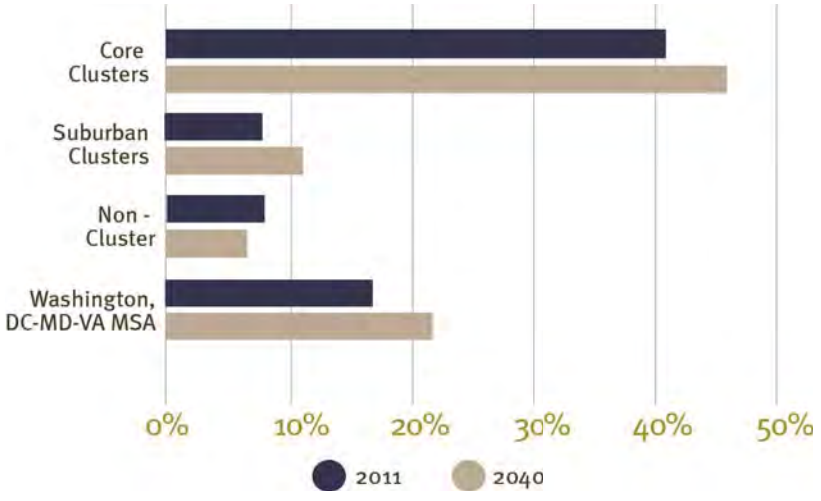
The TPB Vision calls for giving "high priority to regional planning and funding for transportation facilities that serve the regional core and regional activity centers, including expanded rail service and transit centers where passengers can switch easily from one transportation mode to another." The TPB and COG Board of Directors worked cooperatively to identify regional activity centers in 2002 and updated those designations in 2007. Related centers are grouped into activity clusters.

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 projects included in 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 (Figure 33).

Figure 33: 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

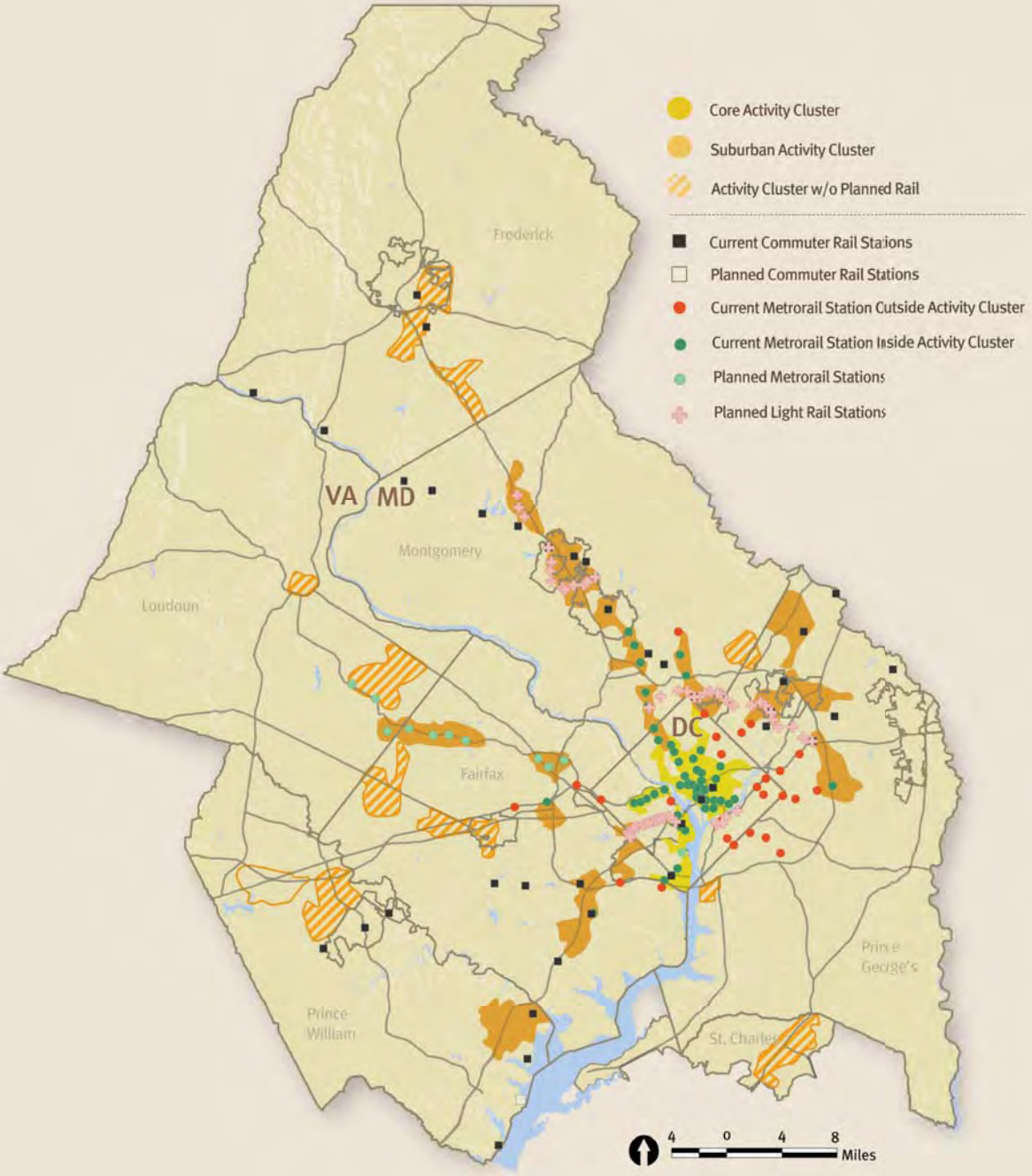
Figure 34: Transit Share of Work Trips



Looking ahead, the analysis indicates that projects in the 2010 CLRP provide an increase in transit use for commuting across the region, with significant gains expected in the region's core and suburban activity clusters (Figure 34).

Figure 35 shows the location of current and planned Metrorail and light rail stations and their proximity to the region's 28 activity clusters. An analysis of the plan shows the share of people taking transit in activity clusters is high, especially in core clusters in the District of Columbia, Arlington and Alexandria. Currently around 90 percent of transit work trips in the region are to jobs located in activity centers.

Figure 35: Activity Clusters and Rail Transit



Air Quality: Mobile Source Emissions

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

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

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

Analysis of the 2010 CLRP shows dramatic reductions of emissions of all three main pollutants between 2002 and 2020, followed by a leveling off and then a slight increase between 2030 and 2040 for some mobile source emissions. The data show that estimated emissions are within the mobile source emissions budget of each pollutant for 2011, 2020, 2030, and 2040. These results reflect the impact of better vehicle standards, cleaner fuels, and fleet turnover. Absent any further improvements to the vehicle fleet, however, once the fleet has undergone a complete replacement, the amount of mobile source emissions will begin to rise due to overall increases in vehicle miles of travel (VMT).

Over the past decade, concerns have emerged about global climate change and greenhouse gases like carbon dioxide (CO_2). Based on climate science and consideration of policies of jurisdictions in the region, the COG Climate Change Report of November 2008 set a goal of reducing the region's CO_2 output to 80% below 2005 levels by 2050. Applying this goal to transportation would require reducing the region's transportation-related CO_2 emissions by 60% compared to 2005 levels by 2040. While some reduction in CO_2 emissions by 2040 is currently forecast, the regional target is far from being met, and as with some other emissions, CO_2 emissions are projected to increase between 2030 and 2040. Because CO_2 emissions accumulate in the atmosphere over time, the failure to make improvements now makes greenhouse gas emissions an even greater concern. On a positive note, recent initiatives by the federal government to implement ambitious fuel economy standards for both light-duty and heavy-duty vehicles are expected to make a significant contribution to reducing transportation-related CO_2 emissions in future years.

Figure 36: Volatile Organic Compounds (VOC) Emissions

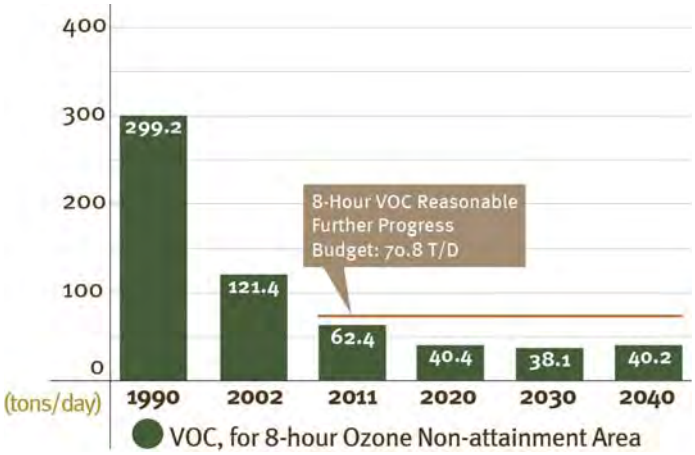


Figure 37: Nitrogen Oxide (NOx) Emissions

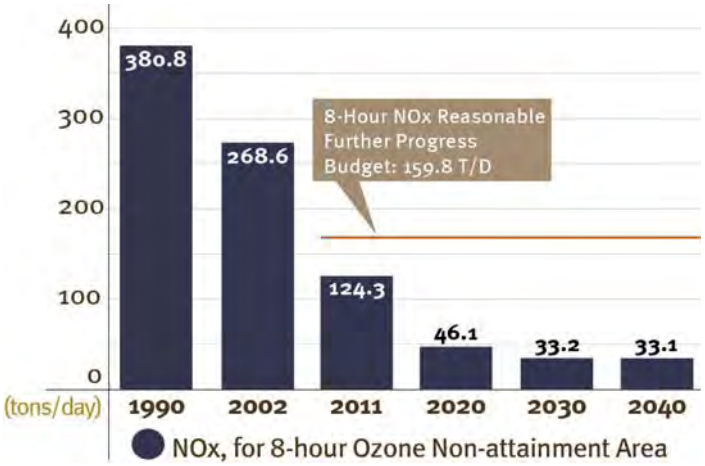


Figure 38: Particulate Matter (PM2.5) and Precursor NOx Emissions

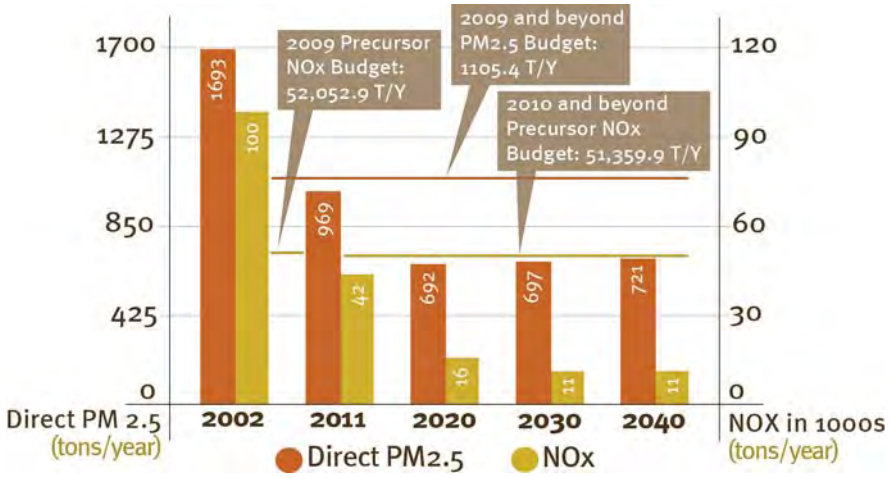
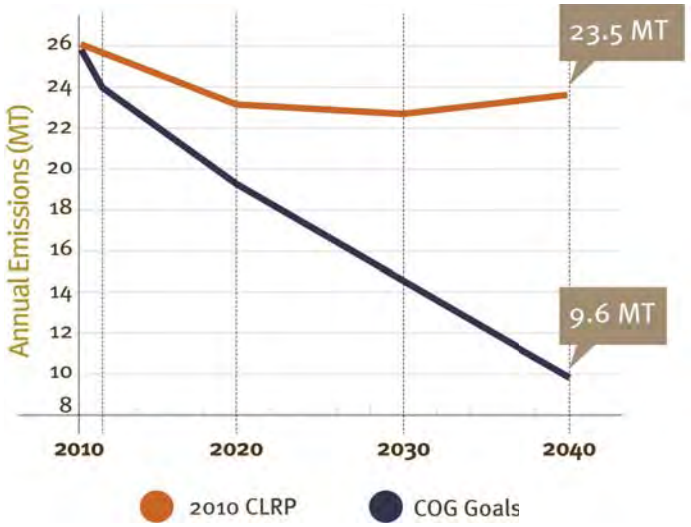


Figure 39: Carbon Dioxide (CO_2) Emissions



The TPB Priorities Plan and the 2014 CLRP: A Performance-Based Planning Approach

Although the CLRP is amended annually, the TPB is required by federal law to provide a comprehensive update of the Plan every four years. The 2010 CLRP constitutes a full update, as it includes a financial analysis and other elements necessary to meet the federal requirements for a full update. The financial analysis ensures the Plan remains constrained—that it only includes the programs and projects for which the agencies and jurisdictions in the region have identified funding.

During the development of the 2010 CLRP, another discussion was taking place on the development of a larger context for identifying regional priorities that might extend beyond the financial constraints of the CLRP. Inspired by a request from the Citizens Advisory Committee (CAC), the TPB hosted an event in May 2010 called "A Conversation on Setting Regional Transportation Priorities." That conversation led to the formation of a task force to develop the scope and process for developing a Regional Transportation Priorities Plan (RTPP). After several months of work, the scope and process of the RTPP was approved by the TPB in the summer of 2011.

The purpose of the RTPP is to identify those transportation strategies that offer the greatest potential contributions to addressing continuing regional challenges, and to provide support for efforts to incorporate those strategies into future updates of the CLRP in the form of specific programs and projects. The plan will articulate regional priorities for enhancing the performance of the CLRP in advancing regional goals for economic opportunity, environmental stewardship, and quality of life. The RTPP will focus on identifying a limited number of regional priorities, perhaps 10 to 15 at any one time.

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

- Reaffirm regional goals and agree upon performance measures;
- Determine regional challenges and strategies to address them; and,
- Develop regional priority strategies, programs, and projects.

Development of a Regional Transportation Priorities Plan will begin with a review of the goals laid out in two important regional policy documents—TPB's "The Vision" and COG's "Region Forward."

The performance measures spelled out in Chapter 4 of this document will serve as a base set of indicators from which a more tailored suite of measures will be identified in developing the Priorities Plan. Those performance measures will identify and, to the extent possible, quantify such things as: congestion on our roads and transit systems; reliability, safety, and efficiency of the transportation network; and, funding needed to maintain, operate, and expand the region's transportation systems.

Next, potential strategies will be identified to address these challenges, both near-term and long-term. While long-term strategies are important for guiding the region through the growth that is expected to occur in the coming decades, strategies that can be implemented over the next few years are needed to address challenges that the region is facing now. Some of these strategies will reach beyond the realm of transportation into other areas such as land-use, technology, and education.

The final step will be to develop a set of regional priorities. A quantitative benefit-cost analysis will be used to determine which strategies, projects, or programs provide the highest payoff for the investments made. There are many sources from which potential projects and programs can be drawn and considered for ranking among the region's priorities. Potential projects and programs may come from suggestions from the public, programs or projects already included in the CLRP, scenarios developed by the TPB, or from the many studies that have been carried out at the state, regional, sub-regional, or local levels. Several TPB Technical Subcommittees have also developed priorities for their areas of responsibility, including bicycle and pedestrian, regional bus, airport access, freight, and management, operations and intelligent transportation systems planning.

Public involvement will be critical in the development of the Priorities Plan and will be sought continuously throughout.

The development of the RTPP will take place over two years. An interim report on near-term regional priority strategies, programs and projects is expected to be complete by the summer of 2012, with a report on longer-term regional priorities due the following summer, in time to influence the projects and programs that will be a part of the next full CLRP update in 2014.

For More Information
TPB Priorities Plan: www.mwcog.org/2010clrp/prioritiesplan

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