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National Capital Region Transportation Planning Board

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Bicycle and Pedestrian Plan for the National Capital Region **Date:** January 2015

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AGENCY:

The Metropolitan Washington Council of Governments (COG) is the regional organization of the Washington area's major local governments and their governing officials. COG works toward solutions to such regional problems as growth, transportation, the environment, economic development, and public safety. The National Capital Region Transportation Planning Board (TPB) conducts the continuing, comprehensive transportation planning process for the National Capital Region under the authority of the Federal-Aid Highway Act of 1962, as amended, in cooperation with the states and local governments.

ABSTRACT:

This document is an update to the Bicycle and Pedestrian Plan for the National Capital Region (October 2010). It examines the status of bicycling and walking in the National Capital Region, including existing facilities, programs, mode share, and current policies and planning, in the context and supportive of the adopted Vision (1998) of the National Capital Region Transportation Planning Board and Region Forward (2010), the vision plan of the Council of Governments. It adopts the goals and indicators for walking and bicycling from the Vision and Region Forward, as well as identifying supporting performance indicators and relevant baseline conditions.

The Plan includes a list of major bicycle and pedestrian projects, drawn from local, state, and agency plans, which the region would like to carry out by the year 2040. This list contains both funded and unfunded projects. The Plan also describes the progress on completing the projects from the July 2010 Plan. Lastly, the Plan identifies a set of best practices for walking and bicycling programs.

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Executive Summary

Prologue

The Washington region has seen rapid changes in the four years since the last regional bicycle and pedestrian plan was adopted. New neighborhoods have grown up and old ones have been revitalized. The people living and working in these new urban neighborhoods are mostly walking, bicycling and using transit for their daily needs. Bicycle infrastructure in the urban core is better than ever, with protected bicycle lanes, paths, on-street bike parking to meet surging demand, and better support facilities at the workplace. Car-sharing, on-line shopping, and delivery services have made it easier to live without a personal automobile. Bike-sharing, which existed only as a pilot program in 2010, has succeeded beyond expectations, providing an option for those who prefer not to own their own bicycle.

Walkable and bikeable activity centers are also growing in the inner suburbs, especially near Metrorail. New Metrorail stations are opening, and old ones are being made more accessible by foot and bicycle. While the automobile still dominates travel and living patterns in the greater Washington region, walkable urban living is growing faster than anticipated.

Overview of the Plan

This *Bicycle and Pedestrian Plan for the National Capital Region* identifies the capital improvements, studies, actions, and strategies that the region proposes to carry out by 2040 for major bicycle and pedestrian facilities. This plan is an update to the 2010 *Bicycle and Pedestrian Plan for the National Capital Region*.

The National Capital Region Transportation Planning Board (TPB), composed of governments and agencies from around metropolitan Washington, has developed this plan with the support of its Bicycle and Pedestrian Subcommittee. The plan incorporates the goals, targets, and performance indicators for walking and bicycling from the *TPB Vision* (1998) and the Council of Governments' *Region Forward* 2050 (2010) plans.

In addition to building upon the *TPB Vision*, the *Bicycle and Pedestrian Plan for the National Capital Region* draws on and has been shaped by a number of regional, state, and local policy statements, plans, and studies. These include the TPB's regularly updated Constrained Long Range Plan (CLRP) and Transportation Improvement Program (TIP); federal and state guidance on bicycle and pedestrian facilities; and a wealth of state and local bicycle and pedestrian plans from around the region.

The Bicycle and Pedestrian Plan for the National Capital Region is intended to be advisory to the CLRP and TIP, and to stand as a resource for planners and the public. In

contrast to the CLRP, the *Bicycle and Pedestrian Plan* includes both funded and unfunded projects – projects in this plan may not yet have funding identified to support their implementation.

Planning Context

A number of federal, state, and local activities, as noted above, provide the planning context (Chapter 1) for this document. At all levels the trend is to require or strongly encourage the routine inclusion of pedestrian and bicycle facilities in all transportation, a policy sometimes known as "complete streets".

Jurisdictions and agencies around the region maintain active bicycle and pedestrian planning and coordination programs. Within this context, the TPB incorporates bicycle and pedestrian considerations into overall regional transportation planning, bike-to-work components of the Commuter Connections program, the Transportation-Land Use Connections program, and the region's Access for All Committee concerning minority, low-income, and disabled communities. The Transportation Planning Board and the Council of Governments support bicycling and walking and their health, community, pollution reduction, and congestion reduction benefits for the region.

Bicycling and Walking in the National Capital Region

The state of bicycling and walking in the Washington region (Chapter 2) includes success stories, challenges, and opportunities for improvement. Data from the 2007/2008 Household Travel Survey, the U.S. Census, surveys, and other sources provide an understanding of where bicycling and walking are found throughout the region, as well as who is walking and bicycling. These data may point to opportunities for increasing these activities, and support the need to consider bicycling and walking in overall roadway and transit planning and engineering.

Safety

Bicycle and pedestrian safety (Chapter 3) is a key challenge for the region. The plan describes the scope of the safety problem, its geographic and demographic distribution across the region, and the legal rights and responsibilities of drivers, pedestrians, and bicyclists. Unfortunately, bicycle and pedestrian safety issues are found throughout the region. The region and member agencies are actively pursuing a number of engineering, enforcement, and educational strategies to reduce deaths and injuries.

Existing Facilities

The Washington region benefits from a number of popular bicycle and pedestrian facilities in place in our communities (Chapter 4). The region's transit agencies have also worked to provide access and accommodation of bicycling and walking to and on their systems. A goal of this plan is to complement and augment the existing system of facilities.

Goals and Indicators

Region Forward 2050 and the TPB's Vision of 1998 both encourage walking and bicycling. Region Forward 2050 calls for more rapid implementation of the projects in this plan, increased walking and bicycling, and reduced pedestrian and bicyclist fatalities, as well as setting targets and indicators which will measure progress towards the regional goals. It also calls for specific targets and indicators which will measure progress towards the plan goals. Chapter 5 incorporates the goals in the Vision and Region Forward 2050 relevant to walking and bicycling, as well as the corresponding targets and indicators from Region Forward. It also suggests additional indicators which could be used to measure progress.

Recommended Best Practices

Convenient and safe bicycle and pedestrian access is a key goal of the TPB's *Vision* and the Council of Governments' *Region Forward 2050* plans. To help achieve this, the Bicycle and Pedestrian Subcommittee developed a set of recommended best practices (Chapter 6) for the design and implementation of bicycle and pedestrian facilities, as well as for the incorporation of bicycling and walking considerations into overall roadway and transit design. Best practices are based upon national and state laws and guidelines.

Planned Bicycle and Pedestrian Facilities and Improvements

Improvements included on the plan's list of regional bicycle and pedestrian projects (overview in Chapter 7 and the full listing in Appendix A) were identified, submitted and reviewed by agency staffs of TPB member jurisdictions. The plan includes 475 bicycle and pedestrian facility improvement projects from across the region.

If every project in the plan were implemented, in 2040 the region will have added nearly miles of bicycle lanes, 800 miles of shared-use paths, hundreds of miles of signed bicycle routes (signage without additional construction), 30 pedestrian intersection

improvements, and fifteen pedestrian/bicycle bridges or tunnels. A new bicycle and pedestrian crossing over the Potomac would be created, at the American Legion Bridge, and bridges over the Anacostia River would be improved for pedestrians and bicyclists. In addition, 27 major streetscaping projects would improve pedestrian and bicycle access and amenities in DC, Bethesda, Loudoun, Tysons Corner and other locations.

If it implements the projects in this plan, by 2040 the region will have approximately 2300 miles of bike lanes and multi-use paths, nearly three times the current total.

Progress since the 2010 Bicycle and Pedestrian Plan

Fifty-three projects from the 2010 Bicycle and Pedestrian Plan have been completed, including the 11th Street Bridge Trail and several protected or buffered bike lanes. The region added 52 miles of multiuse path and 45 miles of bike lanes. This does not include many projects that have been partially completed, or any privately provided facilities, or projects such as sidewalk retrofits that were too small to be included in a regional plan.

The Washington region has become a national leader in innovative policies and designs, especially bike sharing (public self-service bicycle rental). In September 2010, the District of Columbia and Arlington County launched a regional bike sharing system, Capital Bikeshare, which has since expanded to over 2500 bicycles at 300 stations in DC, Arlington, Alexandria, and Montgomery County.

Costs

Total estimated cost of projects in the draft plan is about \$3 billion (2014 dollars). Total plan cost was imputed based on planned faility mileage and project types. Project-level cost estimates should be considered as order-of-magnitude planning estimates and in most cases do not reflect engineering-level estimates.

On-Line Resources

Development of the *Bicycle and Pedestrian Plan for the National Capital Region* has benefited from an on-line plan project database, a resource separate from the printed document. Bicycle and Pedestrian Subcommittee members were able to view, enter, and edit their project listings on-line. This on-line database will facilitate keeping the regional list accurate and up-to-date, and will facilitate integration of information from this plan into the region's *Constrained Long-Range Plan* and Transportation Improvement Program as necessary. A public access version of this on-line version of this database can be found at http://www.mwcog.org/bikepedplan/.

Outlook

The TPB's *Vision* and the Council of Governments' *Region Forward 2050* plans call for convenient, safe bicycle and pedestrian access, walkability in regional activity centers and the urban core, reduced reliance on the automobile, increased walking and bicycling overall, inclusion of bicycle and pedestrian facilities in new transportation projects and improvements, and implementation of a regional bicycle and pedestrian plan. The *Bicycle and Pedestrian Plan for the National Capital Region* provides a blueprint for making the region a better place for bicycling and walking.

Introduction

Bicycling, Walking and the Vision of the Transportation Planning Board

The National Capital Region Transportation Planning Board (TPB) has long recognized the benefits of bicycling and walking in the region's multi-modal transportation system. The Transportation Planning Board's Transportation Vision for the 21st Century, adopted in 1998. emphasizes bicycles and pedestrians in its goals, objectives and strategies.



Figure 1: Green Bike Lane

A key goal of the *Vision*, and of subsequent regional plans, is a strong urban core and a set of regional activity centers, which will provide for mixed uses in a walkable environment and reduced reliance on the automobile.

The Urban Core has a Growing Network of Bicycle Lanes



Figure 2: Woodrow Wilson Bridge Trail

The Woodrow Wilson Bridge Trail opened in 2009

Region Forward 2050

In 2010 the Metropolitan Washington Council of Governments adopted <u>Region Forward</u>, a vision for the National Capital region in 2050. *Region Forward* built on the TPB *Vision*, calling for more rapid implementation of the regional bicycle and pedestrian plan, increased walking and bicycling, and reduced pedestrian and bicyclist fatalities.

This plan incorporated the goals, targets, and indicators from *Region Forward* which relate to walking and bicycling, as well as some additional indicators which will help show how well those goals are being met.

Complete Streets

The National Capital Region Transportation Planning Board adopted a <u>Complete Streets</u> policy in May 2012. The policy defined a complete street as one that safely and adequately accommodates motorized and nonmotorized users, including pedestrians, bicyclists, motorists, freight vehicles, emergency vehicles, and transit riders of all ages and abilities, in a manner appropriate to the function and context of the facility. The TPB endorsed the concept of Complete Streets and encouraged its member governments, which had not already done so, to adopt a Complete Streets policy.

The three States and a majority of the local governments in the Washington region now have Complete Streets policies. This is significant in that, insofar as Complete Streets policies are implemented, some kind of accommodation for pedestrians and bicyclists will be built as part of larger transportation projects.

Regional Transportation Priorities Plan

The National Capital Region Transportation Planning Board Regional Transportation Priorities Plan adopted the <u>Regional Transportation Priorities Plan</u> (RTPP) in January 2014. The Regional Transportation Priorities Plan aims to identify strategies with the greatest potential to respond to our most significant transportation challenges. It also aims to identify those strategies that are "within reach" both

financially and politically--recognizing the need for pragmatism in an era of limited financial resources and a lack of political will to raise significant amounts of new revenue.

The RTTP expands on the TPB Vision goals for walking and bicycling, proposing improved access to transit stops and stations, expanded pedestrian and bicycle infrastructure, promotion of walking and bicycling, and concentration of

Walking and
Bicycling
account for 9%
of all trips in the
region

growth in walkable, bikeable activity centers.

Bicycling and Walking in the National Capital Region

The Washington region is nationally known for the quality, beauty, and extent of its bicycle paths. Its walkable core neighborhoods attract residents and visitors alike. The region has a strong foundation of walking and bicycling facilities to build upon.¹

Taken together, bicycling and walking are a significant and growing mode of transportation in the Washington region. According to the Metropolitan Washington Council of Governments' 2008 Household Travel Survey walking and bicycling account for 9% of all trips in the Washington region, up from 8.3% in 1994. Bicycling to Work in the District of Columbia nearly quadrupled, from 1.16% in 2000 to 4.1% in 2012.

Recent years have seen progress for bicyclists and pedestrians. Several major new trails and bridges have opened, and most local governments have adopted bicycle, pedestrian, and/or trail plans. Most of the transit agencies in the region have added bike racks to their buses. Bicycle or pedestrian coordinators and trail planners are now found at most levels of government. In accordance with federal guidance and state and local <u>Complete Streets</u> policies, pedestrian and bicycle facilities are increasingly being provided as part of larger transportation projects. Employers are investing in bike facilities at work sites, and developers are including paths in new construction. Capital Bikeshare, which launched in September 2010, has been a dramatic success, and now features over 2500 bicycles at over 300 stations.

One fourth of all driver trips in the Washington Region are less than 1½ miles long

Bicycling and walking could reach a greater potential in the Washington region, however. Many trips currently taken by automobile could be taken by bicycle. The average work trip length for all modes in the Washington Metropolitan Statistical Area is 16 miles.³ But 17% of commute trips are less than five miles, a distance most people can cover by bicycle.

Many people who live far from their jobs, but closer to transit or a carpool location could walk or bike to transit or the carpool instead of driving.

¹ Green Bike Lane Photo: City of Alexandria

² Woodrow Wilson Bridge Trail Photo: COG/TPB / Michael Farrell

³ National Capital Region Transportation Planning Board, 2013 State of the Commute Survey Report, p. 32.

The potential for shifting non-work trips to bicycling or walking is even greater than for work trips. The average non-work trip is a little more than five miles, and nearly 3/4 of all trips are non-work trips.⁴ The median auto driver trip in the Washington region, according to the 2008 COG Household Travel Survey, is four miles. The median trip for an auto passenger is only 2.8

The New York Avenue Metro Station Incorporates a Shared-Use Path and Bicycle Parking

miles. One fourth of all auto trips are less than 1½ miles in length. Destinations such as schools, shopping, and recreational facilities are often close enough to walk or bicycle. Bicycling and walking have considerable potential to displace automobile trips if suitable transportation, design, safety, parking, school siting, and land development policies are followed.

Plan Development and Organization

This plan has been prepared by the National Capital Region Transportation Planning Board, the federally designated Metropolitan Planning Organization (MPO) for the Washington region. The TPB is made up of representatives of 21 local governments, the departments of transportation of Maryland. Virginia, and the District Columbia, the state legislatures, and the Washington Metropolitan Area Transit Authority (WMATA). Member jurisdictions are shown in Figure i-A on page i-6.

Figure 3: New York Avenue Metro Station and Metropolitan Branch Trail



This document presents the long-range Bicycle and Pedestrian Plan for the Washington Region through the year 2040. The plan is a list of regional projects identified by the TPB member jurisdictions, accompanied by recommended best practices and a description of existing facilities and regional trends for bicycling and walking. This plan includes both funded and unfunded projects. It does not specify design guidelines, but

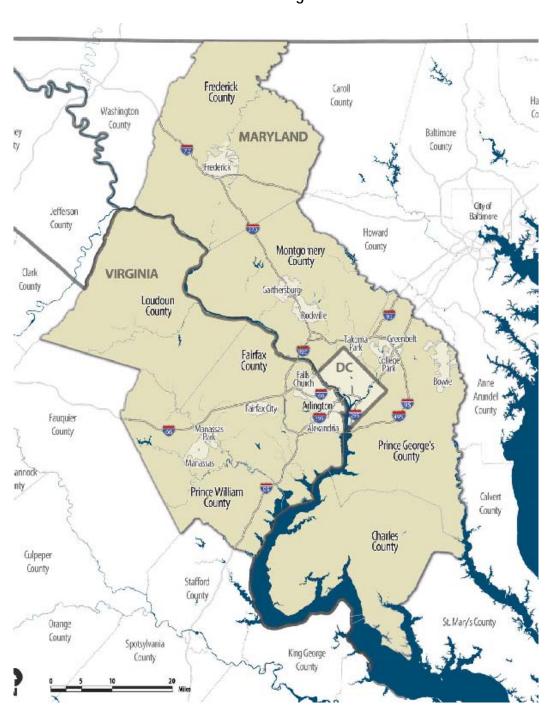
⁴ National Capital Regional Transportation Planning Board, 1994COG/TPB Household Travel Survey: Summary of Major Findings, January, 1998. Page 5.

refers instead to state and national guidelines for bicycle and pedestrian facilities.

This update of the *Bicycle and Pedestrian Plan for the National Capital Region* seeks to reflect the goals, objectives and strategies of the 1998 *TPB Vision*, *Region Forward 2050*, and the *Regional Transportation Priorities Plan* while building on information from previous bicycle plans. It includes performance measures that will show progress towards the *Vision* and *Region Forward* goals.

Pedestrian access and safety receives more attention in this update, reflecting increased involvement in transportation safety planning by the TPB. Pedestrian planning is most needed at the county, city and neighborhood level. There is, however, a role for regional pedestrian planning, especially in the area of educating the public.

Figure i-A TPB Planning Area



Chapter 1 Planning Context

Overview

This *Bicycle and Pedestrian Plan for the National Capital Region* draws on and has been shaped by a number of regional, state, and local policy statements, plans, and studies, including the *Vision* and *the Regional Transportation Priorities Plan (RTPP)* of the Transportation Planning Board, the *Region Forward 2050* vision of the Council of Governments, federal and state guidance on provision of bicycle and pedestrian facilities, the Constrained Long Range Plan and Transportation Improvement Program, and state and local bicycle and pedestrian plans.

This plan is intended to help fulfill the goals of the *TPB Vision*, *RTPP*, and *Region Forward 2050* for bicyclists and pedestrians. It includes performance measures that will show progress towards the *Vision* and *Region Forward* goals.

I. Regional Planning

The Vision of the Transportation Planning Board

The National Capital Region Transportation Planning Board (TPB) is the Metropolitan Planning Organization for the Washington region. It brings key decision-makers together to coordinate planning and funding for the region's transportation system.

The TPB's official vision statement for the region, the *Transportation Vision for the 21*st *Century*, adopted in 1998, is meant to guide regional transportation investments into the new century. The *Vision* is not a plan with a map or specific lists of projects. It lays out eight broad goals, with associated objectives and strategies that will help the region reach its goals.

The Vision of the TPB calls for more Walking and Biking

The *Vision* is supportive of pedestrians and bicyclists. It calls for:

- Convenient, safe bicycle and pedestrian access
- Walkable regional activity centers and urban core
- Reduced reliance on the automobile
- Increased walk and bike mode share
- Including bicycle and pedestrian facilities in new transportation projects and improvements
- Implementation of a regional bicycle and pedestrian plan

Other goals of the *Vision* affect bicyclists and pedestrians, such as: maintaining the existing transportation system, reducing the per capita vehicle miles traveled, linking land use and transportation planning, and achieving enhanced funding for transportation priorities. Sections of the *Vision* relating to bicycle and pedestrian goals are highlighted

National Capital Region Transportation Planning Board Member Jurisdictions 3 Frederick County Caroll Harford County County Berkeley Baltimore MARYLAND County County Jefferson County Howard County Montgomery County Clark VIRGINIA County Loudoun County Rockville Greenbelt Fairfax County Falls Church Bowie Arunde Arlington Fairfax City County Fauquier Manassas Park County Prince George's County Rappohannock County Prince William County Calvert County Charles County 4 Culpeper County Stafford County Orange County Spotsylvania King George County County

Figure 1-1: TPB Member Jurisdictions

in Table 1-1.

Table 1-1: Bicycle and Pedestrian Provisions of the Transportation Vision

Goal 1. The Washington metropolitan region's transportation system will provide reasonable access at reasonable cost to everyone in the region.

Objective 4: Convenient bicycle and pedestrian access.

Strategy 3: Make the region's transportation facilities safer, more accessible and less intimidating for **pedestrians**, **bicyclists**, and persons with special needs.

Goal 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 through the entire region, including a healthy regional core and dynamic region activity center with a mix of jobs, housing, and services in a walkable environment.

Objective 2: Economically strong regional activity centers with a mix of jobs, housing, services, and recreation **in a walkable environment.**

Objective 4: Improved internal mobility with reduced **reliance on the automobile** within the regional core and within regional activity centers.

Goal 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.

Objective 3: Increased transit, ridesharing, **bicycling and walking** mode shares.

Strategy 7: Implement a regional **bicycle/trail/pedestrian plan** and include **bicycle and pedestrian facilities** in new transportation projects and improvements.

Region Forward 2050

The Council of Governments is a regional organization of Washington area local governments. COG comprises 21 local governments surrounding our nation's capital, plus area members of the Maryland and Virginia legislatures, the U.S. Senate, and the U.S. House of Representatives.

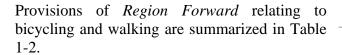
COG provides a focus for action and develops sound

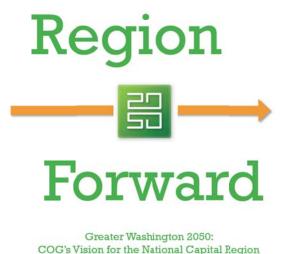
Region Forward 2050 Calls for Faster Construction of the projects in the Bicycle and Pedestrian Plan

regional responses to such issues as the environment, affordable housing, economic development, health and family concerns, DRAFT FOR PUBLIC RELEASE AND COMMENT FROM 10/14/09 TO 11/3009

human services, population growth, public safety, and transportation.

In January 2010 the Council of Governments adopted Region Forward, a vision for the National Capital region in 2050. The goals of Region Forward are broader than those of the TPB Vision, encompassing areas such as public safety, land use, economic development, housing, and the environment. transportation, Region Forward builds on the Vision, calling for more rapid implementation of the regional bicycle and pedestrian plan, increased walking bicycling, and reduced pedestrian and bicyclist fatalities.





in the Twenty-First Century

Table 1-2: Bicycle and Pedestrian Provisions of Region Forward 2050

Goals:

- Transit-oriented, compact, **walkable mixed-use communities** emerging in Regional Activity Centers that will capture new employment and household growth.
- A transportation system than maximizes **community connectivity** and **walkability**, and minimizes ecological harm to the region and the world beyond.
- A broad range of public and private transportation choices for our Region which
 maximizes accessibility and affordability to everyone and minimizes reliance upon
 single occupancy use of the automobile.
- Safe and healthy communities

Targets:

Reduce daily vehicle miles traveled (VMT) per capita.

Increase the rate of construction of bike and pedestrian facilities from the Transportation Planning Board's (bicycle and pedestrian) plan.

Prioritize walking and biking options by **improving pedestrian and bicycle networks**, especially in the regional activity centers. Planning and street improvements will focus

on:

- o Wide sidewalks
- Street trees
- o Mixed-use development
- o Pedestrian-friendly public spaces
- o Bike stations near transit hubs
- o Bike lanes
- o Bike sharing

Increase the share of walk, bike and transit trips

 Give people options to meet everyday needs locally by building mixed-use developments

Reduce pedestrian and bicyclist fatalities

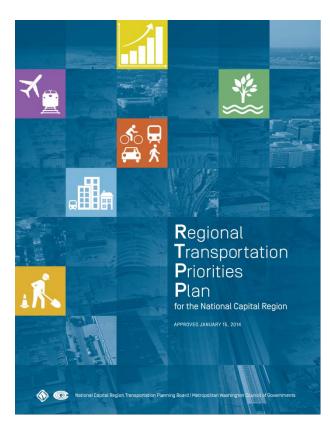
- o Build sidewalks, bike lanes, and other improvements
- o Narrower local streets
- o Better crossings
- o Lower speeds for vehicles on local streets and arterials
- o More education and enforcement

Indicators:

- Transit, bicycle and walk share in Regional Activity Centers
- Street/node ratio for Regional Activity Centers
- Square feet of mixed-use development
- Reduced pedestrian and bicyclist fatalities

Regional Transportation Priorities Plan

On January 15, 2014, the TPB approved the *Regional Transportation Priorities Plan* (RTPP). The RTPP builds on the *Vision* goals by identifying strategies with the greatest potential to respond to our most significant transportation challenges. The strategies are intended to be complementary, to make better use of existing infrastructure, and to be "within reach" both financially and politically. The RTPP recognizes the need for pragmatism in an era of limited financial resources and a lack of political will to raise significant amounts of new revenue.



Bicycle and pedestrian modes are prominent in the RTPP. It calls for

- Improved access to transit stops and stations, connecting them to nearby neighborhoods and commercial areas with sidewalks, crosswalks, and bridges.
- **Incentives to use commute alternatives** such as transit, carpool, vanpool, bicycling, walking, telework, and living closer to work.
- Expanded pedestrian and bicycle infrastructure, including
 - o Sidewalks, crossings, traffic calming
 - o Bicycle lanes/paths, bicycle parking, bikeshare
 - Workplace amenities for bicyclists
- Growth concentrated in Walkable, Bikeable Activity Centers
- Improve circulation within activity centers though enhanced
 - o Pedestrian and bicycle infrastructure
 - o Local bus service
 - o Street connectivity

Expanded use of space-efficient modes such as walking, bicycling, and transit use, particularly in the activity centers, are essential to the success of the RTPP.

Complete Streets

In May 2012 the TPB approved a <u>Complete Streets Policy for the National Capital Region</u>. The policy defines a <u>Complete Street</u> as a "facility that safely and adequately accommodates motorized and non-motorized users, including pedestrians, bicyclists, motorists, freight vehicles, emergency vehicles, and transit riders of all ages and abilities, in a manner appropriate to the function and context of the facility". The TPB endorsed the concept of Complete Streets, provided a sample policy template, and urged its members who had not already adopted such a policy to do so.

All three states and most of the TPB member governments and agencies have adopted some form of Complete Streets policy.

The significance of Complete Streets is that future pedestrian and bicycle projects are likely to be built as part of larger transportation projects, funded out of general revenue, not just as stand-alone bicycle and pedestrian projects built with limited set-aside funds. Therefore, far more such projects are likely to be built. Moreover, designing and building with pedestrians and bicyclists in mind from the start is far more cost-effective than retrofitting after the fact.

Follow-on actions to the policy included a <u>Complete Streets implementation workshop</u>, held on January 29th, 2013, and the establishment of an information clearinghouse, the <u>Transportation Planning Information Hub for the National Capital Region</u>, where links and information on state and regional planning processes and high-profile projects can be

found.

The TPB's Complete Streets policy is part of a long-run <u>national trend</u> towards better accommodation of pedestrians and bicyclists in transportation projects.

Green Streets

In February 2012 the TPB adopted a voluntary regional <u>Green Streets Policy</u>. The policy defines a Green Street as an "alternative to conventional street drainage systems designed to more closely mimic the natural hydrology of a particular site by infiltrating all or a portion of local rainfall events". A green street uses trees, landscaping, and related environmental site design features to capture and filter stormwater runoff within the right of way, while cooling and enhancing the appearance of the street.

Green Streets benefit pedestrians and bicyclists by cooling and enhancing the appearance of the street, making it a more pleasant place to walk or bike. Green Streets treatments may compete with pedestrians and bicyclists for space, but can often be placed traffic calming features such as bulb-outs and landscaped islands. Road diets and traffic calming projects can free up space for Green Streets treatments.

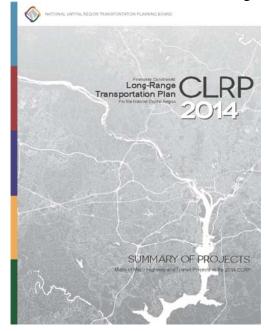
Air Quality and Greenhouse Gases

The region has been very successful in reducing emissions relating to Ozone. "Code Red" bad air days have fallen from 65 in 1999 to four in 2014. Total NOx (Nitrous Oxide) emissions from the region's transportation sector have fallen more than 70% since 1990, and VOC (Volatile Organic Compounds) emissions have fallen more than 80%. These declines have come even as population has swelled some 40% and as total driving,

measured in vehicle-miles traveled (VMT), has grown by a similar margin.

Within transportation, reductions in emissions of NOx and VOCs have resulted mostly from federal requirements for cleaner, more fuel-efficient vehicles and for cleaner-burning fuels. Efforts to reduce roadway congestion and to encourage less driving have also contributed.

Walk and bike trips can help reduce greenhouse gas emissions. Bicycling is the most energy-efficient mode of transportation available, more efficient than walking. To the extent that the region can divert motorized trips to walking and bicycling, it can help reduce these <u>emissions</u>.



Constrained Long-Range Plan

The financially <u>Constrained Long-Range Transportation Plan</u> (CLRP) is a comprehensive plan of transportation projects and strategies that the TPB realistically anticipates can be implemented by 2040. Some of these projects are scheduled for completion in the next few years; others will be completed much later. Each year the plan is updated to include new projects and programs, and analyzed to ensure that it meets federal requirements relating to **air quality** and **funding**.

The projects and programs that go into the CLRP are developed cooperatively by governmental bodies and agencies represented on the National Capital Region Transportation Planning Board (TPB). The TPB Vision, the policy framework adopted by the TPB in 1998, and the Regional Transportation Priorities Plan, adopted in 2014, serve guide project development.

To receive federal funding, a transportation project in metropolitan Washington must be included in the CLRP. Because funds must be reasonably anticipated to be available for all the projects in the CLRP, the CLRP is realistic plan based upon available resources.

Historically, less than 1% of the capital funding in the CLRP has been specifically for stand-alone bicycle and pedestrian projects. However, since bicycle and pedestrian projects are usually small projects, they are often added to the plan later than the major highway and transit projects. Moreover, much pedestrian and bicycle spending is subsumed within larger highway or transit projects, and thus is not reflected in the amount programmed for bicycle and pedestrian projects. Therefore, the CLRP may under-estimate the amount of bicycle and pedestrian spending that will occur over the next 25 years. State Departments of Transportation are likely to increase funding levels in the future as they implement their Complete Streets policies, under which they will routinely accommodate pedestrians and bicyclists in most new transportation projects.

Transportation Improvement Program

The <u>Transportation Improvement Program</u> (TIP) provides detailed information showing which projects in the CLRP will be completed over the next six-year period. Like the CLRP, the TIP is subject to federal review. Many projects in the TIP are staged, so a single CLRP project could end being split into multiple TIP projects.

Bicycle and pedestrian projects, and transportation projects that include bicycle and pedestrian accommodation, are tracked in TIP. Under the regional Complete Streets policy, agencies are also required to report future TIPs whether they have a Complete Streets policy in place, and if so whether a project in the advances the goals of that

The Transportation Improvement Program includes \$344 million for pedestrian and bicycle projects

policy.

Funding for bicycle and pedestrian projects in the TIP is increasing. For example, the Fiscal Year 2015-2020 TIP includes \$344 million for bicycle and pedestrian projects, nearly triple the \$124 million in bicycle and pedestrian projects in the FY 2010-2015 TIP.

Of the \$344 million in the TIP, \$83 million is programmed for FY 2015, which is two percent of the total capital funds for all transportation projects programmed for FY 2015. Only \$23 million was programmed for bicycle and pedestrian projects in FY 2010.

As with the CLRP, funds spent on bicycle and pedestrian accommodations as part of a larger highway or transit project are often subsumed in budget of the larger project.

Bicycle and Pedestrian Subcommittee of the TPB Technical Committee

The Bicycle and Pedestrian Subcommittee of the TPB Technical Committee advises the TPB, TPB Technical Committee, and other TPB committees on bicycle and pedestrian considerations in overall regional transportation planning. It meets six times per year. One its most important functions is information exchange, at regular meetings, and at sponsored training events.

The Subcommittee also helps coordinate planning efforts which require interjurisdictional coordination. It is currently developing a vision for a regional circumferential bicycle route, or "bicycle beltway".

Transportation Safety Planning

The Bicycle and Pedestrian Subcommittee coordinates with the Transportation Safety Subcommittee of the TPB Technical Committee on issues relating to pedestrian and bicycle safety, including the Street Smart safety campaign, and the safety element of the Constrained Long Range Plan. TPB staff also participate in the State Strategic Highway Safety Planning processes.

Top Priority Unfunded Bicycle and Pedestrian Projects

The Bicycle and Pedestrian Subcommittee periodically identifies a short list of priority unfunded bicycle and pedestrian projects, which it recommends for inclusion in the TIP. These projects are selected from the regional bicycle plan, and from state and local plans. The subcommittee has compiled and forwarded lists to TPB regularly since 1995, to be included in the solicitation document for the TIP/CLRP. In essence, the TPB urges the jurisdictions to consider funding these projects, which the Bicycle and Pedestrian Subcommittee has judged to be regionally significant, within six years.

The following selection criteria are used:

- **Bicycle Network Connectivity:** priority is given to projects that enhanced connectivity of facilities on the regional bicycle facilities network.
- **Pedestrian Safety:** priority is given to projects that promoted pedestrian safety, especially in areas with documented pedestrian safety problems and no pending road project that could address them.
- Access to Transit: priority is given to projects that enhanced access to Metrorail stations and other major transit stops or facilities.
- **Time Frame:** all projects should be able to be completed by 2018, the end of the TIP time frame.
- **Local Support:** the project is a priority for the jurisdiction or jurisdictions in which it is located.
- Still seeking funding: the project does not yet have full construction funding committed to it.
- **Reasonable Cost:** the total cost of the list should be a reasonable fraction of the total spending in the region on highways and bridges.

While considerable weight is given to the preference of the representative of the jurisdiction, subcommittee members are urged to think in terms of the regional selection criteria when nominating projects.

Projects are dropped from the list when they receive funding, or if the subcommittee and nominating jurisdiction decide that priorities have changed.

Projects from the list funded since 1995 include:

- US 15 Trail Tunnel (City of Frederick)
- Regional Bike Sharing (Capital Bikeshare), DC, Arlington, Alexandria, Montgomery County
- The Metropolitan Branch Trail in Washington, D.C.
- The Holmes Run Pedestrian/Bicycle crossing in Alexandria
- Pedestrian and Bicycle Safety Improvements on Route 1 in Fairfax County
- The Dumfries Road (Route 234) Bike Path in Prince William County
- The Rosslyn Circle Crossing in Arlington County
- The Eisenhower Trail in Alexandria
- The Matthew Henson Trail in Montgomery County
- The Falls Road Shared-Use Path in Montgomery County
- The Henson Creek Trail in Prince George's County
- The Millennium Trail in Rockville

Bicycling, Walking, and the Regional Transportation Model

Data relevant to walking and bicycling are gathered as part of the regional household

travel survey, and are incorporated into regional transportation modeling and forecasting.

The regional travel forecasting model is based on traffic analysis zones, which are large enough that many pedestrian and bicyclist trips begin and end within a single zone, and thus are not modelled. Adding many more traffic analysis zones, to capture more pedestrian trips, would make the model much more complicated and require more computing power. Also, pedestrian and bicyclist trips are likely to occur on local streets or paths that are not part of the modelled network. Therefore the travel forecasting model which MWCOG currently uses does not assign pedestrian or bicyclist trips to particular links in the transportation network, but only predicts in which traffic analysis zone in which they will start.

Other tools are available for modelling local walk and bike trips.

Encouraging Bicycling and Walking: Bike to Work Day, the Bike to Work Guide, and Guaranteed Ride Home

To help realize the *TPB Vision* and reduce congestion, air pollution, and single occupant vehicle traffic, the TPB has developed several programs to encourage bicycling and walking in the Washington region. As part of its <u>Commuter Connections</u> program, every year on the third Friday in May the TPB sponsors a regional Bike to Work Day. This event has grown into one of the largest of its kind in the country, attracting over sixteen thousand riders to seventy-nine "pit stops" or rallying points around the region. The event is meant to encourage first-time riders to try bicycling to work.

The Commuter Connections program also supports publication of <u>Biking to Work in the Washington Area: A Guide for Employers and A Guide for Employees</u>, which provides tips for employees and employers. For employees, there are tips on safe cycling, laws, equipment and clothing, and transit connections. For employers, the guide explains the benefits of bicycling to the employer, the types of bicycle parking, and the ways an employer can encourage an employee to bike to work.

Regional bike routing is available at www.ridethecity.com, and Google maps offers both pedestrian and bicycle routing. Other tools and resources for bicycle commuters are listed on the bicycling resources section of the Commuter Connections web site.

People sometimes drive to work because they need to be able to get home quickly in an emergency. To meet that need and help get more people out of their cars, the Commuter Connections program offers a free taxi ride home in an emergency for commuters who regularly (twice a week) carpool, vanpool, bike, walk or take transit to work. Commuters who sign up for the <u>Guaranteed Ride Home</u> program may use it up to four times per year.

Encouraging Walkable Development:

the Transportation-Land Use Connections Program

The <u>Transportation Land Use Connections</u> (TLC) Program provides support to local governments in the Metropolitan Washington region as they work to improve transportation and land use coordination. Through the program, the TPB provides communities with technical assistance to catalyze or enhance planning efforts for planning for transit and pedestrian access. Since 2007 dozens of pedestrian and transit access planning projects have been funded through the TLC program. Community response has been enthusiastic, and competition for the grants has been stiff.

II. Federal Policies

Routine Accommodation of Walking and Bicycling

U.S. Department of Transportation guidance issued in 2000 calls for bicycling and walking facilities to be incorporated into all transportation projects unless exceptional circumstances exist. Further guidance issued in March 2010 urged agencies to go beyond the minimum standards to provide safe and convenient facilities for pedestrians and bicyclists, set mode share targets, and collect data on walk and bike trips. Bicycling and walking are to have equal importance to other transportation modes. Transportation projects using federal funds may not sever an existing bicycle or pedestrian route, unless an alternate route exists or is provided.

<u>The US DOT headquarters in Washington, D.C.</u> sets an example for other employers by encouraging employee bicycling.

Federal and State policies have evolved over the last few decades, from not requiring (or in some cases prohibiting) the use of transportation funds for pedestrian or bicycle facilities, towards requiring the provision of such facilities. These federal and state guidelines and policies have led to an increase in the number of pedestrian and bicycle facilities provided, with more facilities provided as part of larger transportation projects rather than as stand-alone projects.

Federal and State policies are also evolving away from encouraging single-use cul-de-sac development patterns typical of the last half of the 20th century, to encouraging mixed use development and a connected street grid that is far more accessible to pedestrians and bicyclists.¹

¹ Southworth, Michael and Eran Ben-Josesph, *Street Standards and the Shaping of Suburbia*, Journal of the American Planning Association, Volume 61, Number One, Winter 1995.

Americans with Disabilities Act

The Americans with Disabilities Act (ADA) is a federal civil rights statute that prohibits discrimination against people who have disabilities. Under the ADA, designing and constructing facilities that are not usable by people with disabilities constitutes discrimination. Public rights of way, including pedestrian facilities, are required by federal law to be accessible to people with disabilities.

The ADA Requires that all New and Altered Pedestrian Facilities be made Accessible to the Handicapped

Both new and altered pedestrian facilities must be made accessible to persons with disabilities, including those who are blind or visually impaired. The courts have held that if a street is to be altered to make it more usable by the general public, it must also be made more usable for those with disabilities.

Government facilities which were in existence prior to the effective dates of the ADA and which have not been altered are not required to be in full compliance with facility standards developed for new construction and alterations. However, they must achieve 'program access.' That is, the program must, when viewed in its entirety, not deny people with disabilities access to government programs and services. For example, curb ramps may not be required at every existing walkway if a basic level of access to the pedestrian network can be achieved by other means, e.g., the use of a slightly longer route. Municipalities should develop plans for the installation of curb ramps and accessible signals such that pedestrian routes are, when viewed in their entirety, accessible to people who are blind or visually impaired within reasonable travel time limits. ²

Design standards for the disabled, such as smoother surfaces, adequate width, and limits on cross-slope, are also beneficial for the non-disabled pedestrian. Good design for persons with disabilities is good design for all. More information on the Americans with Disabilities Act is available from the US Access Board.

MAP-21 and the Transportation Alternatives Progam

Under MAP-21 (Moving Ahead for Progress in the 21st Century Act) the federal transportation legislation signed in July 2012, bicycle and pedestrian projects remained broadly eligible for nearly all funding categories, including transit funding, either for projects incorporated into something larger, or for stand-alone bicycle and pedestrian

² American Council for the Blind, *Pedestrian Safety Handbook: A Handbook for Advocates.* www.acb.org

projects. MAP-21 funded surface transportation programs at over \$105 billion for fiscal years (FY) 2013 and 2014. MAP-21 was the first long-term highway authorization enacted since 2005.

MAP-21 largely eliminated high priority projects, sometimes known as legislative earmarks, many of which were bicycle or pedestrian projects.

All Federal
Transportation
Funds may be
used for Bicycle
and Pedestrian
Projects

However, the biggest change for pedestrian and bicycle projects is that MAP-21 combines several funding programs from its predecessor, SAFETEA-LU, that were often used to fund pedestrian and bicycle projects, into a single program, the <u>Transportation Alternatives program</u>. The TA Program combines three former federal programs: Transportation Enhancements (TE), <u>Safe Routes to School</u> (SRTS), and Recreational Trails (RTP). Eligible recipients include local governments, regional transportation authorities, transit agencies, natural resource or public land agencies, school districts and agencies, and other appropriate local or regional governmental entities. Non-profits are not eligible to be direct recipients of the funds. Eligible projects will include bicycle and pedestrian facilities, complete streets, safe routes to school, environmental mitigation, and others.

One of the key differences between the TA Program and the previous programs is that large MPOs, including the Transportation Planning Board, play a new role in project selection for a portion of program funds now sub-allocated to large metropolitan regions. For the National Capital Region, this new program offers an opportunity to fund regional priorities and complement regional planning activities. In the National Capital Region, the TA Program is framed as a complementary component of the TPB's Transportation/Land-Use Connections (TLC) Program, which provides technical assistance for small planning studies to TPB member jurisdictions, and a potential implementation tool for the Regional Transportation Priorities Plan.

Projects funded under the FY 2013 and FY 2014 TA program for the National Capital are listed on the Transportation/Land-Use Connections program web site.

American Recovery and Reinvestment Act

Signed into law on February 17, 2009, the American Recovery and Reinvestment Act of 2009 (ARRA) provided over \$48 billion for transportation, including \$27.5 billion for highway infrastructure investment, \$8.4 billion for transit capital assistance, \$8 billion for high speed rail, \$1.5 billion for a competitive grant program for surface transportation, and \$1.3 billion for Amtrak.

The District of Columbia spent nearly half its stimulus funds on pedestrians and bicyclists

The District of Columbia was allocated \$123.5 million, Maryland \$431 million (\$129 million sub-allocated to urban areas) and Virginia \$694.5 million (\$208 million sub-allocated to urban areas) in highway formula funds.

ARRA was a one time, "stimulus" bill, intended to promote recovery from the economic recession. Projects funded through ARRA were supposed to be capable of implementation within a relatively short time frame, which has in practice caused funds to be directed to those projects for which design was already complete, and which did not need additional right of way.

The District of Columbia spent nearly half its \$123.5 million allocation on bicycle and pedestrian projects. Over \$50 million was programmed for streetscaping and sidewalk construction, \$4 million for Safe Routes to School, and a \$3 million for an expanded bike sharing program. In addition bridge reconstruction projects will include upgraded sidewalks. Since projects are bid as a whole, the cost of the pedestrian portion of a project is not estimated separately.

Maryland programmed \$4.6 million for ADA improvements. Maryland stimulus funds largely went to resurfacing and bridge rehabilitation projects, often on limited-access highways. In Northern Virginia, \$10 million was allocated to identifiable pedestrian and bicycle projects, such as pedestrian bridges and underpasses, trail reconstruction, streetscaping, and traffic calming.

The degree to which pedestrians and bicyclists benefited from the Act depended to a great degree on the extent to which the Departments of Transportation have included pedestrian and bicycle facilities in their project planning and design. An effective "complete streets" policy is critical.

III. State Policies

District of Columbia

As the center of the Washington region, a major employment center, and one its most walkable and bikeable jurisdictions, the District of Columbia's policies have a significance larger than its population would suggest.

The District of Columbia is to become a "walkcentric, bikecentric" city.

Reflecting its urban character, the District of Columbia is doing much to encourage walking and bicycling. <u>District of Columbia Department of Transportation</u> intends to create a "walk-centric, bike-centric" city. DDOT's 2010 "<u>Action Agenda</u>" called for safety, sustainability, and increasing livability and prosperity by creating great spaces that are the "living room" of the city.

Streetscaping projects and traffic calming projects are a high priority. By providing pedestrians with plenty of well-designed, safe, and comfortable space, the city hopes to increase retail sales and property values. Business Improvement Districts are to have considerable input into transportation projects.

Due to the built-up character of the District of Columbia, DDOT aims to shift travel from less space-efficient modes, such as single occupant vehicles, to more space efficient modes, such as walking, bicycling, and public transportation.

DDOT's strategy for shifting auto trips to transit, walk, and bike trips encompasses both transportation and land development elements. The District of Columbia will encourage mixed use development projects that promote and support non-auto mobility. Reduced auto parking, increased bike parking, on-site car and bike sharing, and transportation demand management plans will reduce auto trips generated by new development.

On a citywide basis there is to be car sharing, bike sharing, new transit service, streetcars, reduced off-street parking requirements, required off-street bike parking, and rapid construction of new pedestrian and bicyclist infrastructure. The Bicycle Master Plan (2005) and Pedestrian Plan have been succeeded by the pedestrian and bicycle elements of the city's latest Transportation Plan, MoveDC.

MoveDC

In May 2014 DDOT released the District's new Transportation Plan, MoveDC, for public comment. The draft MoveDC plan continues in the same direction as previous planning documents, but in greater detail, and with more ambitious goals and methods. MoveDC is a 25 year plan. It proposes to:













- Achieve 75% of all commute trips in the District by non-auto modes
- Achieve zero fatalities and serious injuries on the District transportation network
- Support neighborhood vitality, public space, and economic development.
- Manage streets to increase person-carrying capacity and reliability, through signal changes, parking management, pricing, and vehicle occupancy requirements
- Reduce travel demand through various Transportation Demand Management strategies
- Invest in better maintenance and asset management

In accordance with DC's Complete Streets policy, every street will accommodate all legally permitted users, but different streets will have different modal priorities.

Pedestrian Element

The Pedestrian Element promises to reduce the number of pedestrian injuries and fatalities, prioritize pedestrians, and create a pedestrian environment that accommodates people of all ages and abilities. To that end,

- All roadway reconstruction and development projects are to include safe and convenient pedestrian facilities. All projects should meet the standards identified in DDOT's Public Realm Design Manual and the Design and Engineering Manual.
- Identified priority corridors are to be improved.
- **Sidewalks** should be provided on **at least one side** of every street and preferably on both sides of every street.
- **Pedestrian crossings should be provided across all legs** of an intersection unless a special exception can be clearly justified.
- Improve **crossing safety**
- Create new street connections
- Expand **pedestrian education**, including the <u>Street Smart</u> campaign, which is carried out in partnership with the Metropolitan Washington Council of Governments
- Expand automated red-light and speed enforcement

Bicycle Element

The Bicycle Element of MoveDC is more ambitious than the 2005 Bicycle Master Plan. MoveDC recommends adding 213 miles of bicycle infrastructure. The system will eventually total 136 miles of bike lanes, 72 miles of protected bike lanes (cycle tracks), and 135 miles of trails, as well as more public and private bike parking, expanded bike sharing, and signed neighborhood bike routes.

The objective is to make bicycling a "principal and preferred" mode for travel, with a 12 % bicycle mode share for all trips that start and end in the District.

MoveDC will fill major gaps in the regional bicycle network, and improve connections between the District, Maryland and Virginia. MoveDC proposes two new bicycle and

DDOT expects a 12% bike mode share for trips within the District

pedestrian crossings of the Potomac River, and three new crossings of the Anacostia, including

- A Massachusetts Avenue Bicycle and Pedestrian Bridge over the Anacostia River
- A new Long (Railway) Bridge connecting SW DC to Arlington
- A bicycle and pedestrian bridge from the Georgetown waterfront to Roosevelt Island, which together with a proposed K Street Cycle Track would provide an off-street connection between the Mount Vernon Trail, the Capitol Crescent Trail, and the Rock Creek Trail.
- A bicycle and pedestrian bridge and trail over the Anacostia River, from Kenilworth Park in NE and the Anacostia River Trail, to the National Arboretum and near NE.
- A New York Avenue Corridor trail and bridge to connect downtown DC with Anacostia River Trail system in Prince George's County.

Other bridges that currently have outmoded bike and pedestrian facilities will be upgraded, and a multi-use path will be added to the Military Road Bridge across Rock Creek Park. The expanded District bicycle network will host signed national and regional bicycle routes including US Bike Routes 1 and 50, the East Coast Greenway, and the Potomac Heritage Trail.

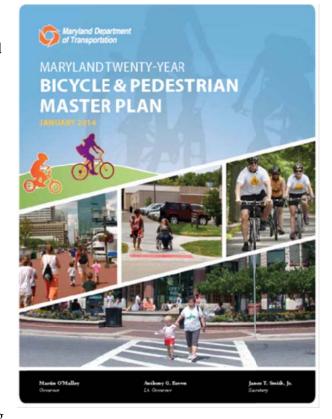
Maryland

Maryland adopted its first Bicycle and Pedestrian Access Plan in 2002. Under that plan the State made numerous advances in

Maryland will address the needs of all users, including pedestrians and bicyclists

the last decade.

promoting bicycling and walking. MDOT invested more than \$283 million in nonmotorized transportation projects to improve bicycling and walking



conditions over the last decade. The proportion of total highway expenditures dedicated to bicycle or pedestrian programs increased from 2% to 4% over

The State also created a number of grant programs, including the **Maryland Bikeways Program**, which provides \$3 million per year in technical assistance to a wide range of

bicycle network improvements, and **Maryland Bikeshare Program** provides grants to communities interested in adding a bikeshare system, notably Montgomery County.

Maryland State Highway Administration adopted Complete Streets policy in 2012.

The current Maryland Twenty-Year Bicycle and Pedestrian Master Plan (2014) calls for a Complete Streets approach. Complete Streets in Maryland means that the state transportation network will address the needs of all users, regardless of travel mode. It does not, however, mean that all users will have equal priority on all roadways. Design is to be appropriate for the land use and context, including Urban Centers, Towns and Suburban Centers, Rural and Agricultural Areas, and Natural Areas.

The initial focus will be to support biking and walking in urban centers and main streets. MDOT will pilot a Bicycle and Pedestrian Prioritization Area (BPPA) program to foster collaboration with local jurisdictions and support the development of connected bicycle and pedestrian networks in high need locations.

MDOT has also published an <u>Accessibility Policy and Design Guidelines for Pedestrian Faclitilies along State Highways</u> (2010), <u>Bicycle Policy and Design Guidelines</u> (2013), a <u>Strategic Trails Implementation Plan</u> (2009), a bicyclist education video, and other materials designed to share information on best practices with respect to the engineering, education, and enforcement aspects of walking and bicycling.

A <u>Bicycle and Pedestrian Advisory Committee</u> advises State government agencies on issues directly related to bicycling and pedestrian activity including funding, public awareness, safety and education.

Virginia requires

Virginia

In 2004, the Virginia Department of Transportation released its Policy for <u>bicycle and pedestrian accommodation</u>, which commits VDOT to routinely accommodating pedestrians and bicyclists as part of all new construction and reconstruction projects, unless exceptional circumstances exist.³

Virginia requires
"routine
accommodation" of
pedestrians and
bicyclists in
transportation
projects

Since 2004 VDOT has developed a process to ensure that bicycle and pedestrian accommodations are provided in accordance with the policy. The <u>Bicycle and Pedestrian Accommodations Decision Process</u> gives designers a step by step process to determine if

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³ www.virginiadot.org

bicycle / pedestrian accommodations are appropriate for the characteristics of a particular roadway, and a <u>Bicycle and Pedestrian Accommodations</u> list and a design guide provides project managers with a menu of possible accommodations. A series of <u>implementation guidance documents</u> for localities have also been developed to improve communication between agencies regarding planning and accommodation of pedestrians and cyclists under terms of the 2004 policy.

VDOT maintains all roads in Virginia outside of urban areas, including thousands of miles of residential streets originally built by developers. In view of the importance of secondary streets for vehicular, pedestrian, and bicycle movement, VDOT has revised its Secondary Street Acceptance Requirements (SSAR) to mandate higher levels of street connectivity in urban areas, as well as adequate pedestrian accommodation. New streets and developments are required to connect to the surrounding streets and future

Virginia requires new developments to connect with the surrounding streets

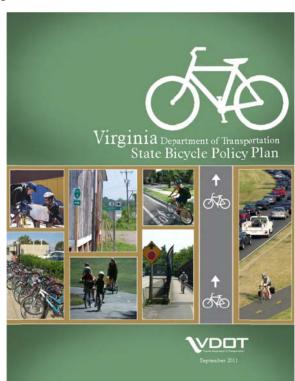
developments in a way that adds to the capacity of the transportation network.

The policy divides Virginia into "compact", suburban, and rural areas, with graduated connectivity requirements for each. Narrower streets, traffic calming and "context-sensitive" design are encouraged where appropriate.

New development proposals initially submitted to counties and VDOT after June 30, 2009, must comply with the requirements of the SSAR.

Cul-de-sac development patterns have long been an obstacle to walking or bicycling in suburban areas. More direct, traffic-calmed secondary streets will allow more people to walk or bike to local destinations.

Virginia has adopted a fairly stringent set of requirements mandating accommodation of pedestrians and bicyclists on both public roads and private developments which are accepted by State for maintenance, which in Virginia means almost all development. As the economy recovers, and new development applications fall under the new rules, we will be able to see the results of the new policies.



Virginia State Bicycle Policy Plan

VDOT completed a <u>State Bicycle Policy Plan</u> in April, 2010, which incorporates the policies discussed above, as well as the most recent federal guidance. The plan calls for bicycling for increased bicycling for all trip purposes, and a transportation system that "accommodates and encourages" bicycling by providing facilities for bicyclists of all ages and abilities. It also calls for better data gathering and benchmarking of bicycling, coordination with various stakeholders, and recommends a number of strategies to improve implementation of VDOT's 2004 <u>policy for bicycle and pedestrian accommodation</u>.

The plan provides some guidance on bicycle facilities to be used. Bicycle lanes and paved shoulders are recommended over other bicycle facilities. Restriping travel lanes, or "road diets" are recommended as a way to provide bicycle lanes within the current right of way. Actuated traffic signals should be able to detect bicycles, and bicycle compatible drain grates should be used on all roads where bicycles are permitted. A signed bike route should have at least a bicycle level of service "C".

IV: Local Bicycle and Pedestrian Planning

Nearly every jurisdiction in the region has completed a bicycle or pedestrian plan, and most have at least part time bicycle or pedestrian planner. Table 1-2 shows local and state plans and studies and the year published. Jurisdictions and agencies drew projects from these individual plans and submitted them for incorporation into the Regional Bicycle and Pedestrian Plan. Local plans may include unfunded projects.

Table 1-3: Major Bicycle and Pedestrian Plans and Studies Of the Washington Region

	Plan/Study	Year
Arlington	Pedestrian Transportation	1997,
County	Plan,	1994
	Bicycle Transportation Plan,	2001,
	Bike Lane Plan	2008
	Arlington Master Plan -	
	Pedestrian Element, Bicycle	
	Element	
City of	Pedestrian and Bicycle	2008
Alexandria	Mobility Plan	

District of	District of Columbia Bicycle	2005, 2009,
Columbia	Master Plan, District of	2014
	Columbia Pedestrian Master	
	Plan, MoveDC	
Fairfax	Countywide Bicycle Master	2014
County	<u>Plan</u>	
Frederick County	Frederick County Bikeways	1999, 2003,
	and Trails Plan, Bicycle	2011
	Parking Design Guide, Bicycle	
	and Pedestrian Plan, Bicycle	
GU. C	and Pedestrian Plan	2010 1000
City of	Transportation Plan, Bikeways	2010, 1999
Gaithersburg	and Pedestrian Plan	2000
City of Laurel,	Bikeway Master Plan	2009
Maryland		
T 1 C		2002
Loudoun County	Loudoun County Bicycle and	2003
	Pedestrian Master Plan	
M 1 1	M 1 1 7 7 77	2014 2012
Maryland	Maryland Twenty Year	2014, 2012,
Department of Transportation	Bicycle and Pedestrian Master Plan	2008
Transportation	SHA Complete Streets Policy	
	2009 Maryland Trails	
	Strategic Implementation Plan	
MNCPPC –	Transportation Priority List	1999,
Prince George's County	(Joint Signature Letter)	2009
	Countywide Master Plan of	
	Transportation	
Montgomery	Countywide Bikeways	2005
County	Functional Master Plan	
National Capital	Comprehensive Plan for the	2004
Planning	National Capital	-
Commission	<u> </u>	
National Capital Region	Priorities 2000: Metropolitan	2001,
Transportation Planning	Washington Greenways &	2006, 2010
Board	Circulation Systems,	
	Bicycle and Pedestrian Plan	
	for the National Capital	
	Region	
National Park	Paved Recreation Trails Plan	1990
Service		

Prince William	Transportation Chapter of	2008, 1993
County	Comprehensive Plan),	
	Greenways and Trails Plan	
City of	Bikeway Master Plan	2014
Rockville		
Virginia Department of	Virginia Department of	2010
Transportation	Transportation State Bicycle	
	Policy Plan	
Virginia Department of	Northern Virginia Regional	2003
Transportation,	Bikeway and Trail Network	
Northern Virginia	Study	
Office		
WMATA	Metrorail Bicycle &	2010, 2012,
	Pedestrian Access	2014
	Improvements Study, Bicycle	
	and Pedestrian Element of the	
	CIP, Station Access Studies	
Jurisdiction/	Plan/Study	Year
Agency		

Table 1-3 shows the approximate number of full-time planners each agency has working on bicycle, pedestrian, and trails planning.

Table 1-4: Agency Bicycle/Pedestrian Planning Staff Full-Time Equivalents (FTE's)

Jurisdiction/ Agency	Bicycle Planner FTE's	Pedestrian Planner FTE's	Trails Planner FTE's
Arlington County	1	1	1
City of Gaithersburg	0.5		
City of Alexandria	1	0.5	0.5
City of College Park	0.5		
City of Frederick	0.5	0.5	
City of Rockville	0.5	0.5	

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District of	2	1	1
	2	1	1
Columbia			
Fainfay	1	1	2
Fairfax	1	1	2
County	0.25	0.27	
Frederick County	0.25	0.25	
Loudoun County	0.5		
,			
Maryland	1	2	1
Department of	1	_	1
Transportation			
MNCPPC –	0.33	0.33	1
Montgomery County			
MNCPPC –			1
Prince George's			
County			
Montgomery	1	1	1
County			
National Capital	0.5	0.5	
Region	0.5	0.5	
Transportation			
Planning Board			
National Park			1
Service			
Prince William			0.5
County			
WMATA	0.5	1	
***		4	
Virginia Department	1	1	
of Transportation,			
Northern Virginia			
Office			

Safe Routes to School

Safe Routes to School is a national movement that encourages students to travel to and from school by walking or bicycling. Safe Routes to School efforts are supported by parents, schools, community leaders, Safe Routes to School coordinators and local, state, and federal governments to improve the health and well-being of children by enabling and encouraging them to walk and bicycle to school. The Safe Routes to School movement in the United State grew exponentially with a federal funding program starting in 2005. In 2012, Safe Routes to School was incorporated into the Transportation Alternatives program, but Safe Routes to School programs continue to grow.

In the Washington DC region, Safe Routes to School programs have flourished. The majority of school systems in the region have access to a Safe Routes to School coordinator either within the school district or in the department of transportation. In 2013, northern Virginia school districts gained four new coordinators due to a unique partnership between the Virginia Department of Transportation Safe Routes to School program and the Department of Education. This partnership utilized remaining Safe Routes to School funding from the 2005 federal transportation bill the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

Table 1-5. Safe Routes to School Coordinators in the region

School District	Safe Routes to School Coordinator
Arlington County Public Schools	Full-time, school district
Alexandria City Public Schools	Contracted coordinator with school district 2008-2013,
	current designated point person for continuation of activities
District of Columbia Public	Full-time, District Department of Transportation
Schools	
Fairfax County	Full-time, school district
Frederick County	2010-2011, full-time, school district
Loudoun County	Two part-time, school district
Montgomery County Public	One full-time position, Montgomery County Department of
Schools	Transportation and one part-time position, City of Takoma
	Park
Prince George's County Public	Grant application pending, full-time, Prince George's County
Schools	Department of Public Works and Transportation
Prince William County Public	Full-time, school district
Schools	

All school districts have schools that have registered for either Bike to School Day in May or Walk to School Day in October.

Table 1-6. Schools Registered for Walk to School Day (WTSD) and Bike to School Day (BTSD), 2012-2014

	2012	2013	2014	2014
	WTSD	BTSD	WTSD	BTSD
Arlington County Public Schools	11	13	34	8
Alexandria City Public Schools	4	31	10	31
District of Columbia Public	22	17		16
Schools			17	
Fairfax County	14	35	42	32
Falls Church City Public Schools	2		4	
Frederick County	4	2	2	1
Loudoun County	3		4	10
Manassas City Schools	1		9	1
Montgomery County Public	15	2		9
Schools			28	
Prince George's County Public	4	1		0
Schools			2	
Prince William County Public	3	0		2
Schools			23	
Total	83	101	175	110

Safe Routes to School leadership comes from many different places. In 2013 and 2014, BikeArlington coordinated Bike to School Days at all 31 Arlington Public Schools. In Fairfax County Public Schools, parents in the Town of Vienna have coordinated weekly and monthly Safe Routes to School activities including an annual Walk/Bike Challenge. In 2014, more than 5,400 students at seven elementary schools participated.

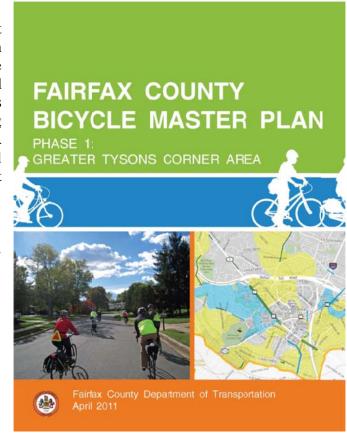
In 2012, the City of Takoma Park won national recognition from the Oberstar Award Committee for their comprehensive Safe Routes to School program.

The Bicycle and Pedestrian Subcommittee and the Safe Routes to School **National** Partnership co-sponsor an annual Safe Routes to School regional workshop. This event provides an opportunity to share information and best practices across the region, as well as a learning opportunity for those interested in Safe Routes to School. The first Safe Routes to School regional meeting was held in October 2013 with more than 70 Safe Routes to School, transportation, health, school and planning professionals as well as parents and advocates. The most recent workshop was held in October 2014 and more than 60 people attended.

Metrorail Silver Line

Since 2010 one of the most significant changes in the region has been the extension of the Metrorail to Tysons Corner and Reston in Fairfax County. This Metrorail extension is generating new, walkable development. A future phase of the project will extend the line to Dulles Airport and beyond.

Tysons, already the second-largest commercial center in the region, is undergoing a dramatic transformation from an auto-oriented commercial "edge city" to a mixed-use urban downtown. The four new Metrorail stations in Tysons will provide the foundation for this shift. Pedestrian and bicycle access will be critical to making a redeveloped Tysons work.



Future <u>Silver Line</u> stations along the Dulles Tollway will serve park and ride commuters, but will also incorporate some development and some pedestrian and bicycle access, in an area which has been overwhelmingly oriented towards driving. Plans call for an eventual extension further into Loudoun County, which has been working on station-area pedestrian and bicycle access plans.

WMATA Bicycle and Pedestrian Access Planning

In recent years WMATA has become a regional leader in pedestrian and bicycle access and safety, both on and off WMATA property. WMATA's priorities include

Passenger safety and security: Examples of safety-related projects include signage
and crosswalk striping on and around stations, designated and improved bicycle
access routes into stations, resurfacing deteriorated sidewalks, lighting, and high
security bicycle parking.

- **Metrorail Access needs**: Improving pedestrian and bike access at and around stations is often a more cost-effective way to boost ridership than to add car parking or connecting bus service. Approximately 45% of Metrorail customers live within walking or bicycling distance from a station (up to 3 miles).
- Transit Oriented and Joint Development:

Walkable and bikeable station areas will have a positive and mutually reinforcing impact on Metro's Joint Development

MEDICAL CENTER BEFORE AND AFTER, REPLACING OLD RACKS





VIENNA STATION BEFORE AND AFTER, NEW ACCESS POINT





FRANCONIA – SPRINGFIELD BEFORE AND AFTER, NEW SIDEWALK TO IMPROVE SAFETY





programs and local government's encouragement of Transit Oriented Development (TOD). Bringing more people out into the streetscape will increase visibility and safety of those on foot and bike, while also demonstrating the viability of similar future developments.

In its 2010 Metrorail Bicycle and Pedestrian Access Improvements Study WMATA identified pedestrian and access problems at its Metrorail stations. A number of the projects identified as part of that process, totaling \$25 million, have been funded in WMATA's Capital Improvement program. A few examples of completed projects are shown below. WMATA no long builds fences to keep pedestrians out of its rail stations.

WMATA has also been working to identify "hot spots" of short distance auto access; i.e. places where people live close enough to walk to Metro, but don't, and studying those areas to find out what is missing.

The National Capital Region Transportation Planning Board is currently working with WMATA on another study that will identify needed pedestrian and bicycle improvements at 25 under-used Metrorail Stations, <u>High Impact Complete Streets Access Improvements</u> for Rail Station Areas in the Washington Region. This study will build on the results of WMATA's 2010 study.

V: Regional Bicycle and Pedestrian Planning

Precursors to the Current Plan

The Washington region completed its first major bicycle study, the *Washington Regional Bikeways Study* in 1977. This study, created under the supervision of the Regional Bikeways Technical Subcommittee of the Transportation Planning Board Technical Committee, provided an overview of bicycling characteristics and the potential market for bicycle commuting.

In 1988 the Bicycle Technical Subcommittee began work on a bicycle element for incorporation into the region's transportation plan. The plan identified the extent to which bicycle facilities and planning processes already existed in the region, highlighted areas of concern for the future, and drafted a set of policy principles to be applied by the region's jurisdictions in updating their own transportation plans, as well as a list of recommended bicycle projects. The *Bicycle Element* was adopted by the Transportation Planning Board as part of the region's Constrained Long-Range Plan in November 1991.

In 1995, the Transportation Planning Board adopted an update to the 1991 *Bicycle Element*, the Bicycle Plan for the National Capital Region, as an amendment to the Constrained Long-Range Plan. The revised plan emphasized bicycling for transportation and recommended project lists and policy principles produced by the Bicycle Technical Subcommittee.

In February 2001, the TPB completed the *Priorities 2000: Greenways* and *Circulation Systems* reports, which identified greenway and pedestrian circulation systems priorities.

Except for the *Priorities 2000* reports, predecessors to the 2006 *Bicycle and Pedestrian Plan for the National Capital Region* were "bicycle" plans. The 2006 plan fully incorporated pedestrian elements for the first time. The 2006 plan was updated in 2010. This plan is an update to the 2010 plan.

Sources of the Regional Plan Projects

State, local, and agency bicycle and pedestrian plans and staff are the source of the projects in this plan. Projects should be at least one mile in length or \$300,000 in cost to

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be included in the regional plan. They need not have an identified funding source.

Outlook

The Transportation Planning Board and the Council of Governments have a continuing and growing commitment to walking, bicycling, and the concentration of future growth in walkable, mixed-use activity centers. COG's *Region Forward 2050* shares the goals of the TPB's *Vision* and proposes specific performance indicators and a schedule for reporting progress. Increasing the rate at which projects in this plan are constructed is an explicit goal of the Council of Governments' *Region Forward 2050* vision.

The *Regional Transportation Priorities Policy* re-affirms the commitment to bicycling and walking in the TPB *Vision*, while better explaining the role that increasing walk and bike mode share will play in supporting the growth of the regional activity centers, and making better use of existing transit infrastructure.

The Federal, State, and local policy environment has been changing in ways that make it more likely that goals of the regional plans will be met. Complete Streets policies are being adopted, strengthened and implemented. Pedestrian and bicycle facilities in most jurisdictions will no longer be "amenities" which agencies will consider providing, but facilities that they will routinely provide as part of every project. At the same time, land use, parking, and urban design policies are changing in ways that will make walking and bicycling a viable choice for more trips.

Partnerships between WMATA, local government, and business are growing transitoriented around existing and new Metrorail stations, notably at Tysons Corner, shifting more trips to walk and bike modes.

As the economy recovers and development restarts, the effects of the policy changes of the last few years will become evident in the way people live, work, and travel in our region.

Chapter 2 Bicycling and Walking in the Washington Region

CHAPTER 2: BICYCLING AND WALKING IN THE WASHINGTON REGION

Overview

Residents of the Washington region walk and bicycle at about the same rate as the nation

as a whole. Tables 2-1 and 2-2 show the share of walking and bicycling trips to work for the ten largest

metropolitan areas.

Nationally, 10% of all

urban area Throughout the second half trips are made of the on foot or by Century, bike driving

increased,

 20^{th}

while walking, bicycling, and public transportation declined. In 2000 2.93% of Americans

	T 11 0 4	07.147.11	07.147.11	0/ 14/ 11
	Table 2-1	% Walk	% Walk	% Walk
	Pedestrian Commuting	to	to	to
	in the Ten Largest	Work	Work	Work
	Metropolitan Areas ¹	2000	2006-	2008-
	•	Census	2008	2012
1	New York	5.55%	6.2%	6.2%
2	Boston	4.12%	4.8%	5.3%
3	San Francisco	3.25%	4.2%	4.3%
4	Philadelphia	3.88%	3.7%	3.7%
5	Washington	3.10%	3.0%	3.2%
6	Chicago	3.13%	2.9%	3.1%
7	Los Angeles	2.56%	2.6%	2.7%
8	Detroit	1.83%	1.5%	1.4%
9	Houston	1.62%	1.5%	1.4%
10	Dallas-Fort Worth	1.48%	1.3%	1.2%
	United States	2.93%	2.8%	2.8%

walked to work, and 0.38% bicycled. By comparison, in 1960 9.9% of workers walked to work.² The number of people driving alone rose from 73.2% in 1990 to 75.7% in 2000, while use of public transportation fell by 0.5%.

Trips in the *Urban Core are* Usually Short Enough to Walk or Bike

In the first decade of the 21st Century, growth in solo driving share appears have stopped, and transit, walking and bicycling

mode shares have stabilized. 76% of workers drove alone in 2012, which is essentially the same as in 2000, and public transportation grew from 4.7% to 5%.

	Table 2-2:	%	% Bike	% Bike
	Bicycle Commuting in	Bike	to	to Work
	the Ten Largest	to	Work	2008-
	Metropolitan Areas	Work	2006-	2012
		2000	2008	
1	San Francisco	1.12%	1.4%	1.7%
2	Los Angeles	0.63%	0.7%	0.9%
3	Boston	0.38%	0.7%	0.9%
4	Philadelphia	0.33%	0.5%	0.6%
5	Chicago	0.31%	0.5%	0.6%
6	Washington	0.30%	0.5%	0.6%
7	New York	0.30%	0.4%	0.5%
8	Houston	0.30%	0.3%	0.3%
9	Detroit	0.18%	0.2%	0.2%
10	DallasFort Worth	0.14%	0.2%	0.2%
	United States	0.38%	0.5%	0.6%

^{1 2000} US Census, 2006-2008, 2008-2012 American Community Survey

^{2 1960} Census of Population, Characteristics of Population, United States Summary

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The walk and bike modes are more common than the census commute mode numbers would lead one to believe. Work trips account for less than 20% of all trips, and walking and biking are more common for other purposes. The most recent data documenting mode of transportation for all trips taken in the U.S. comes from the 2009 National Household Travel Survey (NHTS). According to the NHTS 1.0% of all trips taken in the U.S. are made by bicycle and 10.4% are by foot.³

Ethnicity, gender, geography, age, and car ownership affect the decision to walk or bicycle.

People under the age of 44 are more likely to walk or bicycle than people older than age 44, and people over age 65 have the lowest rates of walking and bicycling, with 13% of the U.S. population and but 10% of all walking trips and 6% of all bicycling trips. Children, as would be expected, are most likely to walk and bike - Estimates from NHTS indicate that youth under age 16 make up 39% of bicycling trips, despite accounting for just 21% of the U.S. population. This age group also accounts for 17% of walking trips.

People living in households without cars are more likely to walk or bicycle than those that have one, and those living in households with only one car are more likely to walk or bicycle than those owning two. Middle-income groups are slightly less likely to walk or bicycle than either low-income or high-income groups. Whites are more likely to bicycle. Only 24% of bike trips in the United States are taken by women.

Regionally, bicycling and walking are concentrated in the core neighborhoods of the Washington region, especially areas near downtown D.C. and certain Metro stations, as well as college campuses and military bases.

In the past decade walk mode shares for all trips have grown, while bike mode shares have stabilized. Walking and bicycling have grown in the core. Bicycling, however, suffered a steep decline in the outer jurisdictions, resulting in no net increase between 1994 and 2007/2008.

Cold weather/winter is a major barrier to commuter cycling, along with distance, absence of safe routes, and lack of end-of-trip facilities such as showers and lockers.⁴ Trips in the outer suburbs are usually farther than most people are willing to walk or bicycle. However, most commute trips that are short enough to be bikable or walkable are still taken by car. The average trip distance to transit or carpool is short.

Transit and walking are interdependent, with 80% of bus and 60% of Metrorail access

³ Alliance for Bicycling and Walking, *Bicycling and Walking in the United States: 2014 Benchmarking Report*, page 35.

⁴ Metropolitan Washington Council of Governments, 2013 Bike to Work Day Survey- Summary of Results, January 2014. Page 11.

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trips on foot. Mode of access varies tremendously by Metro station. Bicycling to transit is less common and varies greatly by Metro station, with the lowest rates of bicycle access found east of the Anacostia river.

Walking and Bicycling Trends According to the US Census

The 2010 decennial US census form was shortened, and the decennial census no longer provides information on journey to work. In place of the long form, the census bureau carries out an annual survey, the American Community Survey (ACS), which contains information on journey to work.

The ACS data is currently the most up to date source of information on walk and bike mode shares The five-year 2008-2012 rolling averages are reasonably accurate down to the census tract level. At the County level we show the 2012 American Community Survey Data.

The 20th Century trend towards less walking and bicycling also held for the Washington Metropolitan Statistical Area (MSA). In 1990, 6,633 people (0.3 %) biked to work on an average day in the Washington area and 85,292 (3.9 %) walked. In 2000, 7,532 people (0.3%) biked to work and 72,700 (3.1%) walked. In the first decade of the 21st century walk mode stabilized, at 3.2%, while bike mode share doubled, to 0.6%.

Charts 2-14 and 2-15 below show the changes in walking and biking to work by jurisdiction.

Chart 2-14: Percentage of Workers Walking to Work

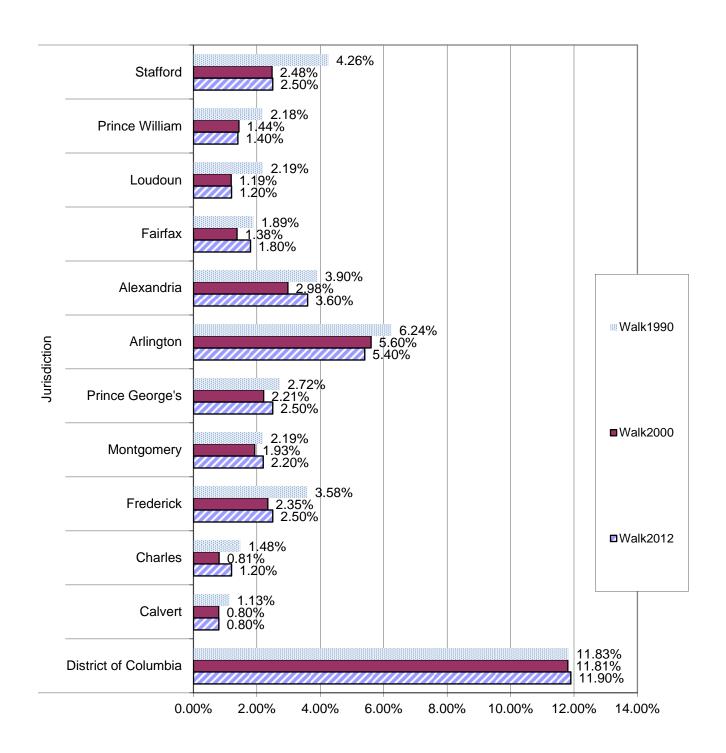
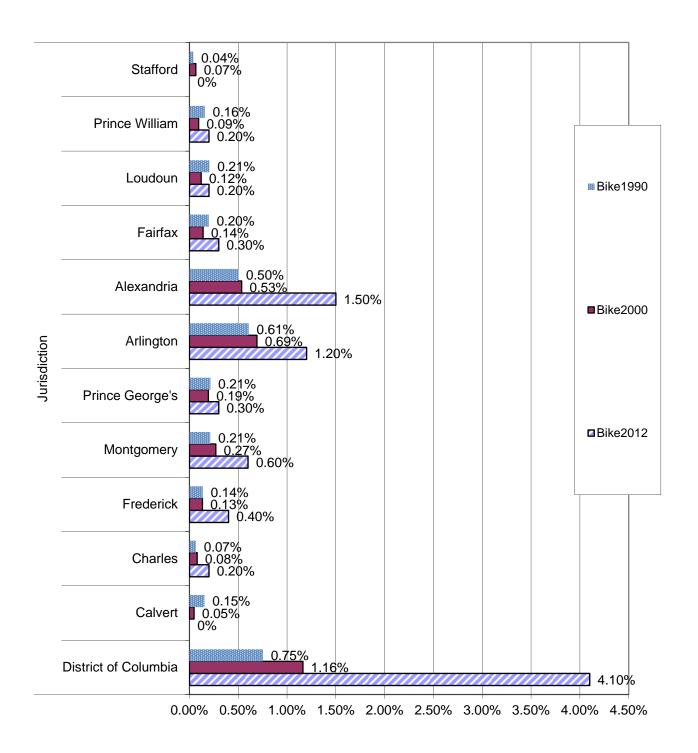


Chart 2-15: Percentage of Workers Biking to Work



CHAPTER 2: BICYCLING AND WALKING IN THE WASHINGTON REGION

Generally, the urban core of the Washington region, consisting of the District of Columbia, Arlington, and Alexandria, experienced stable pedestrian mode share and major gains in bicycling between 1990 and 2012. The District of Columbia nearly quadrupled its bicycle mode share.

The inner suburban jurisdictions of Fairfax, Montgomery, and Prince George's saw a decline in walking to work in the 1990's, which was reversed in the 2000's, leaving them roughly where they were in 1990. Bike mode share increased from 1990-2012, but from a low base.

The outer suburban counties of Frederick, Loudoun, Prince William, and Charles also saw a decline in walking to work in the 1990, which stabilized in 2000-2012, leaving them with less walking to work than in 1990. Bicycling mostly increased, but from a very low base. Frederick County more than doubled its bike mode share, to 0.6%.

The exurban counties of Calvert and Stafford had few people bicycling or walking to work in 1990, and that number fell further during the decades that followed. The American Community Survey counted 18 bicycle commuters in Stafford County in 2012, and 25 in Calvert County.

Mode Share by Census Tract

The Census Bureau recently released a web application that provides commuter mode share information, including bicycle and walking commuting numbers, for each state, county, and census tract.

http://www.census.gov/censusexplorer/censusexplorer-commuting.html

Zooming in to the Washington region, the maps show that bicycling and walking are concentrated in the neighborhoods surrounding downtown D.C., Capitol Hill, and North Arlington. Downtown DC and the surrounding neighborhoods show the highest walk mode shares, as much as 52%, while those a little further out have the highest bike mode shares. Outside DC, North Arlington, Old Town Alexandria, downtown Bethesda, and the City of Frederick the highest (non-campus) walk mode shares.

College campuses and military bases such as University of Maryland, Ft. Meyers, Bolling Air Force Base, the National Institute of Health, George Mason, Howard, Georgetown and Gallaudet all have high walk and bike mode share.

Census tracts abutting major facilities such as the W&OD, the C&O, and the Mt. Vernon Trails tend to show higher levels of bicycling than the surrounding suburban tracts.

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However, the highest bike mode share by far is in the ring of neighborhoods within easy biking distance of downtown DC, on the order of 10-15%. A dense network of on-street bicycle facilities, and proximity between housing and employment, seems to be more predictive of bicycling than an isolated trail.

Walking and Bicycling According to the COG/TPB Household Travel Survey

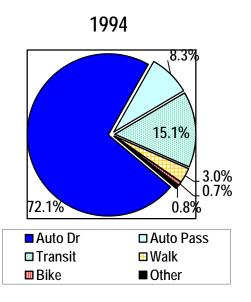
The household travel survey is a roughly once in a decade survey of households in the greater Washington region. The survey was done in 1994, and again in 2007-2008. It is the best available source of information on travel mode shares in the Washington region. For the commute mode share the US Census American Community Survey provides more recent data.

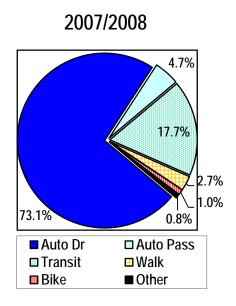
For the most recent survey, 11,000 randomly selected households in TPB Region and adjacent areas (+3,500 in the Baltimore Region) were surveyed. Higher numbers of samples were taken in higher density, mixed use urban areas, and regional activity centers. The sample was address-based. Interviews were conducted between February 2007 and March 2008. Travel is weekday travel only; week-end travel was not counted.

Comparing the results of the 1994 and the 2007/2008 surveys, walk commuting fell from 3% to 2.7%, but bicycle commuting increased slightly, from 0.7% to 1%. Bicycling grew by the same amount as walking declined. Auto commute trips remained stable, while auto passenger (carpooling) declined steeply, and transit use grew.

These results are generally consistent with the 2000 US Census and 2006-2008 American Community Survey results for the Washington region, which also show walk commuting decreasing and bicycle commuting increasing.

Chart 2-1: Change in Commuting Mode Shares 1994-2007/2008





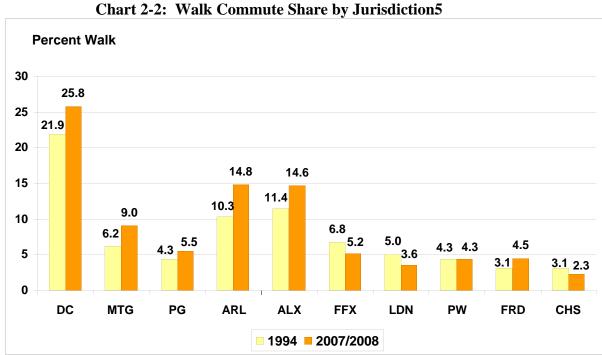
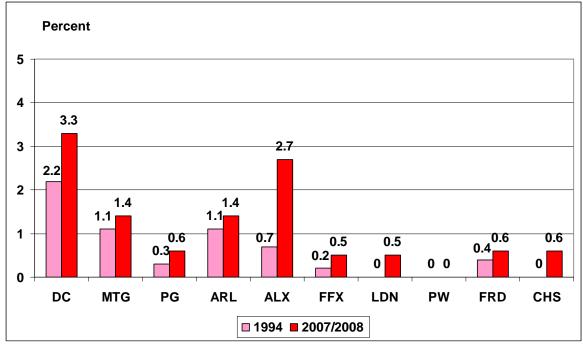


Chart 2-3: Bike Commute Mode Share by Jurisdiction



5 District of Columbia (DC), Montgomery County (MTG), Prince George's County (PG), Arlington (ARL), Alexandria (ALX), Fairfax County (FFX), Loudoun County (LDN), Prince William County (PW), Frederick County (FRD), Charles County (CHS)

CHAPTER 2: BICYCLING AND WALKING IN THE WASHINGTON REGION

At the jurisdictional level, walk commuting declined in the District of Columbia (DC), but grew in Alexandria (ALX), Arlington (ARL) and Frederick (FRD) Counties.

Walk commuting grew in urban core, and in Montgomery(MTG) and Frederick(FRD) Counties, but fell in other suburban areas, notably Fairfax (FFX) and Loudoun (LDN) Counties, which experienced considerable auto-oriented suburban growth.

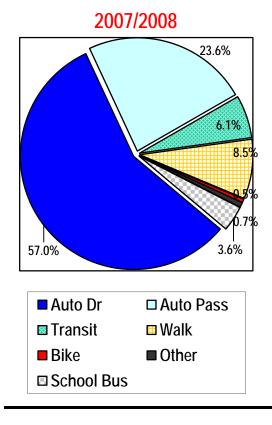
Bike commuting grew in most jurisdictions from a low base, with the biggest increases in the District of Columbia and Alexandria.

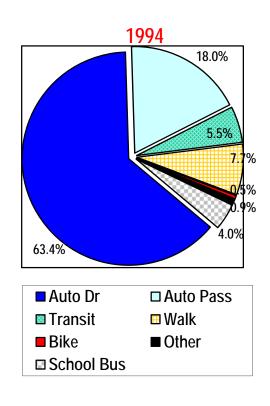
Mode Share Trends for All Trips in the Washington Region

Commute trips, while they get a lot of attention, account for less than 20% of all trips in the Washington region. Nonwork trips have different characteristics than work trips, and overall trends in mode share are different from trends in commuter mode share.

Solo driving declined significantly in the Washington region between 1994 and 2007/8, while auto passenger, transit, and walk modes increased. Bicycling remained stable at the regional level.

Chart 2-4: Mode Share for All Trips





Walk and Bike Mode Share by Jurisdiction

Walking increased in most jurisdictions, with the notable exceptions of declines in Fairfax and Loudoun Counties. The biggest increases were in the urban core and in Montgomery County.

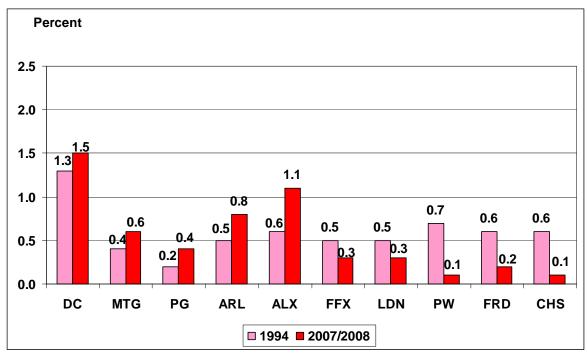
Percent 30 25.8 25 21.9 20 14.8 14.6 15 11.4 10.3 9.0 10 6.8 6.2 5.5 5.2 5.0 4.5 4.3 4.3 5 3.6 **3.1**, 2.3 3.1 0 DC MTG PG ARL **ALX FFX** LDN PW FRD CHS □ 1994 ■ 2007/2008

Chart 2-5: Daily Walk Trip Share by Jurisdiction of Residence (1994 – 2007/2008)

Bike mode share grew in the urban core, but fell steeply from low starting levels in the outer surburban counties. .Growth in bicycling in the core has been offset by an equal decline in the outer suburbs, adding up to zero growth at the metropolitan level. The outer counties have experienced greatly increased auto traffic, much of it on narrow country roads without bike lanes or other accommodation. Fear of traffic is a commonly cited reason in surveys for not riding.

Alexandria had the largest increase at .5% followed by Arlington at .3%.

Chart 2-6: Daily Bike Trip Share by Jurisdiction of Residence (1994 – 2007/2008)



.Daily Trips by Trip Purpose in the Washington Region

Work 16% 3% Work-Related 4% School 8% Soc/Rec 12%

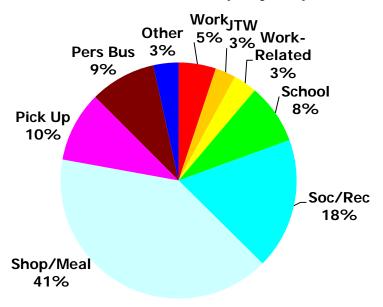
Shop/Meal 30%

11%

Chart 2-7: Daily Trips by Trip Purpose

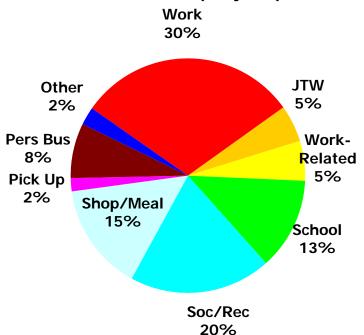
Commute trips account for less than 20% of total daily trips in the Washington region, but have average trip lengths 3 times the distance of other trips for non-work purposes. Commute trips also have the highest median trip length, at 9.3 miles.

Chart 2-8: Walk Trips by Purpose



The vast majority of walking trips are for shopping, meals, recreation, or social visits. Compared to all trips, pedestrians are more likely to be doing a shopping, dining, or social/recreational trip, and less likely to be going to work.

Chart 2-9: Bike Trips by Purpose



Bicyclists are more likely to be going to work or school than either "all trips" or "walk trips", and are less likely to be on shopping, dining, or social/recreational trips. This is the opposite of what one might expect based on median trip lengths. One possible explanation is that most bicyclists now live in walkable

urban areas and have short, but not quite walkable commutes, so they will commute to work by bicycle but are more likely to walk for other purposes. Carrying bulky or heavy items is also difficult on a bicycle, which would discourage use of the bicycle for

shopping. Social events may require dress that is difficult to keep clean on a bicycle.

Alternately, it may be that bicyclists, while few in number, tend to stick with their chosen mode for all types of trips (like car drivers). Walking is more conducive to being an access mode or being used for only some legs of a trip chain.

Trip Lengths by Purpose

Based on trip lengths and number of trips shown below, school, shopping/meal, social/recreational, and personal business trips might be more conducive to being shifted to walk or bike modes than commute trips.

Table 2-1: Trip Length Distribution by Purpose (Distance in Miles, 2007/2008 Household Travel Survey)

Purpose	25%	Median	75%	90%
Work	4.3	9.3	17.1	25.8
To Work after other stop (JTW)	1.5	4.8	12.9	22.1
Work-Related	1.8	5.6	13.4	24.8
School	0.9	2.1	4.7	9.3
Social/Recreational	1.0	2.9	6.7	13.7
Shop/Meal	0.7	2.1	5.4	12.0
Pick-Up	0.8	2.2	5.2	11.2
Personal Business	1.4	3.5	7.5	14.9
Other	0.8	1.5	4.1	7.3

Trip Lengths by Mode

The median auto trip length in the Washington region is only four miles, and 25% of auto trips are 1.5 miles or less. The median auto passenger trip, which includes many child passengers, is only 2.2 miles, with 25% of auto passenger miles being 1.5 miles or less.

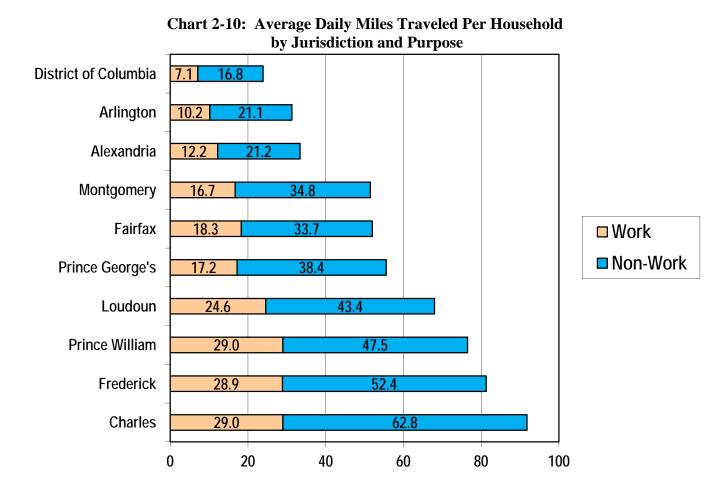
The median walk distance of 0.3 miles is consistent with most estimates of people's willingness to walk. The median bike trip distance of 1.5 miles is brought down in the household travel survey by some short trips that are part of trip chains. Other sources show typical bike trip lengths as being five miles or less.

Table 2-2: Trip Length Distribution by Mode (Distance in Miles)

Mode	25%	Median	75%	90%
Auto Driver	1.5	4.0	9.7	18.7
Auto Passenger	1.2	2.8	6.4	12.9
Transit	3.5	6.9	14.1	23.4
School Bus	1.2	2.3	4.6	8.2
Walk	0.1	0.3	0.5	0.9
Bike	0.8	1.5	4.1	7.3

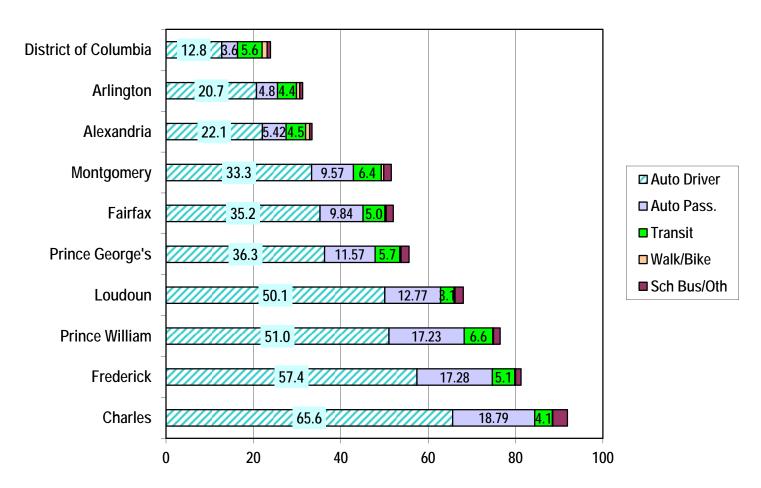
Average Daily Miles Traveled By Jurisdiction

Households in the urban core make slightly fewer trips per day, anbd travel far fewer miles per day than households in the outer jurisdictions. The average DC household makes seven trips per day and travels 23.9 miles, while the average Charles County household makes nine trips per day, and travels 91.8 miles, or nearly four times as far.



Nor are all the long trips in the outer suburbs commute trips; outer suburban households travel three to four times as many non-work miles as DC households. Low-density development patterns in the outer suburbs appear to be generating trip distances which are significantly longer than what most people are willing to walk or bicycle.

Chart 2-11: Average Daily Miles Traveled Per Household by Jurisdiction and Mode



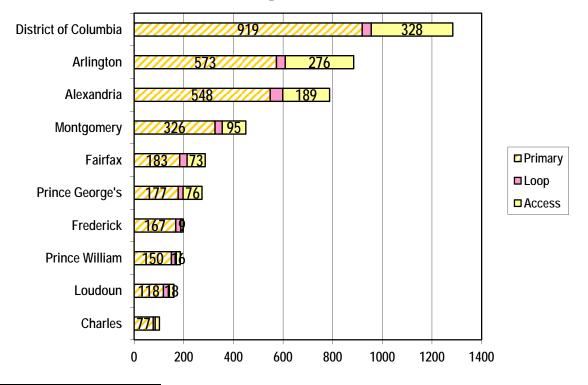
DC residents use an automobile for about half the miles they travel, while more than 90% of outer suburban residents' travel mileage is in a car, with transit and school buses accounting for the rest.

Table 2-3: Total Weekday Walk and Bike Trips by Type in the Washington Region (in Thousands)

Type of Trip6	Walk	Bike
Primary Travel Mode	1,370.0	87.5
"Loop" Trips	123.8	6.9
Metrorail Access	464.3	4.3
Metrorail Egress	469.0	4.0
Total	2,427.1	102.7

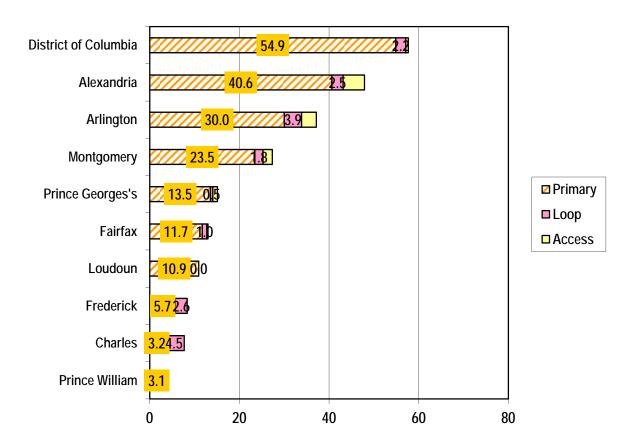
Access to transit accounts for a high proportion of the walk trips in the region, especially in the urban core.

Chart 2-12: Weekday Walk Trips by Jurisdiction of Residence and Type Per 1,000 Population in Households



6 People who use multiple modes to go from an origin to a destination are generally collapsed to one mode for reporting purposes. For instance, walk to metro or bus from metro are both collapsed to metro for a single mode. Loop trips start and end in the same place.

Chart 2-13: Weekday Bike Trips by Jurisdiction of Residence and Type Per 1,000 Population in Households



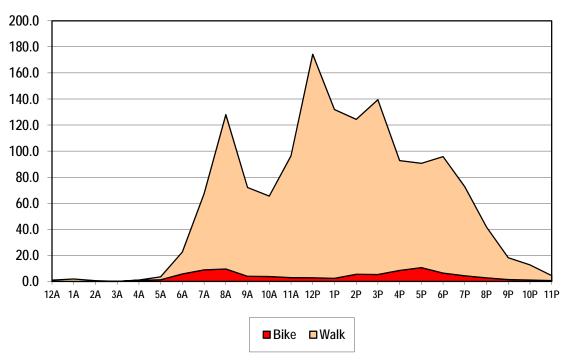
While DC residents are most likely to bicycle, Alexandria and Arlington are most likely to use bicycle to access Metrorail. Charles County has the highest rate of "loop" bicycle trips.

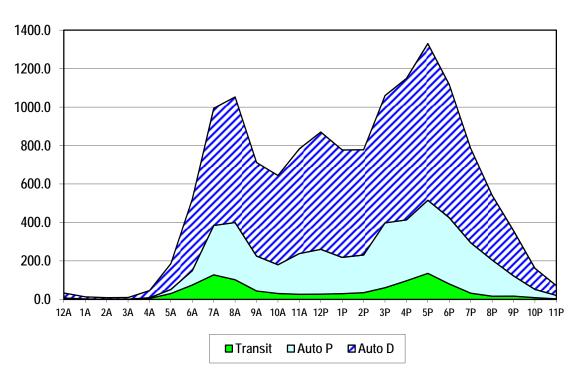
Walking and Bicycling by Time of Day

Walk trips peak at lunch hour, then around 3 p.m. when school lets out, and then during the morning rush hour just before 8 a.m. This is different from auto, auto passenger, and transit modes, which are highest at 5 p.m, and next highest at 8 a.m.

Bike trips are much more evenly distributed throughout the day than other modes. Bike trips peak at the evening and morning rush.

Chart 2-14: Walking and Bicycling by Time of Day





Walking and Bicycling in the Geographically Focused Household Travel Surveys

As a follow-up to the 2008 regional Household Travel Survey, COG/TPB carried out a series of household surveys in geographically focused areas around the Washington region. These case studies addressed a need expressed by local planners, to provide some small area community-level socio-economic data that are no longer available from the Decennial Census

The project sought to analyze daily travel behavior in communities with different densities, physical characteristics and transportation options, including Regional Activity Centers, and eventually track changes in behavior over time. Data on 17 focused areas have been collected so far.

Chart 2-16: **Commute Mode Share** 2010/2011 In Selected Neighborhoods in the Washington Region

		Drive Alone (SOV)	Carpool (HOV)	Transit	Walk	Bike	Other
re	Logan Circle	21%	4%	28%	33%	10.6%	2%
Core	Crystal City	22%	4%	53%	19%	0.7%	2%
er	Largo	70%	11%	13%	3%	2.8%	
Inner	Reston	70%	17%	8%	3%	0.7%	2%
Outer	Woodbridge	76%	13%	8%	1%	0.3%	2%
On	Frederick	78%	12%	4%	4%	1.5%	

Logan Circle had by far the most walking and bicycling of the neighborhoods surveyed. Density, proximity to transit, distance to the central business district, and urban design appear to affect mode choice.

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Bicycling in the Metro Core Cordon Counts

Arlington

COG/TPB periodically takes a count of vehicular traffic, including bicycle traffic but excluding pedestrian traffic, entering downtown D.C. and Arlington, as well as traffic crossing the beltway. Cordon counts are not done in other parts of the region.

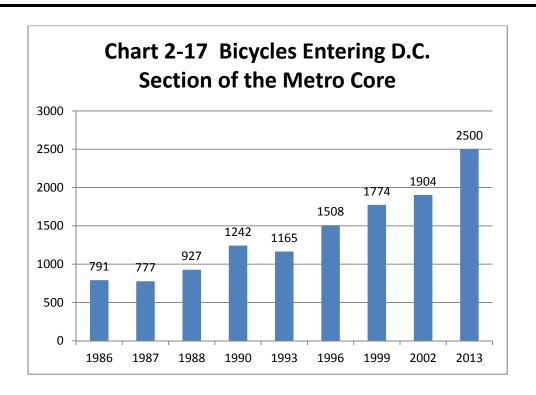
Bicycling is COG/TPB's cordon counts confirm the census data indicating a concentration of bicycling in the neighborhoods close to downtown

Growing D.C., Arlington, and Alexandria.

Rapidly in The most recent counts were done March through June 2013, on Tuesdays, Wednesdays and Thursdays only. Holidays were avoided.

and North Only 5:00 A.M. to 10:00 A.M. inbound traffic was counted.

The counts show that bicycle traffic into the downtown Metro core is growing rapidly, with bicycle traffic into the D.C. section of the Metro core more than tripling from 1986 to 2013. The number of bicyclists entering the Metro core within the District of Columbia between 6:30 a.m. and 9:30 a.m. has grown steadily from 474 in 1986, 1,379 in 2002, to 2,500 in 2013. The number of cyclists crossing the Potomac bridges grew from 317 in 1986 to 525 in 2002, to 811 in 2013. Chart 2-17 shows the number of bicycles entering the D.C. section of the Metro core from 1986 to 2013.



District of Columbia Bicycle Counts

The District of Columbia Department of Transportation has had an annual bicycle count program since 2004. Counts are taken at selected locations in the District Columbia, and on the bridges entering the District of Columbia. Numbers varied a lot by location; bridge locations and some central locations had hundreds of bicyclists per hour, others, in the outer wards, had few or none. Counts are taken at 8 hours at each location, 4 hours in the morning (6 to 10am), and 4 in the evening (3 to 7pm).

DDOT has consistent counts at 19 of the locations dating back to 2004, which are used calculate the growth in *average peak hour* cycling. In 2004, the average peak hour count was 35 cyclists and there were 14 miles of bike lanes. By 2012 these numbers rose to 95 cyclists per hour and 57 miles of bike lanes, a 175% increase in the cycling rate and over 300% increase in the bike lane network.

100.0 90.0 Average Peak Hour/Miles of Bike Lanes 21% 80.0 70.0 60.0 11% 2% 50.0 40.0 20% 30.0 32% 20.0 10.0 2004 2005 2006 2007 2008 2009 2010 2011 2012 Years Average Peak Hour:

Chart 2-18: Average Peak Hour Bike Counts/Miles of Bike Lanes in DC

The top (red) line shows peak hour bike counts, the bottom shows bike lane mileage.7

Arlington Automated Counters

Manual counts have a number of disadvantages, notably cost, an inherently limited time window, unrepresentative counts due to weather events, and a lack of data on cyclists' and pedestrians' off-peak presence. There is strong interest among planners in automated bicycle and pedestrian counters.

Arlington County has by far the largest automated counting program in the region. Arlington's first two automated bike and pedestrian counters were installed in the fall and Spring of 2009-10 on the Custis and Four Mile Run Trails. They use a combination of in-ground inductive loops and passive infrared detectors to collect data on trail volumes and travel direction. The loops detect metal, which distinguishes a bicyclist from a pedestrian.

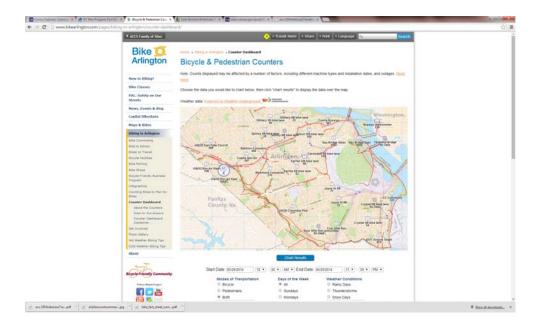
⁷ http://ddotdish.com/2012/12/07/2012-dc-bicycle-count-summary/

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As of April 2014, the County had sixteen permanently installed bicycle and pedestrian counters on shared-use trails, ten permanent bicycle-only counters in on-street bike lanes, and three mobile counters typically used for short term sidewalk counts. Mobile counters are used to estimate facility needs and guide negotiations with developers.

The data show that people continue to ride in bad weather, but are deterred by snow and ice on the trails, which are not plowed. Weekday bike traffic peaks during the morning and evening rush hours, while week-end traffic peaks mid-day.

The Arlington count data has been posted at <u>bikearlington.com/pages/biking-in-arlington/counter-dashboard/</u>. It can be queried for pedestrians and/or bicyclists by time period, day of the week, temperature, snow, and a number of other variables.



Demographic Characteristics of Pedestrians and Bicyclists

Ethnicity, geography, income, age, and car ownership affect the decision to walk or bicycle to work. The best recent source of this demographic information on pedestrian and bicycle commuters in the Washington region is the 2013 Commuter Connections *State of the Commute Survey*. However, the *State of the Commute Survey* and the US Census both measure work trips only, and the conclusions in terms of both the prevalence and distribution of walking and bicycling can be quite different for all trips than for work trips. Nationally, the 2009 *National Household Travel Survey* is the best source of demographic data on pedestrians and bicyclists for all types of trips.

All data in the following tables comes from the 2013 *State of the Commute Survey* unless otherwise noted. Walking and bicycling were not calculated separately in the *State of the*

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Commute Survey for the subcategories of ethnicity, income, age, and state of residence due to sample size issues. All mode shares are for primary commute mode, 3+ days per week. Walk/bike mode share varies by household income, state of residence, number of vehicles in the household, ethnicity, and age.

The 2013 *State of the Commute* shows that walking and bicycling declined from 2.4% in 2001 to 2.2% in 2013.8 However, that change is well within the survey's margin of error, which is 1.2%. *State of the Commute* shows lower mode share for walking and bicycling than does the Census, a discrepancy probably explained by differing methodologies.

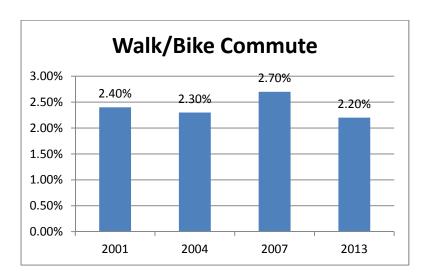


Chart 2-19: Walk/Bike Commute Mode Share

A. Household Income

Chart 2-4 shows walking and bicycling commute mode share by income. Bicycling and walking are slightly more common at the top and the bottom of the income distribution than in the middle. This is roughly consistent with the national data.

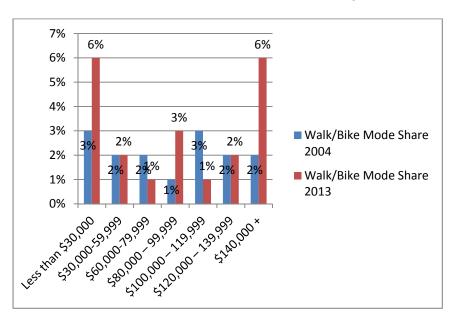


Chart 2-20: Walk/Bike Mode Share by Income

B. Ethnicity

Walk/bike commute mode varies by ethnicity. Whites have the highest walk/bike mode share at 3%, African-Americans the lowest at 1%. Hispanic walk/bike mode share has apparently declined.

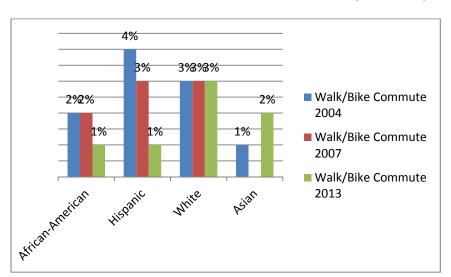


Chart 2-21: Walk/Bike Commute Mode Share by Ethnicity

C. Age

Chart 2-6 shows walk/bike commute mode share by age. People under 35 and over 65 are more likely to walk or bike to work than the middle-aged. Nationally the elderly have a lower than average mode share for bicycling, so we can presume that most of the elderly are walking rather than bicycling.

Age

55+

45-54

35-44

25-34

>25

0.00% 1.00% 2.00% 3.00% 4.00% 5.00% 6.00%

Chart 2-22: Walk/Bike Commute Mode Share by

D. Motor Vehicles per Household

Vehicles per household is another strong predictor of mode share, as shown in Table 2-4. People in households without any vehicles are much more likely to walk or bike to work than households that own one, while those living in households with one vehicle are more likely to walk or bicycle to work than those owning more than one vehicle. Non-work trips also shift radically away from walking in households that have at least one car.

Table 2-4
Walk/Bike Mode Share by Number of Vehicles

Number of	0	1	2	3+
Vehicles in the				
Household				

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Walk/Bike Commute Mode Share 2004	11.4%	3.7%	1.2%	2%
Walk/Bike Commute Mode Share 2007	12.4%	4.0%	1.2%	2%
Walk/Bike Commute Mode Share 2013	16%	3%	2%	1%

Trip Distances

Trip distance is of interest when gauging the potential for increasing bicycling (or walking). Distance was the second most frequently cited reason, by 25% of respondents, to COG/TPB's 2013 Bike to Work Day survey to explain why they were *not* riding to work. Reasons one and three were "Don't ride in cold/winter" (44%), and "No safe route" (21%).

The 2013 SOC survey asked respondents about the length of their commutes. Commute mileage is shown in Table 2-5 below.

Table 2-5: Commute Distance

(n = 5,605)

Distance	Less than 5	5 to 9	10 to 14 miles	15 to 19	20+ miles
	miles	miles		miles	
Percentage	17%	21%	17%	12%	33%

17% of commutes in the Washington region are less than five miles and therefore potentially bikeable on a daily basis. The average commute distance for Bike to Work Day survey respondents was 9.2 miles one-way.

Another potential source of walk or bike trips is the trip to transit, park and ride lot, or vanpool and carpool pick-up point. As shown in Table 2-6, most access trips to alternative mode meetings points are short. Respondents travel an average of 2.9 miles to the meeting point. Six in ten (61%) respondents travel one mile or less; these are primarily bus and Metrorail riders who walk to the stop or station. About one-quarter (23%) of respondents said they travel between two and five miles. Only 16% of respondents travel more than five miles. Based on the distances being traveled, some of the 29% of respondents who are currently driving to their alternative mode meeting point might be able to walk or bicycle instead.

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Table 2-6
<u>Distance Traveled from Home to Alternative Mode Meeting Point</u>

(n=1,230)

Distance	2013
1 mile or less	61%
2 to 5miles	23%
6 to 10 miles	11%
11 miles or more	5%

Access Mode to Alternative Mode	2004	2007	2013
Walk	39%	35%	34%
Picked up at home	15%	12%	16%
Drive to a central location (e.g., Park & Ride)	18%	18%	19%
Drive alone to driver's/passenger's home	11%	10%	10%
Bus/transit	9%	12%	13%
I am the carpool/vanpool driver	5%	10%	6%
Dropped off/another CP/VP	1%	1%	2%
Other*	1%	2%	

Walking and Bicycling to Transit

Walking is the dominant mode of access to transit. The census walk to work mode share does not include walk trips to transit, since a walk trip to transit is counted as a transit trip rather than as a walk trip. In areas with high transit ridership the census walk to work numbers significantly undercount the amount of walking to or from work.

In 2012 WMATA surveyed passengers at all 86 of its Metrorail stations. The primary purpose of the survey was to estimate the percentage of total ridership residing in each jurisdiction. Passengers *entering* each Metro station were queried throughout the entire day, so the "mode of access" number for any given Metro station includes both people on their way to work or some other destination, and those on their way home. "Mode of

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Access" is the mode people use to get to the station, not to leave it.

Appendix E shows mode of access to Metrorail by station.⁹

In 2012 62.2% of all Metrorail passengers walked to the station, essentially the same as 2007. 0.7% arrived by bicycle, an increase from the 0.31% who arrived by bicycle in 2002. However the AM peak results, which are the best measure of how people access the system (as opposed to any particular station), show higher auto mode and bus mode of access. Pedestrian mode of access for the AM peak is only 37%, up from 33.3% in 2007 and bike access is 1%, up from 0.7% in 2007.

Fewer People are Driving to Metrorail, and more are Walking and Biking

WMATA is making significant progress on increasing walk mode and decreasing drive mode of access to the system. WMATA is also on track to achieve its 2020 goal of 2% bike access to Metrorail.

Table 2-8: Mode of Access to Metrorail	Percent of Daily Total - 2012	Percent of Daily Total – 2007	AM Peak - 2012	AM Peak - 2007
Bus	15.3	15.6	21.9	22.2
Auto Driver	12.6	13.7	25.6	29.3
Auto Passenger (drop off)	4.5	5.5	7.8	9.3
Rode with someone who Parked	0.5	0.6	0.9	1
Bike	0.7	0.5	1.0	0.7
Walk	62.2	62.1	37.3	33.3
Commuter Rail	1.5	1.7	3.5	3.8
Shuttle	2.5	n/a	2.0	n/a
Taxi	0.2	0.2	0.1	0.2

^{9 2012} WMATA Rail Passenger Survey, from the table "Origin Station by Mode of Access".

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CHAPTER 2: BICYCLING AND WALKING IN THE WASHINGTON REGION

Walking to Metrorail

In 2012 62.2% of all Metrorail passengers walked to the station, essentially the same as in 2007. 0.7% arrived by bicycle, an increase from the 0.31% who arrived by bicycle in 2002.

Pedestrian mode of access for the AM peak is 37%, up from 33.3% in 2007 and bike access is 1%, up from 0.7% in 2007. The AM peak mode of access is the best measure of how people get into the system, as opposed to any given station.

Stations with a very high share of pedestrians tend to be located in major employment centers, with people walking from work to the station, rather than from home to the station. However, largely residential stations such as Cleveland Park, Eastern Market, and Columbia Heights have a high pedestrian mode share. Dense, mixed-use areas such as Bethesda, Foggy Bottom, Crystal City, Pentagon City, Friendship Heights, Van Ness, Dupont Circle, Shaw, and the Rosslyn-Ballston Corridor have high percentages of pedestrian access as well.

Bicycling to Metrorail

The bicycle mode of access to Metrorail ranged from 3.6% at East Falls Church to zero at 16 stations. Stations with more bicycling tended to be located in the western portion of the region, have access to a major shared-use path, be near a major University, and/or be located in an area with a bicycle-friendly street grid. Stations with no bicycling are either in dense urban employment centers with no bicycle parking, or are located in the eastern portion of the region.

62% of
Metrorail
Passengers
Walk to the
Station

Of the sixteen stations located east of the Anacostia River in 2013, ten had zero bicycle access. All stations in Fairfax and Montgomery Counties had some bicycle use. The WMATA Rail Passenger Survey confirms what the census tells us about the distribution of walking and bicycling in the region, with walking and bicycling heavily concentrated in the Metro core and at certain inner suburban stations.

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CHAPTER 2: BICYCLING AND WALKING IN THE WASHINGTON REGION

Outlook

Walking and bicycling taken together are significant travel modes in the Washington region, especially for non-work trips, and for trips to transit. Walking is the larger mode, and is growing slowly. Cycling is less common, but is growing rapidly.

Exurban and outer suburban areas have developed in ways that often make utilitarian walking and bicycling difficult and dangerous, with long distances, lack of direct routes, heavy, fast automobile traffic, and incomplete facilities for walking or bicycling. They typically have low levels of walking and bicycling.

The story in the urban core is different. In the District of Columbia, Arlington, Alexandria, and portions of Montgomery County and Frederick County, walking and bicycling are growing rapidly.

Rapid Growth in the Urban Core and Regional Activity Centers favors Walking and Bicycling

Since 2010 the urban core jurisdictions have captured a larger share of the region's growth, and are expanding their share of the region's population, at trend which if it continues will help increase walking and bicycling. The urban core is now growing faster, in absolute and in percentage terms, than the exurban jurisdictions.

It is likely that urban core and inner suburban communities will develop over the next thirty years in ways that will be conducive to walking and bicycling. Many inner suburban activity centers have already reached critical levels of traffic congestion, and regional projections call for rapid employment growth in these same areas. Seventy-two percent of regional employment growth to 2030 is planned to take place within the current regional activity clusters, as well as fifty-four percent of household growth. Under "Complete Streets" policies new development should accommodate pedestrians and bicyclists.

The most prominent example of this trend is the planned transformation of Tysons Corner, a classic auto-oriented commercial center, into a walkable downtown built around Metrorail.

10 Metropolitan Washington Council of Governments, *Growth Trends to 2030: Cooperative Forecasting in the Washington Region*, October, 2005. Pp. 2, 14-15.

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If growth occurs in ways that are consistent with the TPB *Vision*, *Regional Transportation Priorities Plan*, and *Region Forward 2050*, creating activity centers that mix jobs, housing and services in a walkable environment, we can expect rapid growth in walking and bicycling in the inner suburbs as well as in the core.

Chapter 3 Pedestrian and Bicycle Safety

CHAPTER 3: PEDESTRIAN AND BICYCLE SAFETY

Overview

Pedestrian and bicycle fatalities and injuries are a serious problem in the Washington region. More than one quarter of all traffic fatalities in the region are pedestrian or cyclist. Every jurisdiction has a significant pedestrian safety problem. Pedestrian and bicyclist fatalities account for at least 7% of total traffic fatalities in every major jurisdiction.

While all areas and demographic groups are affected, some groups are more affected than others. Urban areas and inner suburban areas are more heavily affected than the outer suburbs, Hispanics and African-Americans more than Whites and Asians.

Adjusted for their high walk and bike mode shares, the urban core jurisdictions are the safest places to walk or bicycle.

This section will describe the scope of the pedestrian and bicycle safety problem, its distribution across the region by jurisdiction and ethnicity, and the legal rights and responsibilities of drivers, pedestrians, and bicyclists. It will also discuss the region's efforts to deal with the problem through the "Street Smart" pedestrian and bicycle safety campaign.

Pedestrian Fatalities in the United States

Pedestrian safety is a major problem nationally and in the metropolitan Washington region. Of the 33,561 traffic fatalities in the United States in 2012, 4,743, or 14%, were pedestrians.

Pedestrian
Fatalities are
Increasing
Nationally

Pedestrian fatalities have been increasing nationally since 2010, while other traffic fatalities have been falling. More pedestrians died in 2012 than in 2008, causing the proportion of pedestrian fatalities to jump from 11% to 14% of the total.

Table 3-1:
Total Fatalities and Pedestrian Fatalities in US Traffic Crashes, 2003-2012

Year	Total Fatalities	Pedestrian	Percent	of
		Fatalities	Fatalities	
2003	42884	4774	11%	
2004	42836	4675	11%	
2005	43510	4892	11%	
2006	42708	4795	11%	
2007	41259	4699	11%	
2008	37423	4414	12%	
2009	33883	4109	12%	

2010	32999	4302	13%
2011	32749	4457	14%
2012	33561	4743	14%

Pedestrian Fatalities by Age and Ethnicity in the United States

American Indians, Blacks, Hispanics, and people over the age of 65 are over-represented among pedestrian fatalities relative to their share of the population.

over age 75 are at high risk

Pedestrians

People over the age of 75 are at high risk; with six percent of the U.S. population, but more than 12 percent of pedestrian fatalities.

Adjusted for exposure, pedestrians over the age of 65 have a very high risk of dying, over six times as high as children under age 16. For pedestrians over age 75 the risk is even higher, about eight times the risk for children.

The number of children killed as pedestrians has declined dramatically in recent decades, from more than 1,000 fatalities in 1984 to 319 in 2012. This decline is often attributed to a general drop in physical activity. However, fatal pedestrian injury remains a leading cause

Figure 3-1: Washington-Arlington-

of death for those 15 years and younger.²

Figure 3-1: Washington-Arlington-Alexandria Metropolitan Statistical Area

By ethnicity, American Indians have the highest exposure-adjusted risk, followed by African-Americans. Asians have few fatalities relative to their share of the population, and also lower than average exposure-adjusted risk. Ethnic risk varies significantly by State, so jurisdictions should not rely solely on national numbers when planning safety programs.

Pedestrian Fatalities in the Washington MSA

Urban areas have higher pedestrian fatality rates than rural areas. The greater Washington region ranks 24th out of the 51 largest Metropolitan Statistical Areas in terms of pedestrian deaths per capita, with pedestrians accounting for 20% of all

West Virginia

Virginia

Viscryland

Solumbia

² Ibid, p. 20.

3-2

¹ Dangerous by Design 2014, Smart Growth America, p. 13.

traffic fatalties.ⁱ³

Fatalities in the TPB Member Jurisdictions

For the TPB member jurisdictions, pedestrians and bicyclists accounted for over a quarter of those killed on the roads in 2013. Over 2,600 pedestrians and bicyclists are injured every year, and 72 are killed. On average, there are 200 motorized fatalities, 68 bicyclist fatalities, and five bicyclist fatalities per year in the Washington region.⁴

Pedestrians and Bicyclists account for 27% of the region's Traffic Fatalities

Chart 3-1 shows the yearly variations in traffic fatalities from 1999-2013. Motorized traffic fatalities have declined sharply since 2006, while pedestrian and bicyclist fatalities have declined only slightly, from 87 to 73. The *proportion* of total fatalities that are pedestrian or bicyclist has risen from 21% to 27%. Chart 3-2 shows pedestrian fatalities only.

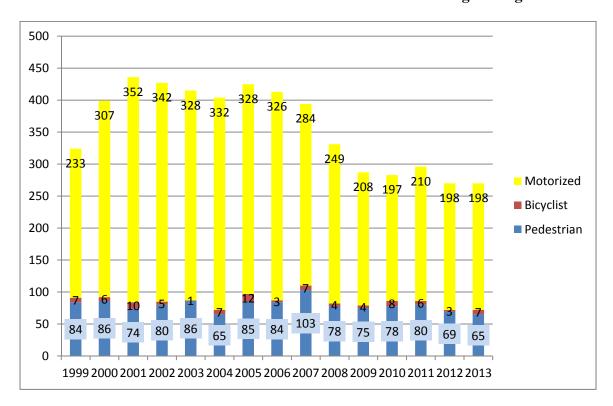


Chart 3-1: Traffic Fatalities in the Washington Region

³ Dangerous by Design 2014, Smart Growth America, p. 17.

⁴ Regional totals compiled from data provided by the District Department of Transportation, the Maryland Office of Highway Safety, and the Virginia Department of Motor Vehicles.

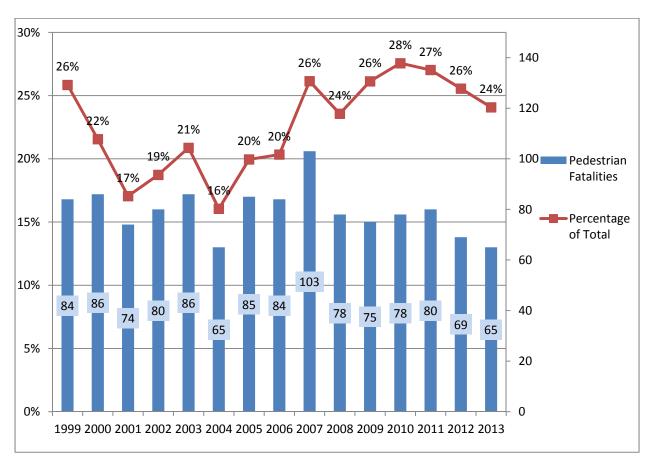


Chart 3-2: Pedestrian Fatalities in the Washington Region

Pedestrian and Bicyclist Fatalities by Jurisdiction

The region is often divided into an urban core, consisting of Arlington, Alexandria and the District of Columbia, the inner suburbs of Fairfax, Montgomery, and Prince George's Counties, and the outer suburbs, such as Frederick, Charles, Loudoun, and Prince William Counties. The independent cities of Manassas, Manassas Park, the City of Falls Church, and the City of Fairfax are shown as "Other Northern Virginia".⁵

Most of the walking and bicycling occurs in the core, and most of the deaths and injuries occur there as well. Even calculated as a rate per 100,000 population as in Chart 3-3, most of the outer jurisdictions have below-average pedestrian and bicyclist fatality rates.

⁵ Towns in Northern Virginia are not included in the surrounding Counties; their traffic fatalities are tallied separately.

4.00 18% 3.64 16% 3.50 16% 14% 2.82 3.00 Fatalities Per 12% 100,000 2.50 10% Population 1.91 2.00 1.53 1.42 8% 1.50 1.50 1.20 1.15 1.14 1.07 6% 1.00 0.69 4% 30%2.80%2.1

3. Ales County County County County Frederick County Prince George's County Prince George's County Prince George Scotter 5.10% 4.30% 0.50 2% 2.80%2.80%2.80% ■ WalkBikeMode other Northern Wielinia & Arlington Country City of Alexandria 0.00 Prince Willam Country 0% Charles Country Fairfat Country .4 Loudoun County Share

Chart 3-3: Average Annual Pedestrian and Bicyclist Fatalities, 2011-2013

Corrected for exposure, walking and bicycling appear to be safer in the urban core areas with numerous pedestrians than in the inner or outer suburbs. However, some suburban areas appear to be far safer for pedestrians than others.

Table 3-2: Pedestrian and Bicyclist Fatalities by Jurisdiction

Jurisdiction	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average
District of Columbia	18	20	15	9	18	14	19	17	27	15	16	16	13	8	14	16
Charles County	6	3	2	5	3	1	6	2	6	1	3	3	9	4	3	4
Frederick County	6	4	0	2	4	2	2	4	1	0	1	3	0	4	5	3
Montgomery County	20	17	11	16	12	15	11	15	17	16	12	15	10	8	13	14
Prince George's County	19	16	30	28	30	19	35	19	29	39	23	23	32	24	18	26
Arlington County	2	5	4	2	3	2	3	1	1	1	4	1	5	4	1	3
City of Alexandria	3	2	2	3	2	1	2	1	2	0	0	2	2	2	2	2
Fairfax County	13	20	18	12	7	16	11	20	17	4	11	13	10	7	8	12
City of Fairfax	0	0	0	1	1	0	1	0	1	0	2	0	1	1	0	1
City of Falls Church	0	1	0	1	0	0	0	0	0	0	0	2	0	0	0	0
Loudoun County	1	1	1	3	3	2	3	1	3	0	1	2	3	3	1	2
City of Manassas	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
City of Manassas Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prince William County	2	3	1	3	4	0	4	7	5	6	6	6	1	7	7	4
Total Washington	91	92	84	85	87	72	97	87	110	82	79	86	86	72	72	85

Injuries

Pedestrian injuries exact a steep toll as well. Of the approximately 3000 persons hit by motor vehicles every year in the region, 90% suffer some sort of injury. Approximately 500 injured pedestrians every year require more than 24 hours of hospitalization, which at an average cost of about \$25,000 leads to more than \$12 million in hospitalization

charges alone.⁶ This is probably only a fraction of the total financial costs, which would include costs for those hospitalized for less than 24 hours, further medical care, disability, and lost time at work. Many of the people being hit can ill afford such a setback.

Motorized injuries, shown in Chart 3-4, have decreased substantially in the last decade. Unfortunately, pedestrian injuries have declined far more slowly, only 10% from 2001 to 2012, while bicyclist injuries increased, from 695 to 902. Bike injuries have been rising sharply since 2010. The increase has been driven largely by the increase in bicycling in the District of Columbia. Pedestrian and bicyclist trend lines are broken out in Charts 3-5 and 3-7.

While the absolute numbers have remained relatively stable, the proportion of traffic injuries that are pedestrian or bicyclist rose between 2001 and 2012, from 5.5% to 7.6%.

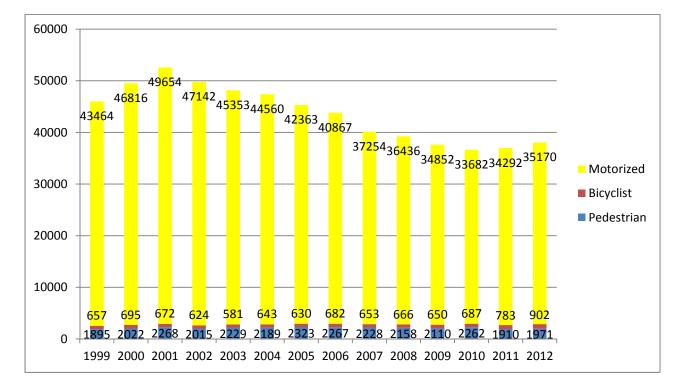


Chart 3-4: Traffic Injuries in the Washington Region, 1999-2012

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⁶ Northern Virginia Injury Prevention Prevention Center, INOVA Regional Trauma Center (2005). *Pedestrian Injury in the Washington, D.C. Metropolitan Region.* Page 37.

Chart 3-5: Pedestrian Injuries in the Washington Region, 1999-2012

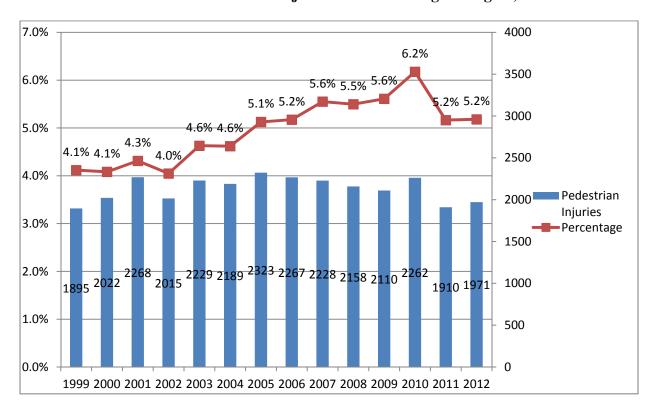
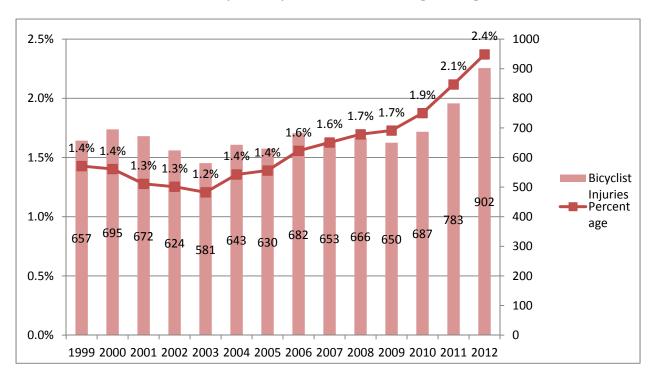


Chart 3-6: Bicyclist Injuries in the Washington Region, 1999-2012



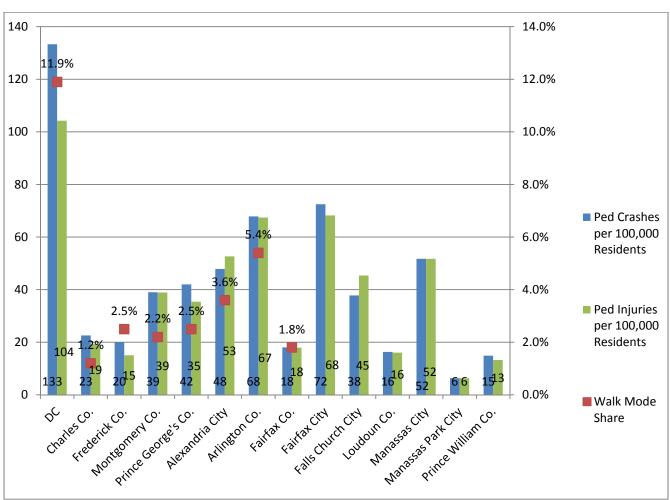
Pedestrian and Bicycle Injuries by Jurisdiction

As seen in Charts 3-7 and 3-8, pedestrian and bicyclist crashes and injuries per 100,000 population generally track mode share as measured by the US census walk to work numbers. The City of Alexandria has few bicyclist injuries but a high bike mode share.

Bike Injuries are Rising Rapidly

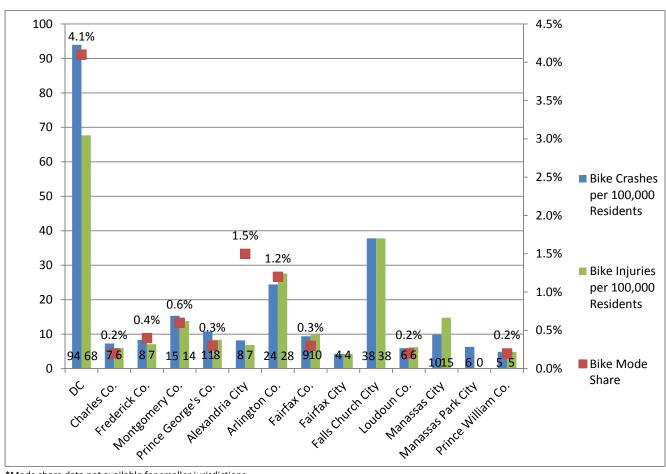
And the District of Columbia has a significant number of pedestrian and bicyclist crashes that do not result in injuries.

Chart 3-7: 2012 Pedestrian Crashes and Injuries per 100,000 Population in the Washington Region*



^{*}Mode share data not available for smaller jurisdictions

Chart 3-8: 2012 Bicyclist Crashes and Injuries per 100,000 Population in the Washington Region*



^{*}Mode share data not available for smaller jurisdictions

Table 3-3: Pedestrian and Bicyclist Injuries by Jurisdiction

Jurisdiction	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Avg
District of Columbia	718	851	935	779	844	962	998	953	850	776	833	1074	1122	1283	881
Charles County	31	34	60	35	44	53	57	34	50	43	40	49	37	38	44
Frederick County	61	71	62	72	71	55	55	52	59	67	83	68	40	53	65
Montgomery County	482	499	514	477	539	524	532	560	641	632	618	617	401	530	553
Prince George's County	444	469	517	486	505	456	510	479	540	558	493	457	375	386	493
Arlington County	170	185	180	160	154	167	140	178	151	145	137	151	184	210	160
City of Alexandria	107	78	105	90	81	67	104	81	87	75	47	85	68	87	84
Fairfax County	376	379	372	368	388	373	374	402	361	402	341	270	270	311	367
City of Fairfax	21	20	22	22	30	22	16	25	18	13	15	14	20	17	20
City of Falls Church	11	14	13	13	6	9	9	5	4	10	8	4	5	11	9
Loudoun County	42	36	52	47	52	48	49	52	45	48	40	71	93	75	49
City of Manassas	11	13	22	15	19	21	28	20	17	9	21	22	13	27	18
City of Manassas Park	2	7	8	6	2	3	2	5	3	0	2	0	0	1	3
Prince William County	76	61	78	69	75	72	79	103	55	46	82	67	65	78	72
Total	2552	2717	2940	2639	2810	2832	2953	2949	2881	2824	2760	2949	2693	3107	2817

Conclusions

- The decline in overall traffic deaths and injuries over the past ten years has slowed.
- Pedestrian fatalities have fallen slightly, but have increased as a percentage of the total.
- Bicyclist injuries have increased both in absolute numbers and as a percentage of total. This increase has been driven largely by an increase in bicyclist injuries in the District of Columbia
- Pedestrian and bicyclist death rates vary widely between jurisdictions, and differences which do not correlate well with differences in exposure, as measured by US census walk and bike to work rates.
- Pedestrian and bicyclist injury rates track exposure better than fatalities.

Safety in Numbers

In the Washington region the jurisdictions with the most pedestrians are the safest places to walk. The urban core has good pedestrian facilities and low traffic speeds, and drivers expect to see pedestrians and bicyclists. The pedestrian crash rate tends to fall as the number of pedestrians at a location increases. Doubling the number of pedestrians at an intersection already crowded with pedestrians will usually result in little, if any, increase in pedestrian

Pedestrians find some Safety in Numbers

crashes. Similar effects have been noted for cyclists, with cities having the highest rates of bicycling also having the lowest crash rate per bicycle trip.8 High levels of walking and bicycling are associated, in advanced industrialized nations, with very low autoinvolved crash rates.⁹ The Netherlands has half the overall traffic fatality rate of the United States, despite a very high walk and bike mode share.

Experience of other nations shows that it is possible to reduce pedestrian and bicycle fatalities while increasing walking and bicycling. On the other hand, it is not possible to eliminate pedestrian fatalities by eliminating pedestrian facilities and discouraging walking; even in our least pedestrian-oriented jurisdictions, pedestrian fatalities account for at least 7% of total traffic fatalities. For the foreseeable future there will be people without cars, and there will always be some trips that will be made on foot.

Numbers alone do not guarantee safety, however. The region's most dangerous areas for walking have high-speed roads and poor pedestrian facilities, together with people who

⁷ Raford, Noah. Space Syntax: An Innovative Pedestrian Volume Modeling Tool for Pedestrian Safety. Presented at the 2004 TRB Conference, January, 2004. (TRB2004-000977) p. 8.

⁸ Denmark Ministry of Transport (1994) Safety of Cyclists in Urban Areas: Danish Experiences.

⁹ Pucher, John. "Making Walking and Bicycling Safer: Lessons from Europe," *Transportation Quarterly*, Summer 2000.

lack automobiles. Lower vehicle speeds in the urban core are a likely cause of the lower fatality rates there.

Differences in the pedestrian injury rates between the suburban jurisdictions are much smaller than differences in fatality rates.

The District of Columbia has seen rising bicycle crash rates as its rate of bicycling has increased, though the crash rate has risen more slowly than bicycling, indicating that riding is getting safer.

Walking is a necessary part of <u>human life and health</u>, and it is essential to the mobility of those who cannot drive. Through "Complete Streets" and other policies the region is striving to make walking safer everywhere.

Ethnicity and Hospitalization Rates in the Washington Region

There are large differences in the rates of hospitalization for pedestrian injury by ethnicity. The rate of hospitalization per 100,000 population for pedestrian injuries for Hispanics is nearly three times as high as that for Whites, and twice that for African-Americans. ¹⁰

Geographically, the highest rates of hospitalization are found in the area east of the Anacostia river in the District of Columbia, most of Prince George's County inside the beltway, the Columbia Pike corridor in Arlington, the area between Fairfax City and Falls Church in Fairfax County, and Dumfries in Prince William County. 11

Hispanics are three times as likely as Whites to be hospitalized for a Pedestrian Injury

Factors contributing to Pedestrian and Bicvcle Crashes

Data from the Washington region indicate that drivers are about as likely as pedestrians to be at fault in a crash. Drivers were cited for a violation in about half the crashes. Males aged 25 to 34 are most likely to hit pedestrians, while pedestrians who are hit are most likely to be males aged 25 to 44. Pedestrian crashes are most likely to occur at the evening rush hour, 5-7 p.m., with 6-9 a.m. the second most likely. Alcohol is a serious problem for both pedestrians and motorists, affecting approximately one third of crashes.

¹² INOVA study, page 23.

¹⁰ Northern Virginia Injury Prevention Prevention Center, INOVA Regional Trauma Center (2005). *Pedestrian Injury in the Washington, D.C. Metropolitan Region.* Page 35.

¹¹ Ibid, pp. 40-42.

¹³ Ibid, page 12.

Legal Status of Bicyclists

State traffic codes allow bicyclists to travel on most roadways with the general rights and responsibilities of drivers of vehicles. Bicyclists must ride in the same direction as traffic, use lights after dark, and yield to pedestrians. Like operators of other slow-moving vehicles, cyclists--when traveling at less than the normal speed of other traffic--should generally ride as far to the right as safely practicable, except when preparing to turn left, passing, avoiding obstructions, mandatory turn lanes or unsafe pavement conditions, or when the travel lane is not wide enough to safely split with a motor vehicle. Cyclists may use the full travel lane if the lane is too narrow to allow them to ride to the right of motor vehicles safely. Cyclists may usually ride on roadway shoulders, paths and sidewalks, except where prohibited. Cyclists have the rights and duties of pedestrians when traveling on paths, sidewalks, and crosswalks, however, they must yield to pedestrians in those locations. Rules relating to bicycles are summarized on page E-4 of the Metropolitan Washington Council of Governments' *Bike to Work Guide*, on the <u>Washington Area Bicyclist Association</u> web site, and in Table 3-1 below. Laws for motorist, pedestrians and bicyclists are also listed on http://bestreetsmart.net.

Table 3-4: Selected Bicycle Rules in the Washington Area¹⁵

h	District of Columbia	Maryland	Virginia	
General	Bicyclists traveling on roadway	vs have all the general rights and	duties of drivers of vehicles.	
Where to Ride & Lane	Ride with the flow of traffic on the right half of the roadway.	Ride with the flow of traffic as far right as practicable and safe.	Ride as close as safely practicable to the right curb or edge of the roadway.	

¹⁴ See <u>www.commuterconnections.org</u>

¹⁵ See http://www.waba.org/resources/laws.php

Use	Operate a bicycle in a safe and non-hazardous manner so as not to endanger himself or herself or any other person.	Riding to the right not required when traveling at the speed of traffic, operating on a one-way street, passing, preparing for a left turn, avoiding hazards, avoiding a mandatory turn lane or traveling in a lane too narrow to share.	Full lane use allowed when traveling at the normal speed of traffic, passing, preparing for a turn, avoiding hazards, traveling in a lane too narrow to share and avoiding a mandatory turn lane.		
Passing Cars	Allowed to pass on left or right, in the same lane or changing lanes, or pass off road.	Exercise due care when passing.	Same as DC.		
Cars passing bikes	A person driving a motor vehicle shall exercise due care by leaving a safe distance, but in no case less than 3 feet, when overtaking and passing a bicycle.	The driver of a vehicle overtaking another vehicle, including a bicycle, which is going in the same direction, shall pass to the left of the overtaken vehicle at a safe distanceDrive must not pass any closer than three feet from the bicycle.	Motorists must "pass at a reasonable speed at least two feet to the left of the overtaken bicycle".		
Dooring	No person shall open any door of a vehicle unless it is safe to do so and can be done without interfering with moving traffic.	Same as DC.	No dooring law		
Bicycling Two Abreast	Allowed when it does not impede traffic. May not ride more than two abreast.				
Mandatory Use of Bike Lanes	Not required.	Use of bike lanes required where available except when passing, preparing for a turn or avoiding hazards. Not required.			
Cycling on		Yield right of way to pedestrians.			
Sidewalks	Prohibited in the central business district (bounded by	Allowed by local ordinance in unincorporated MoCo,	Allowed except where prohibited by local ordinance.		

	Massachusetts Ave. NW, 2nd St NE-SE, D St SE/SW, 14th St NW, Constitution Ave and 23rd St NW). Allowed where posted in this area, and prohibited where posted outside this area. View Map>>	Rockville, designated sections in PG Co, other towns; prohibited in Gaithersburg, Kensington, Poolesville, Laytonsville, Washington Grove, most of PG Co. When riding on a sidewalk, where such riding is permitted, or a bike path, a bicyclist may ride in a crosswalk to continue on their route. Motorists are required to yield right of way to a bicyclist operating lawfully in a crosswalk at a signalized intersection.	Must give audible signal before passing pedestrian.
Audible Warning Devices	Bell or other device required, sirens prohibited.	Bells allowed, sirens and whistles prohibited.	Must give audible signal before passing pedestrians.
Helmets	Required for any operator or passenger under 16 years of age.	Same as DC.	Required by local ordinance for any operator or passenger 14 years of age or younger inAlexandria, Arlington Co., Fairfax Co. Falls Church, Vienna and other jurisdictions.
Lights at Night	Front white light and rear red reflector (or rear red light) required when dark, may be attached to operator.	Front white light and rear red reflector (or rear red light) required when dark.	Front white light and rear red reflector required when dark; extra rear red light allowed-required on roads 35 mph and up, may be attached to operator

No person shall open a door of a vehicle on the side where traffic is approaching unless it can be done without interfering with moving traffic or pedestrians and with safety to himself or herself and passengers.	
A person may not open the door of any motor vehicle with intent to strike, injure, or interfere with any person riding a bicycle, an EPAMD, or a motor scooter. Don't open door into traffic.	of a vehicle on the side where traffic is approaching unless it can be done without interfering with moving traffic or pedestrians and with safety to himself or herself door of any motor vehicle with intent to strike, injure, or interfere with any person riding a bicycle, an EPAMD, or a motor scooter. Don't open door into traffic.
	of a vehicle on the side where traffic is approaching unless it can be done without interfering with moving traffic or pedestrians and with safety to himself or herself

Legal Status of Pedestrians

Pedestrians are not vehicle operators and are not subject to the same rules. Persons on rollerblades, skateboards, etc. operating on the street are considered pedestrians, but bicyclists are not. Motorists must yield to pedestrians when making turns across adjacent crosswalks. "Jaywalking" is legal in most locations, but pedestrians must yield to motorists if they are crossing at a location other than a crosswalk. Pedestrians may not cross at mid-block if they are between two signal-controlled intersections; they must use the crosswalk. The rules in each state regarding pedestrians are summarized below.

Table 3-2: Pedestrian Traffic Law—Motor Vehicles Drivers

	DISTRICT OF COLUMBIA	MARYLAND	VIRGINIA ¹⁶
Crosswalk Definition	Same as Maryland	Any intersection of two roadways is a legal crosswalk, whether marked or not. Pedestrians have the same rights in marked crosswalks as in unmarked crosswalks	Same as Maryland
Blocking a Crosswalk	Pedestrians have the right of way in the sidewalk. Parking on the sidewalk prohibited.	A motorist may not park or stop in a crosswalk	Same as Maryland
Sidewalk	Pedestrians have the right of way in the sidewalk	Pedestrians have the right of way in the sidewalk	Pedestrians have the right of way in the sidewalk.

 $^{^{16} \ \}underline{http://www.virginiadot.org/programs/bk-default.asp}$

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[,] www.bikewalkvirginia.org

Right Turn on Red	Allowed, after coming to a complete stop and yielding right-of-way to pedestrians and other vehicles	When turning right on red after stopping, drivers shall yield the right of way to pedestrians lawfully within the crosswalk	Same as Maryland
Turn on Green	A pedestrian who has begun crossing on the walk signal shall be given the right-of-way by the driver of any vehicle to continue to the opposite sidewalk or safety island, whichever is nearest.	Vehicles turning either right or left on a green light must yield to pedestrians in the adjacent crosswalk	Same as Maryland
Red Light	A driver of any vehicle shall STOP and give right-of-way to a pedestrian who has begun crossing on the "Walk" signal to continue to the opposite sidewalk or safety island, whichever is nearest.	Motorist should stop before the crosswalk, or if no crosswalk is striped, before the intersection	Same as Maryland
Stop-Controlled or Uncontrolled Intersection	The driver of a vehicle shall STOP and give right-of-way to a pedestrian crossing the roadway within any marked crosswalk or unmarked crosswalk at an intersection.	Motorist must stop for any pedestrian in the same half of the roadway as the motorist, or who is approaching from the adjacent lane in the other half of the roadway. No motorist may pass another vehicle which has stopped for a pedestrian	The drivers of vehicles entering, crossing, or turning at intersections shall change their course, slow down, or <i>stop if necessary</i> to permit pedestrians to cross such intersections safely. Pedestrians have the right of way unless the speed limit is more than 35 mph, in which case the motorist has the right of way.
Overtaking at a crosswalk	Whenever any vehicle is stopped at a marked crosswalk or at an unmarked crosswalk at any intersection to permit a pedestrian to cross the roadway, the driver of any vehicle approaching from the rear shall not overtake and pass the stopped vehicle.		

Table 3-3: Pedestrian Traffic Law—Pedestrians

	DISTRICT OF COLUMBIA	MARYLAND	VIRGINIA
Green light	A pedestrian facing a green light (other than a turn arrow) may cross the roadway, within a marked or an unmarked crosswalk	A pedestrian facing a green light (other than a turn arrow) may cross the roadway, within a marked or an unmarked crosswalk	Same as Maryland
Red light	Pedestrians shall not enter the roadway on a steady red light.	Pedestrians shall not enter the roadway on a steady red light	Same as Maryland
Pedestrian Control Signal	Pedestrians shall not enter the roadway when there is a flashing "Don't Walk" or "Wait" indicator	Pedestrians shall not enter the roadway when there is a flashing "Don't Walk" or "Wait" indicator	Same as Maryland
Stop-controlled or uncontrolled intersection	Essentially the same as Maryland, but with a specific prohibition on walking suddenly into the path of a vehicle: (a) No pedestrian shall suddenly leave a curb, safety platform, safety zone, loading platform or other designated place of safety and walk or turn into the path of a vehicle which is so close that it is impossible for the driver to yield.	Pedestrians may cross the roadway within a marked or unmarked crosswalk	Same as Maryland, except the pedestrian must yield to motor vehicle traffic if the speed limit is 35 mph or more. Pedestrians may not disregard approaching traffic when entering or crossing an intersection.
Crossing at Other Than Crosswalks	Between adjacent intersections controlled by traffic control signal devices or by police officers, pedestrians shall not cross the roadway at any place except in a crosswalk. Each person crossing the roadway at any point other than within a marked crosswalk, or within an unmarked crosswalk at an intersection, shall yield the right-of-way to all vehicles upon the roadway.	(a) If a pedestrian crosses a roadway at any point other than in a marked crosswalk or in an unmarked crosswalk at an inter section, the pedestrian shall yield the right-of-way to any vehicle. (b) If a pedestrian crosses a roadway at a point where a pedestrian tunnel or overhead pedestrian crossing is provided, the pedestrian shall yield right of way to any vehicle. (c) Between adjacent intersections at which a traffic control signal is in operation, a pedestrian may cross a roadway only in a marked crosswalk. (d) A pedestrian may	"Where intersections contain no marked crosswalks, pedestrians shall not be guilty of negligence as a matter of law for crossing at any such intersection or between intersections when crossing by the most direct route." Pedestrians may not enter the roadway at any point where drivers view of them is blocked by a parked vehicle or other obstruction.

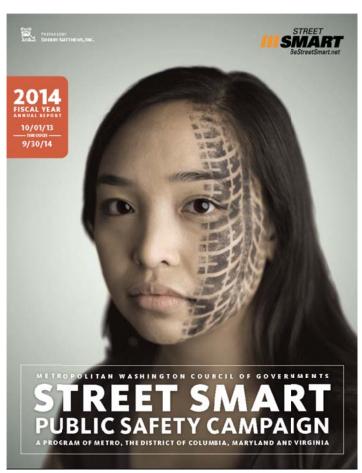
		not cross a roadway intersection diagonally.	
Pedestrians on Roadways	Where sidewalks are provided, it shall be unlawful for any pedestrian to walk along and upon an adjacent roadway.	not walk on a roadway where	Same as Maryland.

Pedestrian and Bicyclist Education and Enforcement: The "Street Smart" Campaign

Pedestrian and bicycle safety efforts generally fall into three broad categories of actions, the three E's: Engineering, Education, and Enforcement. Engineering deals with the

Figure 3-2: Street Smart Annual Report

design of safer roads, streets, and pedestrian and bicycle facilities. Education includes both classroom-based training and behavioral modification campaigns. Enforcement



consists of enforcement of the traffic laws with respect to pedestrians and bicyclists. The regional pedestrian and bicycle safety campaign, Street Smart, deals primarily with education through mass media.

Street Smart was created in 2002 by the region's governments in response to an ongoing regional pedestrian and bicycle safety problem. Since the region is a single media market, a unified regional campaign is the most cost-effective approach. The program is supported by federal funds made available through state governments, from WMATA, and is administered by the National Capital Region Transportation Planning Board.

The Street Smart campaign is a twiceyearly, month-long blitz of radio, transit, gas station, and internet advertising, supported by public relations activities and by concurrent law enforcement. The goal of the

campaign is to change driver, pedestrian, and bicyclist behavior in order to reduce deaths and injuries. Motorists are urged to "Slow Down and Watch for Pedestrian", bicyclists to "Obey Signs and Signals", pedestrians to "Use Crosswalks. Wait for the Walk Signal" and transit riders to "Don't Run for the Bus". All materials, including radio spots, are translated into Spanish. Since 2007 campaigns have been held twice per year, in the fall and in the spring. Campaign materials can be found on the web site, http://bestreetsmart.net.

Efforts to enforce pedestrian laws are also stepped up in conjunction with the "Street Smart" pedestrian and bicycle safety campaign. Law enforcement has helped reinforce the campaign message, just as it has been used effectively as part of anti-drunk driving and seatbelt advertising campaigns. Public awareness of these heightened enforcement activities has been a key aspect of this campaign. Research shows that fear of fines and legal consequences is more effective at changing behavior than fear of death or injury. Also the TV and press media often covers enforcement stings, increasing the public's perception that they are likely to be ticketed for breaking the law.

The Street Smart campaign sponsors annual seminars on

best practices in pedestrian enforcement for law enforcement officers. Participating agencies report the number of warnings and citations issued.

Evaluation

Pre and post-campaign surveys show that the public is hearing and remembering the Street Smart messages. In Spring 2014 62% of pedestrians and 51% of drivers were aware of at least once of the campaign messages, up from 51% and 27% in Spring 2013.

High pedestrian awareness is likely due to the large amount of free PSA placement on transit properties which the campaign received. Overall PSA value was nearly twice the paid media budget. The boost in driver awareness is likely due to the investment in pumptopper ads in 2014.

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Figure 1-3: Fall 2013 Press Event

Outlook

Pedestrian and bicycle safety has drawn increasing attention in the Washington region and at all levels of government. To build walkable communities, walking and bicycling need to be made safer. Improved occupant protection and vehicle design have saved the

lives of many motorists, but we have not made comparable progress for people outside motor vehicles.

Bicycling mode share has increased sharply in the last four years, most notably in the District of Columbia, and that increase has been associated with increased numbers of injuries.

The Street Smart campaign is yielding positive results, but it is meant to complement, not replace, local three "E" safety efforts. States, cities, and counties need to continue engineering and building safer streets, enforcing the traffic safety laws, and educating motorists, pedestrians and bicyclists. We know that the streets can be made safe for pedestrians and bicyclists, because some of our jurisdictions have already done it. Agencies that make pedestrian safety a priority are getting results.

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Chapter 4 Existing Facilities for Bicyclists and Pedestrians

Overview

The Washington region has excellent long-distance separated facilities for bicyclists and pedestrians, and an urban core and certain regional activity centers that have good pedestrian and bicycle facilities. The Washington region is at the forefront of innovation in bicycle facility design. On the other hand, many activity centers, not originally



designed with pedestrians in mind, have grown dense enough to generate significant pedestrian traffic, and face challenges in terms of providing safe facilities and crossing locations for pedestrians and bicyclists. Other parts of the region have developed at low densities, with separated land uses and indirect routes, which increase pedestrian and bicycle travel time. Pedestrian bicycle and accommodations are not always provided.¹

Figure 1: Informal foot path

Informal Foot-Paths Show where People Walk Bicycle connections with transit are generally good, with bicycle parking, bus bicycle racks, and bikes permitted on Metrorail at most hours. Walking is the primary mode of access to transit. Conditions for pedestrian access are excellent at many rail stations, though at some rail stations, originally designed primarily with auto and transit access in mind, pedestrian access could be improved. Bus stops in places

originally designed primarily for automobiles often have access and safety problems.

Pedestrians are found throughout the region, and pedestrian traffic is increasingly found in places that were not built for it. This section highlights some of the region's successes in providing for bicycling and walking. These successes can serve as examples of what the region needs to serve its pedestrians and bicyclists.

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¹ Photo of Informal Path, Southern Avenue, Prince George's County, MD: COG/TPB, Michael Farrell

Shared-Use Paths²



Figure 2: Mount Vernon Trail

renowned for the quality and extent of its major shared-use paths. Shared-use paths are typically located in their own right-of-way, such as a canal, railway, or stream valley, or in the right-of-way of a limited-access highway or parkway, such as the George Washington Memorial Parkway. Shared-use paths are eight to twelve feet in width. The region has approximately 200 miles of major shared-use paths, either paved or level packed gravel

More

The Washington region is

surface suitable for road bikes. Wellknown trails include the W&OD and Mount Vernon Trails in Virginia, and the C&O Canal, Capital Crescent, and Rock Creek Trails connecting the District of Columbia and Maryland. Many of the region's shared-use paths go through heavily populated areas,

connect major employment centers, and get significant commuter traffic. information on trails in the Washington can be found http://www.commuterconnections.org/comm uting-resources/bicycling-resources.

The region continues to build new trails along stream valleys and in conjunction with major highway projects, but the remaining inventory of disused rail lines, which often provide the best opportunities for shared-use paths, is fairly small.



Figure 3: Side Path on Fairfax County **Parkway**

Side-Paths³

Side-paths differ from shared-use paths in that they do not have their own right of way, but are closely adjacent to a non-limited access roadway and thus subject to more

² Photo of Mt. Vernon Trail, Arlington, VA: COG/TPB, Michael Farrell

³ Photo of Sidepath on the Fairfax County Parkway: Photographer Unknown

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frequent conflict with driveways, side streets, and turning traffic. Side-paths differ from sidewalks in that they must be at least eight feet wide and are designed to meet the needs of bicyclists.

The Washington region has approximately 300 miles of side-paths, and there are plans to expand that mileage considerably.

Side-paths meet the need for a separated pedestrian facility and provide separation from traffic that is valued by child and slow-moving cyclists, especially in places where the road has speeds of 40 mph or more and high traffic volumes. However, the AASHTO (American Association of State Highway and Transportation Officials) Guide for the Development of Bicycle Facilities offers a number of cautions regarding the use of side-paths or wide sidewalks for bicycles. Frequent driveways, especially with poor sightlines, are hazardous to bicyclists on side-paths. Side-paths remove bicyclists from the motorists' line of sight and allow travel against the flow of traffic, so they may increase the potential for conflicts with motor vehicles at intersections. Since the facility is shared with pedestrians, there is also a potential for cyclist-pedestrian crashes. Side-paths are most suitable where driveways and intersections are few and sight-lines are good. Intersection crossings should be designed carefully, with a protected signal phase providing the best level of protection.

Bicycle Lanes

Bicycle lanes are marked lanes in the public right-of-way that are by law exclusively or

preferentially for use by bicyclists. Bike lanes are oneway, with a bicycle symbol or arrow indicating the correct direction of travel. minimum width is 4 feet for roadways with no curb or gutter; next to a curb or parked cars 5 feet. Six feet is preferred where there is a curb or onstreet parking. Bike lanes are provided on both sides of the street, except for one-way streets, and allow travel only in the same direction as adjacent motor vehicle traffic. On-street bicycle lanes are generally much less expensive than separated paths. Bike lanes



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decrease wrong-way riding, define the road space that cyclists are expected to use, increase cyclists' comfort level, and call attention to the presence of cyclists on the roadway. Bicycle lanes are not generally considered safe or

Figure 5: Bike Lane



adequate for pedestrians, though in rural areas without sidewalks the roadway shoulder serves as both a bicycle lane and as a pedestrian facility.⁴

Bike lanes may be colored green for conspicuity.

The number of bicycle lanes is growing rapidly. The District of Columbia currently has 60 miles of bicycle lanes, up from 19 miles in 2006, and three in 1995, Arlington County has 24 miles, up from three in 1995, and Montgomery County has 17 miles.⁵ The regional

mileage of bicycle lanes can be expected to expand significantly in the future as the District of Columbia, Arlington County, and Montgomery County all have ambitious plans to build more. Google maps shows bicycle paths, lanes, and on-road routes.

Buffered Bicycle Lanes

A buffered bicycle lane is a bicycle lane with a spatial buffer to increase the distance between the bicycle travel lane and the automobile travel lane or the parking zone. The buffer zone is usually marked with striped paint. Buffered bike lanes are sometimes used where there is higher than normal

speeds, traffic volumes or truck volumes, or high-turnover parking. It allows additional



Figure 4: Buffered Bike Lane

space to be provided for bicyclists without creating something that looks like a travel lane to motorists. The example above is from Arlington.

⁴ Bike lane photo: www.pedbikeimages.org / Dan Burden

⁵ Countywide Bikeways Functional Master Plan, March 2005. Maryland-National Capital Park and Planning Commission. Page 12.

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Protected Bike Lanes (Cycle Track)

A protected bike lane or cycle track is a bicycle-only facility that provides physical separation within the right of vehicle from travel lanes. Protected lanes can be either one-way or two-way, on one or both sides of a street, and are separated from vehicles by wands, bollards, curbs/medians, parked cars, or a combination of these elements. Protected bike lanes can either incorporate bicycle-only signal phases at intersections (for 100% separation) or utilize "mixing zones" to merge bicycle and motor vehicle



traffic.⁶ The District of Columbia Department of Transportation has been an innovator in the development of protected bike lanes in the United States.

Protected bike lanes can pose a design challenge due to the potential conflicts with turning vehicles, and lack of visibility of cyclists Figure 6: 1st Street NE Protected Lane

to turning vehicles when separated by parked

The 15th Street Cycle Track has increased Ridership by more than 200% cars. They have been used in numerous cities in Europe with mixed results. However, it should be noted that motorist-overtaking collisions, while relatively rare, account for a disproportionate number of serious and fatal injuries.

Riders perceive protected bike lanes as safer. Following New York City, and Cambridge, MA, the District of Columbia is actively installing protected bike lane, towards an eventual planned network of 72 miles.



⁶ Nactional Association of City Transportation Officials, http://www.nacto.org/cycletracks.html

⁷ Jensen, Søren Underlien, Claus Rosenkilde and Niels Jensen. Road safety and perceived risk of cycle facilities in Copenhagen. *Available at http://www.ecf.com/files/2/12/16/070503_Cycle_Tracks_Copenhagen.pdf*

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The first segment of protected bike lane in the District of Columbia was installed in 2009 on 15th Street NW. In terms of ridership, the 15th Street Protected bike lane, which has been in operation the longest, has been a success. After the two-way protected bike lane was

Protected Bike Lanes Attract Users of All Ages and Abilities

installed, there was a 205 percent

Figure 7: Protected Lane at Union Station

<u>increase</u> in bicycle volumes during the p.m. peak hour.⁸

More recent projects include one-way couplet of protected bike lanes on L Street and M Street NW (not yet complete) in downtown, ,and the 1st Street NE protected bike lane, which connects the Metropolitan Branch Trail to Union Station.

To help prevent turning conflicts, protected bike lanes may be equipped with separate <u>signals</u> for bicycles.

Dual Facilities

In recognition of the fact that fast-moving cyclists may be better off with an on-road facility, Montgomery County is planning many of its bicycle routes as dual facilities, with both an on-road bike lane and a side-path for pedestrians and slow bicyclists. VDOT's *Northern Virginia Bikeway and Regional Trail Study* recommends that both on- and off-road accommodation be provided. Under the new routine accommodation policy, VDOT is to provide adequate facilities for pedestrians and bicyclists even if not called for in the local plan.



⁸ Bicycle Facility Evaluation, Final Report. April, 2012, p. 12.

⁹ Northern Virginia Regional Bikeway and Trail Network Study. November, 2003. Virginia Department of Transporation, Northern District Office. Page 19.

Where bicycle and pedestrian volume warrant it, and right of way permits, multi-use paths may be split into parallel pedestrian and bicycle paths. This separation allows cyclists and rollerbladers to maintain speed without risk to pedestrians. The Washington & Old Dominion Trail in Northern Virginia Figure 8: DC Bike Route Sign includes several sections with gravel pedestrian paths that parallel the paved shared-use path.

Signed Bicycle Routes

The region has hundreds of miles of signed bicycle routes. Signed routes have the advantage of being inexpensive and informative for cyclists. A signed route has not necessarily had any bicycle-related improvements apart from signing. However, bicycle-friendly features such as paved shoulders, a wide curb lane, or low traffic volumes or speeds *may* be present. Bicycle route signs often include information on distances to destinations.

Long-Distance Bicycle Routes

Several notable long-distance routes promoted by national-level organizations pass through the Washington region. These include the East Coast Greenway, Bicycle Route 1, and the



Figure 9: East Coast Greenway in DC

American Discovery Trail. The East Coast Greenway Alliance is promoting what will eventually be a mostly off-road path connecting all the major cities of the East Coast. Currently 20% open for public use, it will span 2,600 miles from Calais, Maine to Key West, Florida. With the exception of the National Capital Mall, the proposed route through the Washington region is not yet signed. Bicycle Route 1 is part of a national network of low-traffic road routes promoted by the Adventure Cycling Association. The American Discovery Trail is a coast-to-coast, recreational, non-motorized trail, which follows the C&O Canal Towpath and the Anacostia River Tributary Trails. All organizations promoting long-distance routes rely on local agencies and organizations to realize their vision.

Exclusive Bus/Bicycle Lanes

Exclusive bus lanes are sometimes used on streets with heavy bus traffic. Bicycles are sometimes permitted to use those lanes. Bus/Bike Lanes can be found in the District of Columbia. Conflicts can occur due to differences in speed between buses and bicyclists.

Bridges



The Woodrow Wilson Bridge trail, completed in 2009, allows cyclists to cross the Potomac River on the capital beltway at Alexandria. This multi-use path allows riders on the Mt. Vernon Trail to access the National Harborplace development in Prince George's County without going on street. Connections are also provided to an on-street network of bicycle routes in Prince George's County.

The 14th Street Bridge, the Memorial Bridge, the Theodore Roosevelt Bridge, the Key Bridge, and the Chain Bridge all have bicycle and pedestrian facilities. In the north, cyclists

Figure 7: Woodrow Wilson Bridge Trail and pedestrians may use the ferry at White's Ferry, which connects Montgomery County and Loudoun County. Cyclists may use the US 15 bridge at Point of Rocks and the MD 17 bridge at Brunswick to get across Frederick County and Loudoun County, though they have no separated facilities.

With the completion of the local traffic 11th Street Bridge in 2013, bicyclists and pedestrian now have a first rate multi-use path connection from Anacostia to the Navy Yard area of Southeast DC.

The District of Columbia is in the process of Figure 10: 11th Street Bridge

upgrading remaining the Anacostia River separated bicycle and pedestrian river crossings these aging as bridges are replaced and rebuilt.

On-Line Bicycle and Pedestrian Routing

The last few years have seen a flowering of on-line resources that enable cyclists and



pedestrians to locate facilities and plan their routes. Google Maps offers the most familiar interface, but other options include bbbike.org, and RidetheCity, which allow cyclists to point and click their proposed origins and destinations, and choose various routing alternatives.

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Google Maps also provides walking and bicycling directions. The bicycling directions show paths, bike lanes, and on-street bike routes, but offer no options for selecting more direct or safer routes.

Accessed via smart phone, these and other on-line applications can replace paper maps for most purposes.

Bicycles and Public Transit

The region has made progress integrating bicycling and public transit, with secure bike parking available at most rail stations, bicycles permitted on Metrorail at most times, and most of the buses in the region now equipped with bicycle racks. Specific agency policies and facilities are described below.

Metrorail Guidelines

- O Bicycles are permitted on Metrorail (limited to two bicycles per car) weekdays except 7-10 a.m. and 4-7 p.m. Bicycles are permitted all day Saturday and Sunday as well as most holidays (limited to four bicycles per car). Bicycles are not permitted on Metrorail on July 4th or other special events or holidays when large crowds use the system.
- o Folding bikes are permitted on Metrorail during rush hours if folded. No case is required.
- No tricycles, training wheels, tandem bicycles or recumbent bicycles are allowed on Metrorail.
- For other Bike on Rail guidelines see:
 http://www.wmata.com/getting_around/bike_ride/bikes-rail.cfm

Figure 11: Bike & Ride Entrance (WMATA photo)

Metrorail Facilities

- <u>Bike & Ride</u> is a secure, enclosed bicycle parking facility with card access and space for over 100 bikes, on the first floor of the Metro garage at College Park-U of MD station. Bike & Ride is more flexible, secure, and space efficient than racks or individual lockers.
- o For the most up to date information on bicycle parking at Metrorail, go to the <u>WMATA web site</u>



and click on the stations tab. You can see which stations have bike racks and lockers. Or go to http://www.wmata.com/getting_around/bike_ride/ for a list of stations with bike racks and lockers, and information on how to rent a bike locker.

Systemwide, WMATA maintains about 1,280 single bike lockers and about 1,700 bike racks. Racks are first come, first served. At many downtown stations, local jurisdictions provide additional bike parking near stations. WMATA continues to add and upgrade racks.

Figure 12: New Bike Racks (WMATA photo)





Metrobus

- o **All** Metrobuses have racks on the front that carry **up to** two bicycles. No permit is required. Instructions for how to use bus bike racks is available at http://www.wmata.com/getting_around/bike_ride/bikes_bus.cfm
- o Metro has adopted guidelines for the design and placement of bus stops to improve their safety, comfort, accessibility, and efficiency.

Park and Ride

Of the 175 park and ride lots in the Washington DC-MD-VA Metropolitan Statistical Area, about 50 have bike lockers or racks. <u>Commuter Connections</u> lists information on Park and Ride lots.

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Commuter Rail

Collapsible bicycles are permitted on all <u>VRE trains</u>. Full size bicycles will only be allowed on the last three northbound, the mid-day, and the last three southbound trains on each line.

Collapsible bicycles are permitted on MARC, but not full-size bicycles, except selected week-end Penn line trains. No bag or case is required.

Pedestrian Access to Transit

82% of Metrobus passengers walk to transit, and 62% of all Metrorail trips start with the passenger walking to the rail station. However, the a.m. peak walk mode of access, which is the best measure of how people originally get into the system, is 37%.

The quality of pedestrian access to Metrorail and Metrobus is uneven. Many suburban rail stations were built with an emphasis on automobile and bus access. Bus stops are often placed in areas with no sidewalks or available crosswalks. A study on bicycle and pedestrian access to Metrorail provides details.

<u>WMATA</u> has *Guidelines for Station Site and Access Planning*, and plans to upgrade pedestrian access at Metrorail stations and carry out station-area development.

In 2008, WMATA completed an inventory of all bus stops it serves. ¹⁰ That information has been used to inform spending for several federal grants focused on bus stop accessibility capital improvements in the region.

In 2011, as a follow-on to its 2010 master plan – *Metrorail Bicycle and Pedestrian Access Improvements Study*, WMATA completed an inventory of bicycle and pedestrian needs at its stations. From this, WMATA created a 5-year bicycle and pedestrian capital improvement program of more than \$7 million over the 5 years. The project list includes, but is not limited to, improvements to bike parking at stations as well as pathway and pedestrian connectivity projects.

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¹⁰ WMATA Bus Stop Inventory Project. Kristin Haldeman, Presentation to TPB Access for All Subcommittee, November 2008.

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WMATA has also conducted individual station access studies (available on the WMATA website:

http://www.wmata.com/about_metro/planning_dev.cfm) for many of its stations, partnering with local jurisdictions to identify station access needs in station areas. Bicycle and pedestrian access needs are addressed in the studies. These studies often serve as pre-cursors to joint development projects, ensuring that bicycle and pedestrian connectivity to surrounding areas is maintained and enhanced.



Figure 13: Bike Parking is in Demand

Bike Parking

The District of Columbia, Arlington, Alexandria, and other jurisdictions provide bike racks on public property for short-term bicycle parking. They also require secure long-term bicycle parking to be provided as part of new development.

• Bike Corrals

As demand grows in congested areas, DC has added bike corrals, which are bike racks placed in the street, and protected by flexi-wands tire stops. Twelve bicycles can be parked in the space required to



Figure 14: Corner Bike Corral

park one automobile. And because bicycles do not

block motorists' sight lines, they can be placed near the intersection where parking is not permitted, result in no loss of car parking.

Tire stops are necessary to prevent cars from backing into the racks at some locations.

• DC Bike Station

Figure 15: DC Bike Station at Union Station



Figure 16: DC Bike Station Interior



In response to demand for secure bicycle parking at Union Station, in 2009 the District of Columbia opened a Bike Station. The facility houses over 100 bicycles in 1,600 sq. ft. of free-standing ultra-modern glass and steel design. It is staffed 66 hours per week and available to members 24/7 for self-service parking. In addition to secure bike parking, the facility also provides a changing room, lockers, bike rental, bike repair, bike rental, and retail sales. The Bikestation location at Union Station allows commuters to take public transportation to the station, pick up their bicycles and go to work, shopping or entertainment.

The DC bike station is a unique structure designed for a particular site. It required an unusual degree of architectural review due to its location on the National Mall. Far less expensive, modular self-service bike parking structures are available.

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Capital Bikeshare

Bike sharing is self-service public bicycle rental. It is similar to a car-sharing system, such as ZipCar, where members pay a fee and have access to any available bike throughout the regional system. Unlike earlier "public bicycle"

Capital Bikeshare has over 2500 bicycles and 300 stations or "yellow bike" programs, which failed due to lack of means of preventing theft, modern bicycle sharing links rentals to a user's credit card, which can be charged if the bicycle is not

returned. Bike sharing became common and popular first in Europe and then the United States, with programs in dozens of cities.

Since it opened in 2010, the regional bike sharing program, <u>Capital Bikeshare</u> has grown to include 2500 bicycles at over 300 stations across Washington, D.C., Arlington and Alexandria, VA and Montgomery County, MD. Capital

Figure 17: Capital Bikeshare Station



Bikeshare is one of the largest and most successful bike share systems in the United States. Its' solar-powered semi-mobile bike stations require no utility hook-up, which expedites installation. It operates year-round, with winter ridership a little more than one third the level of the warm weather months. It attracts many tourists as well as residents.

Outlook

Facilities for bicycling and walking in the Washington region are likely to improve significantly in the future. Federal, regional, state and local policies and transit agency initiatives all call for better and more complete facilities. Bicycle lanes, protected bike lanes, and dual facilities for pedestrians and bicyclists will become more common, and bike sharing will continue to expand in the urban core and beyond.

Chapter 5Goals and Indicators

Introduction

As seen in Chapter One, both the Vision of the Transportation Planning Board (TPB, 1998) and the Region Forward (2010) vision plan of the Council of Governments encourage walking and bicycling. *Region Forward*, a vision for the National Capital region in 2050, was adopted in January 2010. *Region Forward* builds on the TPB *Vision*, calling for more rapid implementation of the regional bicycle and pedestrian plan, increased walking and bicycling, and reduced pedestrian and bicyclist fatalities. The goals of *Region Forward* are broader than those of the TPB *Vision*, encompassing areas such as public safety, land use, economic development, housing, and the environment. New development is to be concentrated in walkable, mixed-use activity centers.

Goals

Region Forward 2050 includes a set of goals, and targets and indicators that will help measure whether those goals are being met. Many of those goals relate to walking and bicycling:

Transportation

- 1. A broad range of public and private transportation choices for our region which maximizes accessibility and affordability to everyone and **minimizes reliance upon single occupancy use of the automobile.**
- 2. A transportation system that maximizes community connectivity and walkability, and minimizes ecological harm to the region and the world beyond.

Land Use

- 1. Enhancement of established neighborhoods of differing densities with **compact**, **walkable infill development**, rehabilitation and retention of historic sites and districts, and preservation of open space, farmland and environmental resource land in rural areas.
- 2. **Transit-oriented and mixed-use communities** emerging in regional activity centers that **will capture new employment and household growth**.

Energy & Environment

- 1. Significant **decrease in greenhouse gas emissions**, with substantial reductions in the built environment and transportation sector.
- 2. Protect and enhance region's environmental resources by meeting and exceeding standards for our air, water, and land.

Public Safety & Health

- 1. Safe communities for residents and visitors.
- 2. ...protect the public health, safety, welfare, and preserve the lives, property, and economic well-being of the region and its residents.
- 3. Healthy communities with ... a focus on wellness and prevention

Supplemental Transportation Planning Board Goal

On January 21, 2015 the TPB recognized that a circumferential bicycle route or routes around the Washington region would be an explicit goal consistent with the Region Forward and the TPB's Vision document. The Board unanimously supported adding the following explicitly as a goal of the Bicycle and Pedestrian Plan for the National Capital Region.

The TPB member jurisdictions and agencies shall work collaboratively to identify a circumferential bicycle route or routes around the Washington region, define the proposed character of the facilities comprising such a route or routes, and identify the steps required to complete such a route or routes.

Targets and Indicators

In order to measure progress towards the broad transportation goals, *Region Forward* recommends that certain indicators be tracked. Table 5-1 below shows some of the targets and primary indicators from *Region Forward* that relate to walking and bicycling as well as corresponding, additional indicators which the bicycle and pedestrian subcommittee believes will give a more complete and timely picture of the region's progress. A (?) designates an indicator for which a practical data source has not yet been identified.

Table 5-1:

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Region Forward 2050 Targets & Indicators

Suggested Supporting Indicators

Region Forward Targets Increase the share of walk, bike, and	Primary Indicators Mode split – Percent of	Data Source/Freq. 2007/2008 household	Bike: 0.5% Walk: 8.5%	Suggested Supporting Indicators 1. Walk and bike commute mode share	Data Sources/Freq. • US Census – American	• ACS available in
transit trips.	Walk, Bike and Transit Trips	travel survey/10 years	Transit: 6.1% Auto: 81.6%	 Pedestrian and bicyclist counts Pedestrian Access to Transit Mode Share *AM peak access Bike Access to Transit mode share *AM peak access Bike share trips Number of bike share trips per day & per bike share bike. % Female cyclists Walk and bike mode share for school children Adopt complete streets policies Jurisdictions with complete streets policies 	Community Survey (ACS) five year rolling average/ Annual DC, Arlington counts/annual WMATA rail passenger survey/5 years Regional Bike Share trip numbers/annual COG Household Travel Survey/10 years	 2010 DC Average 2009 Peak hour count = 69 female bicyclists = 19% 0.55% bicycle mode of access to Metro in 2007 62.12% walk mode of access to Metro in 2007 33.3% am peak walk mode, 0.7% bike mode
Reduce VMT per	VMT per	2008	Vehicle Miles	Share of VMT reduction attributable to	Estimate from mode	ACS 2010
capita	capita	CLRP/Annual	Traveled per	increase in walking and bicycling	shift to walking and	

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			capita = 22.94		bicycling/Annual	
Increase the rate of construction of bicycle and pedestrian facilities from the TPB plan.	Number of bicycle and pedestrian projects from the CLRP	Number of bicycle and pedestrian projects in the CLRP	CLRP/Annual	Pedestrian and Bicycle Infrastructure Construction 1. Centerline mileage of bike lane built 2. Mileage of Side Path Built 3. Mileage of Multiuse path built 4. Bicycle and pedestrian bridges and underpasses built 5. Public bicycle parking • Staffed bike stations 7. Number of Streetscaping projects completed/ Number of pedestrian intersection improvement projects completed Access to Transit 8. Bike share stations and bike share bikes at rail stations and transit hubs 9. Bike share stations and bike share bikes within 3 miles of a transit hub 10. Bike parking - Rack spaces, lockers bike cage, bike parking structure spaces 11. Parking usage rates (?) Bike Sharing 1. Number of bike sharing stations 2. Number of bike sharing bicycles	Bicycle and Pedestrian Regional Project Database/ Annual WMATA rail passenger survey/5 years WMATA web site – Bike 'N Ride WMATA Bus Stop Inventory/? Capital Bikeshare	9 miles bike lane/year 13 miles shared use path/year 5 bridges/tunnels 1 staffed bike station 9 streetscaping projects 16 pedestrian intersection projects 77 Metro Stations have racks and/or lockers. 1,280 single bike lockers and about 1,600 bike racks - with capacity for about 3,150 bikes Zero bike cage spaces, bike parking structure spaces 10 bike sharing stations 100 bike sharing bikes

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Targets	Primary Indicators	Data Source/Freq.	Baseline	Suggested Supporting Indicators	Data Sources/Freq.	Baseline
Reduce pedestrian and bicyclist fatalities and injuries	Pedestrian and Bicyclist Injuries and Fatalities	Virginia DMV, DDOT, and Maryland Office of Highway Safety/Annual	2004-2008: 84 pedestrian deaths 7 bicyclist deaths 2007: 1962 pedestrian injuries 653 bicyclist injuries	 Education Number of schools offering training in safe walking and bicycling Recognition of key safety messages by the general public Number of Bike to Work day participants Enforcement: Number of pedestrianrelated and bicycle-related citations and warnings issued as part of the Street Smart campaign. Speeding Speeding Speeding Reckless driving Passing stopped school bus Failure to yield to pedestrian or bicyclist Cross against the signal (pedestrian) Walk into the path of motor vehicle outside marked or unmarked crosswalk. Ignore traffic signal (bicyclist) Wrong way riding Ride on sidewalk where prohibited 	1. Safe Routes to School Program/Annua I 2. Street Smart Annual Report 3. Bike to Work Day Annual Report 4. Street Smart Enforcement Reports/annual	 3500 children trained in DC in 2008, 2700 in Rockville. Virginia SRTS does not tally such numbers. 8500 Bike to Work Day participants in 2010 30,221 pedrelated citations 7,804 warnings
Targets	Primary Indicators	Data Source/Freq.	Baseline	Suggested Indicators	Data Sources/Freq.	Baseline

Chapter 6

Recommended Practices

The *TPB* Vision, *Region Forward*, and *Regional Transportation Priorities* plans call for a transportation system that allows convenient and safe bicycle and pedestrian access, with dynamic regional activity centers and an urban core that contain a mix of jobs, housing and services in a walkable environment. In order to achieve these goals, the Bicycle and Pedestrian Subcommittee has developed the following set of recommended best practices.

A. Incorporate bicycle and pedestrian elements in all jurisdictional planning and design

policies. Adopt "Complete Streets" policies.

- 1. Include bicycling and walking, including provisions for persons with disabilities, in all stages of the transportation and land use planning process, from initial concept through implementation.¹
- In particular, consistent with federal policy and the National Capital Region Transportation Planning Board's <u>Complete Streets</u> policy,

every jurisdiction and agency should Figure 1: Missing sidewalk near Ft. Totten Metro adopt a Complete Streets policy that includes elements that the TPB believes reflect current best practices.

Under Complete Streets policies pedestrians and bicyclists will be accommodated as part of all transportation projects, with a few limited and well-defined exceptions. A Complete Streets policy would typically not apply:

- To a new transportation facility construction or modification project for which, as of the effective date of the adoption of the policy, at least 30 percent of the design phase is completed.
- To a transportation facility which prohibits, by law, use of the facility by specified users, in which case a greater effort should be made to accommodate those specified users elsewhere in the travel corridor.

"A complete street safely and adequately accommodates motorized and non-motorized users, including pedestrians, bicyclists, motorists, freight vehicles, emergency vehicles, and transit riders of all ages and abilities, in a manner appropriate to the function and context of the facility."

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¹ Ft. Totten, DC Photo: COG/TPB, Michael Farrell

- When the cost to the exempted project in achieving compliance with the applicable complete streets policy would be excessively disproportionate (as per FHWA guidance), as compared to the need or probable use of a particular complete street.
- When the existing and planned population and employment densities or level of transit service around a particular roadway are so low that there is a documented "VDOT will initiate all

absence of a need (as per FHWA guidance) to implement the applicable complete streets policy.

 To passenger and freight rail projects, which shall not be required to accommodate other motorized users in the railway right of way, although safe and adequate rail crossings for motorized and non-motorized users should be provided. "VDOT will initiate all highway construction projects with the presumption that the projects shall accommodate bicycling and walking"

To transportation projects which do not provide for direct use by the public, such as
maintenance facilities, drainage and stormwater management facilities, education and
training, transportation security projects, beautification, and equipment purchase or
rehabilitation.

Agencies should carry out periodic **audits to monitor compliance** with a Complete Streets policy once it is adopted.

An effective complete streets policy is critical, since retrofitting pedestrian and bicycle accommodations is far more expensive than designing them in from the beginning. Policies which urge agencies to "consider" or "encourage" the provision of pedestrian and bicycle facilities often do not provide clear guidance as to when pedestrian or bicycle facilities should or should not be provided. Absent a clear mandate, pedestrian and bicycle facilities tend to be omitted.

- 3. **Take into account likely future demand** for bicycling and walking facilities in planning transportation projects; do not adopt designs that would preclude future improvements.
- 4. **Encourage public participation** by bicyclists and pedestrians and other community groups in the planning process.
- 5. Ensure **adequate funding** for bicycle and pedestrian transportation staff and facilities, including land acquisition, design, construction, and proper maintenance.

- 6. **Integrate bicycling and walking** into new development, including new **schools**.
 - Require land developers to **finance and construct sidewalks**, shared-use paths, and bicycle parking facilities within their developments.

Students who walk to school behave and perform better

• Require land developers to design developments in

a way that facilitates internal and external bicycle and pedestrian access. New development should feature a dense network of streets to minimize trip offer many low-speed, low-

interconnected streets to minimize trip distance and offer many low-speed, low-traffic routes. Superblock and cul-de-sac development patterns should be discouraged, and transit-oriented development should be encouraged. Use the Virginia Department of Transportation's Secondary Street Acceptance Requirements as a model.²

• Locate new schools in walkable communities. Use the EPA school siting guidelines.³ Locate new schools in walkable communities. For existing schools, improve pedestrian and bicycle facilities whenever a school is renovated or the streets surrounding a school are repayed or reconstructed.

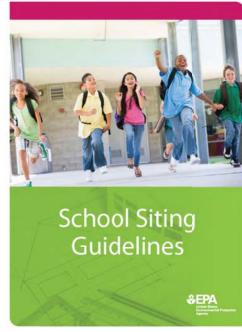


Figure 2: EPA School Siting Guidelines

- 7. Design, construct, operate, and maintain sidewalks, shared-use paths, street crossings (including over- and undercrossings), pedestrian signals, signs, street furniture, transit stops and facilities, and all connecting pathways so that **all pedestrians, including people with disabilities**, can travel safely and independently, in all seasons. Maintenance of pedestrian and bicycle facilities should include **snow and ice removal**.
- 8. Improve inter-jurisdictional coordination to identify, plan, construct and preserve **multi-jurisdictional routes**, and provide connecting links for existing routes to assure the establishment of a continuous bicycle and pedestrian transportation system throughout the Washington metropolitan area.

² http://www.virginiadot.org/info/secondary street acceptance requirements.asp

³ http://www.epa.gov/schools/guidelinestools/siting/

CHAPTER 6: RECOMMENDED PRACTICES

- a. Identify networks of existing bicycle routes (both on-street and off-street) in the urban core, suburbs, developing fringe, as well as connecting long distance intercity routes. Ensure that these routes are included in land use and transportation plans, and not eliminated as development occurs.
- b. Identify shared-use path corridors before they are developed, and preserve opportunities for development as shared-use paths.
- c. Identify existing physical barriers to bicycling (such as rivers and streams, bridges, railroad tracks, highway crossings, and limited access highways with no crossing route) and identify solutions to overcome them.
- d. Implement uniform wayfinding and/or designation for inter-jurisdictional routes that will provide easily understood instructions and information.
- e. Convene and participate in a regional working group consisting of state and regional representatives to identify regional and long distance travel corridors for bicyclists, develop common guide signage guidelines, and develop of recommended bikeway alignments within travel corridors.

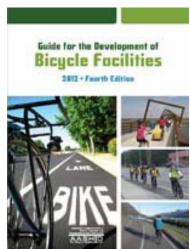
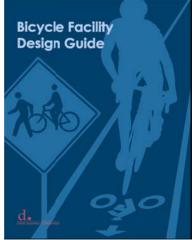


Figure 3: AASHTO Guide for the Development of Bicycle **Facilities**

B. Develop and adhere to consistent bicycle and pedestrian facility design and construction standards in each jurisdiction:

- 1. Assure adequate planning, construction and maintenance standards for comfortable and safe bicycling on both onstreet routes and off-street paths, as well comfortable and safe walking on paths and sidewalks.
 - Adopt, as minimum standards for privately and a. publicly built facilities, the AASHTO Guide for the Figure 4: DDOT Development of Bicycle Facilities, AASHTO's A Policy Bicycle Facility Design on Geometric Design of Highways and Streets, and the AASHTO Guide for the Planning, Design and Operation



Guide

of Pedestrian Facilities, the ADA Accessibility Guidelines from the U.S.

Architectural and Transportation Barriers Compliance Board (Access Board), and the *Manual on Uniform Traffic Control Devices (MUTCD)* from the Federal Highway Administration.

- b. Establish and maintain **minimum design and maintenance standar**ds for each type of facility.
- c. In accordance with <u>federal guidance</u>, go beyond the minimum requirements where necessary to provide safe and comfortable accommodation for bicyclists and pedestrians. Agencies such as the District of Columbia Department of Transportation have developed their own design manuals to meet their specific needs, and which may incorporate experimental measures which are not found in the current AASHTO bicycle facility design guide. The National Association of City Transportation Officials (NACTO), an alliance of city transportation departments, including the District Department of Transportation, has developed guides for bikeways and for urban areas. The NACTO guides provide designs and treatments not currently found is the AASHTO guides.
- d. Use the NACTO <u>Urban Street Design</u>
 <u>Guide</u> and <u>Urban Bikeway Design</u>
 <u>Guide</u> where appropriate. FHWA <u>has endorsed</u> the "appropriate" use of the *Urban Bikeway Design Guide* to help agencies fulfill the above-mentioned 2010 federal guidance. FHWA notes that most of the treatments in the NACTO guide are allowed or not precluded by the MUTCD. Noncompliant traffic control devices can still be used as pilot projects, under the MUTCD experimentation process.

The NACTO guides were developed, and are most applicable, for dense urban centers with low-traffic speeds and relatively high levels of bicycling and walking.

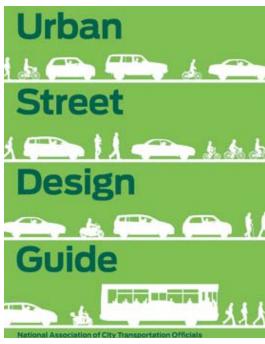


Figure 5: Urban Street Design Guide

2. Improve Access for Persons with Disabilities to Pedestrian Facilities⁴

⁴ "Lessons Learned" fact sheet for Disability Awareness Day. National Capital Region Transportation Planning Board Access for All Committee, October 20, 2004.

CHAPTER 6: RECOMMENDED PRACTICES

The Transportation Planning Board's Access for All Advisory Committee has identified the following recommended best practices for improving access for persons with disabilities to pedestrian facilities. More detailed recommendations can be found in the *Accessibility Guidelines* as noted above. With the exception of handrails on steep sidewalks, all of the following practices are legally required under the ADA for all new facilities and all reconstructed facilities:

- a. Sidewalks should have curb ramps. Ramps should be well-maintained, well-placed, and not too steep in order to permit their use by persons in wheelchairs.⁵
- b. The height of wheelchair users should be considered when placing shrubs or other objects where they might block them from the view of motorists.
- c. Objects such as security barriers, fences, fire hydrants, telephone poles, parking meters, newspaper boxes, signal control boxes, and other street furniture should be placed in locations where they will not block curb ramps.
- d. The placement of crosswalk buttons must take into consideration the needs of people with disabilities.
- e. Audible pedestrian signals make communities safer for all pedestrians, including seniors and children as well as people with visual impairments.
- f. Sidewalks with steep slopes are difficult for people with disabilities to navigate, especially for people who use manual wheelchairs or people who have trouble walking. Hand rails could help mitigate these difficulties.

C. Minimize roadway width, curb radii & crossing distance.⁶

To minimize pedestrian crossing distances and reduce impermeable, heat—absorbing asphalt coverage, the paved roadway of all streets should be designed to be the minimum width — and have the minimum number of lanes — that safely and cost—effectively allow for the desired operations of motor vehicles, buses, and bicyclists. Excess width should be reallocated to provide walking, transit, and bicycling facilities, public open space, green cover, and/or stormwater source control measures. If financial limitations preclude final implementation of street retrofits (e.g., curbing, streetscaping, etc.), the reallocation of space should still proceed with temporary or least costly approaches such as restriping.

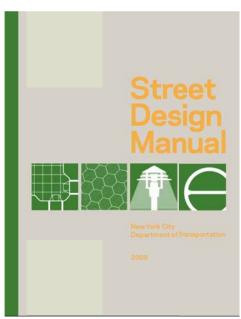


Figure 6: New York City Street Design Manual

⁶ New York City Department of Transportation, <u>Street Design Manual</u>, 2009. Page 46.

⁵ Wheelchair ramp photo: COG/TPB, Access for All Committee

To further reduce pedestrian crossing distances and slow turning vehicles, all roadway corners should be designed with the smallest possible radius that still accommodates the intended vehicle and emergency vehicles.

D. Set target vehicle speeds appropriate to surrounding land use.

Urban streets should function as **public spaces for people** as well as arteries for traffic and transportation. The best street design adds to the value of businesses, offices, and schools located along the roadway.⁷ Lower speeds are often needed to enable a street to serve as a comfortable place to gather, shop, work, or live.

Streets should be designed with target speeds and speed limits appropriate to their surrounding uses and desired role in the vehicular network. Slower target speeds and speed limits should be considered on local streets, residential streets, alleys; on streets adjacent to schools, senior or disabled pedestrian trip generators; waterfronts, parks, rail stations, and other significant pedestrian destinations.

Traffic calming features may be designed in from the beginning, or retrofitted where needed, to bring traffic speeds down to the desired level.⁸

E. Improve bicycle and pedestrian circulation within and between regional activity centers and the urban core.

1. Improve sidewalks, bikeways, intersections, signage and links to transit for bicyclists and pedestrians in activity centers

- 2. Improve access to and between regional activity centers.
 - Provide access to activity centers from surrounding neighborhoods.
 - Provide facilities to connect nearby activity centers



Figure 7: Bike Racks and Lockers at New York Avenue Metro Station

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⁷ NACTO, *Urban Street Design Guide*, 2013.

⁸ Ibid, pp. 76-91.

- F. Integrate bicycling and walking into the public transportation system.⁹
 - 1. Make it easier and safer to walk and bike to bus stop and rail stations.
 - Build sidewalks and pedestrian crosswalks and/or overpasses that connect transit stops to nearby neighborhoods, commercial areas, and existing pedestrian infrastructure.
 - Improve lighting, signage, and wayfinding around transit stations.
 - Improve bicycle parking at Metro, commuter rail stations, and park and ride lots.Replace broken and obsolete bicycle racks with current models. Add more <u>Bike & Ride</u> secure bicycle parking facilities at Metrorail stations.
 - Improve customers' ability to make the "last mile" of their trip by locating bike sharing or increasing bike parking options at rail stations, and eliminate the need to bring a bike on the train during peak periods. If/when capacity constraints permit, expand the hours when bicycles are permitted on Metrorail.
 - 2. Provide bicycle racks on all transit buses. 10
 - 3. Provide for more efficient accommodation of bicycles on future rail services, including commuter rail, Metro, and light rail, in the Washington region. Vertical storage racks such as those on the River light rail line in New Jersey are a good model.

All Metrobuses have been equipped with racks to carry up to two bikes per bus



Figure 8: Bike on Metrobus.



Figure 9: On-Street Bike Parking, Georgetown

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⁹ Photo of NY Avenue Metro Bike Lockers: COG/TPB, Michael Farrell

¹⁰ Photo of Bike on Bus by WABA/Eric Gilliland

CHAPTER 6: RECOMMENDED PRACTICES

Provide adequate bicycle support facilities.

- 1. Enact zoning laws to require bicycle parking and related facilities as part of all new construction or major renovation, including office, retail, and housing developments.
 - Construct bicycle parking facilities in well-traveled and lighted areas. Facilities should be covered and secure.









City of Cambridge **Bicycle Parking Guide**



















Figure 10: City of Cambridge **Bike Parking Guide**

Require placement of bicycle parking facilities in convenient locations; short-term parking should be as close as possible to building entrances; long term parking facilities should be located in secure areas.

- The District of Columbia requires bike parking in any building that has automobile parking. However, bicycle parking requirements need not be tied to auto parking. The City of Cambridge, MA has developed a model ordinance.
 - Ensure the provision of showers and changing

facilities in all new or renovated commercial developments.

bicycle 2. **Provide** parking on public Jurisdictions property. should install bicycle

parking in public spaces where there is demand, such parks, and sidewalks near as public libraries, storefront retail.11



Figure 11: ITDP Bike Share Guide

H. **Expand the Regional Bike Sharing Program**

Bike sharing is self-service public bicycle rental. It is similar to a car-sharing system, such as ZipCar, where members pay a fee and have access to any available bike throughout the regional system. Unlike earlier "public bicycle" or "yellow bike"

programs, which failed due to lack of means of preventing theft, modern bicycle sharing links rentals to a user's credit card, which can be charged if the bicycle is not returned. Bike sharing took hold first in Europe, but has now <u>become common</u> in North America, with programs in dozens of cities.

The bike sharing system for the Washington region is <u>Capital Bikeshare</u>, currently one of the largest and most successful North American bike share systems. Their solar-powered

docking stations have proven easier and faster to install than stations that require a utility hook-up.

The Institute for Transport Development Policy publishes a detailed bike share planning guide.

I. Develop pedestrian and bicycle safety education and enforcement programs in all jurisdictions.

- 1. Promote pedestrian and bicycle safety education programs for children, beginning at the early ages.
 - Establish and maintain pedestrian and bicycle safety programs at the elementary school level, including classroom and on-bicycle instruction.
 - Develop and distribute pedestrian and bicycle safety information materials designed to teach beginning cyclists and young pedestrians.



Figure 12: Cyclist training Photo Credit: WABA

- Emphasize the use of bicycle helmets as a means of injury reduction, lights after dark, reflectors, and reflective clothing for pedestrians.
- 2. Improve cycling skills and pedestrian safety habits of adults and young adults.
 - Produce and distribute information on bicycle usage and safety.

Volunteer Patrols can help with Trail Security

• Emphasize the use of helmets for rider protection, lights after dark, reflectors, and reflective clothing for



Figure 13: Trail Patrol, C & O Canal Park

pedestrians.

- 3. Increase motorist awareness and accommodation of bicyclists and pedestrians, and bicyclist and pedestrian awareness and accommodation of motorists.
 - Include bicycle and pedestrian information in automobile drivers' training classes, driver's manuals, and license exams, and through the media.
 - Coordinate public media campaigns with law enforcement
- 4. Encourage jurisdictional uniformity of traffic laws relating to bicycling and walking. Encourage conformity with such regulations as the <u>Uniform Vehicle Code</u>.
- 5. Encourage consistent bicycle law enforcement to assure safe bicycling and walking.
 - Emphasize the enforcement of traffic laws dealing with offenses known to cause crashes between bicycles and motor vehicles, such as wrong way bicycling, and ignoring stop signs or stop lights.
 - Emphasize enforcement of traffic laws dealing with offenses known to cause crashes between pedestrians and motor vehicles, such as motorists failing to yield to pedestrians, and pedestrians disobeying "Don't walk" signals.
- 6. Improve bicycle and pedestrian accident reporting and analysis procedures at the state and regional levels, to provide jurisdictions with a better understanding of accident causes and countermeasures.
- 7. Provide significant law enforcement presence along regional off-road trail networks and encourage interjurisdictional cooperation and

coordination to provide for the safety and security of all pedestrians and bicyclists.

The regional "Street Smart" Pedestrian and Bicycle Safety Campaign urges motorists and pedestrians to "Slow Down" and "Use Crosswalks"



Figure 14: Street Smart Poster

CHAPTER 6: RECOMMENDED PRACTICES

J. Encourage Walking and Bicycling

Each jurisdiction and agency should encourage walking and bicycling, and promote the perception of both as legitimate forms of travel, in the way most appropriate to that organization. Examples include:

- Have walk and bike-friendly policies for employees. Let employees know that walking and bicycling is both permitted and encouraged. Organize/support/participate in events such as Bike to Work Day, Car-Free Day, etc.
- Carry out pedestrian and cyclist education programs that also encourage walking and bicycling, such as <u>Safe Routes to School</u>. Designate a Safe Routes to School coordinator for every community.
- Provide high-quality information to the public on the benefits of walking and bicycling, and where and how it can be done in your community, through programs such as WalkArlington and BikeArlington. Partner with employers, transportation demand managers, and advocacy groups.
- As part of a comprehensive transportation demand management program, provide financial incentives for employees to walk and bicycle.
- For States and Metro regions, consider investing in paid media campaigns.

K. Each jurisdiction should develop a high visibility bicycle or pedestrian project to demonstrate the effectiveness of bicycling and walking as a short distance transportation mode.

- Ensure that projects are feasibly implemented, and supported by the community and the government agencies responsible for implementation.
- Undertake extensive publicity and promotion for each facility or service included in the project.
- Conduct an extensive analysis of the effectiveness of each project following the demonstration period.

CHAPTER 6: RECOMMENDED PRACTICES



Figure 15: Lawyers Road Before Road Diet Photo credit: VDOT



Figure 16: Lawyers Road After Road Diet

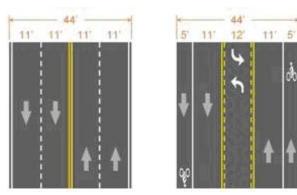


Figure 17: Before and After Illustration

VDOT completed a model Road Diet project in Reston, VA, shrinking Lawyer's Road from four lanes to two plus a turn lane and bike lanes

L. Each agency should designate a bicycle coordinator and a pedestrian coordinator to oversee bicycle and pedestrian programs.

Experience has shown that without a designated staff person or persons responsible over for overseeing their implementation, pedestrian and bicycle programs and policies are not implemented effectively. Staffing levels should be proportional to the size of the agency and volume of work.

All TPB member jurisdictions with active pedestrian and bicycle programs designate a lead staff person or coordinator.

Chapter 7

The 2040 Bicycle and Pedestrian Network

CHAPTER 7: THE 2040 NETWORK

The Regional Bicycle and Pedestrian Network in 2040

The *Bicycle and Pedestrian Plan for the National Capital Region* includes 659 bicycle and pedestrian facility improvement projects from across the region. If every project in the plan is implemented, in 2040 the region will have added approximately 800 miles of bicycle lanes and 800 miles of shared-use path. The overall network length (allowing for some dual bike lane/sidepath facilities) will increase by approximately 1600 miles.

In addition, hundreds of miles of signed on-road bicycle routes will be created. In many cases roads are designated for improvement as bicycle routes, but the exact nature of the improvement – bike lane, widened shoulders, wide outside lane, shared lane markings, signs – has not yet been determined.

Thirty major pedestrian intersection improvements will be carried out, and fifteen pedestrian/bicycle bridges or tunnels will be built. Hundreds of intersections will receive new crosswalk signals, and ongoing sidewalk improvement programs will retrofit sidewalks in areas where they are missing.

A new bicycle and pedestrian crossing over the Potomac will be created at the American Legion Bridge, and the bridges over the Anacostia River will be improved for pedestrians and bicyclists. In addition, twenty-seven major streetscaping projects will improve pedestrian and bicycle access and amenities in places such as Atlantic Boulevard, Tysons, Maryland Avenue NE, and downtown Bethesda.

Table 7-1 below summarizes the new facility mileage that will be added by 2040 if this plan is implemented in full.

Table 7-1: Miles of Bicycle/Pedestrian Facilities in the Washington Region												
Facility Type	Total in 2005	Completed 2006- May 2010	Completed June 2010 May 2014	Planned New Facilities/ Upgrades	Total in 2040							
Bicycle Lane	56	35	45	792	928							
Shared-Use Path	490	53	52	800	1393							
Total	546	88	97	1592	2323							

Progress Since 2010

Fifty-three projects from the 2010 Bicycle and Pedestrian Plan have been completed. This total does not count projects on which significant progress has been made, unless for reporting purposes the project was split into phases, and the earlier phases reported as complete.

Five major pedestrian intersection improvements, seven streetscaping projects, and three pedestrian bridges or tunnels were completed.

Notable projects finished since 2010 include Capital Bikeshare in the District of Columbia and Arlington, and the L Street NW protected bike lane in DC.

Mileage of sidewalk construction was not tracked, but there are ongoing sidewalk retrofit and pedestrian safety programs in all the major inner jurisdictions. Privately provided facilities are generally not counted.

The region is currently adding about twelve miles of shared-use path and eleven miles of bike lane per year. At the current pace of construction the region will have completed about 420 miles of shared use path, and 385 miles of bike lane by 2040, or about half of the planned network.

The planned network is 600 miles longer than the one in the 2010 plan. The pace of implementation is increasing, but the agency plans are more ambitious.

Funding

While many of these projects have no identified funding source, and are not expected to be built soon, some are very close to being realized. Of the 523 planned projects, 20 are under construction, 134 are fully funded, and another 94 have some funding identified.

Under "Complete Streets" policies, most bicycle and pedestrian projects are now built as part of larger transportation projects. Of the transportation projects in the <u>FY 2015-2020 Transportation Improvement Program</u>, 133 include some form of bicycle and pedestrian accommodation, while 29 projects were identified as being specifically bicycle or pedestrian.

Cost Estimates

Cost estimates were provided by the agencies for about 30% of the planned projects. For most of the planned projects that have not yet been designed, no meaningful project-level estimates can be made. Many of the projects which have cost estimates are part of a larger project. In a combined project it is nearly impossible to disentangle the portion of the cost attributable to bicycle or pedestrian features.

Given the difficulties of getting actual cost estimates for each project, we have imputed a range of regional costs for the plan based on an <u>assumed typical cost per mile</u> or per

CHAPTER 7: THE 2040 NETWORK

project.¹ The total cost of improvements listed in the plan is estimated at about \$3 billion (2014 dollars).

	Table 7-2 Imputed Costs for Selected Bicycle Facilities (in thousands of dollars)												
Facility Type	Imputed Cost Range per Mile or per Project	Average	Miles or Number of Projects	Imputed Cost									
Shared Use Path	\$300 - \$4,000	480	800 miles	\$250,000 - \$3,200,000									
Bicycle Lane	\$5 \$500	124	792 miles	\$4000 - \$400,000									
Pedestrian/Bicycle Bridge/Tunnel	\$1,000 - \$6,000		15 projects	\$15,000 - \$95,000									
Pedestrian Intersection Improvement	\$300 - \$600		30 projects	\$10,000 \$15,000									
Streetscape	\$2,000 - \$4,000		27 project	\$50,000 - \$100,000									
Total				\$300,000 - \$4,000,000									

No comparable "financially unconstrained" plan exists for other types of transportation projects over the next 30 years. The six-year, FY 2015-2020 Transportation Improvement Program includes \$17.9 billion worth of transportation projects and programs, an amount which is widely seen as inadequate for the region's transportation needs. Assuming the region continues to fund transportation at the same real level for the next 30 years, fully funding the bicycle and pedestrian plan over the same period would cost roughly 3% of the total transportation budget.

Explanation of Project listings

Appendix A lists the plan projects, organized alphabetically by state and jurisdiction. Facility type, responsible agencies, limits, length, and cost are also included. Note that due to the nature of bicycle and pedestrian facility improvements, the list in Appendix A is expected to change annually, as projects are added or removed.

The project list is drawn from a database that includes more extensive information, including project status, agency project ID number, facility lengths, facility alignment, description, project status, project web site, date of (projected) completion, date the record was last updated, and project manager name and contact information. Agency staff may enter via a password-protected web site to enter, edit, and delete project information, making the process of keeping the database accurate simple. A public

¹ Costs for Pedestrian and Bicyclist Infrastructure Improvements" UNC Highway Safety Research Center, October 2013.

CHAPTER 7: THE 2040 NETWORK

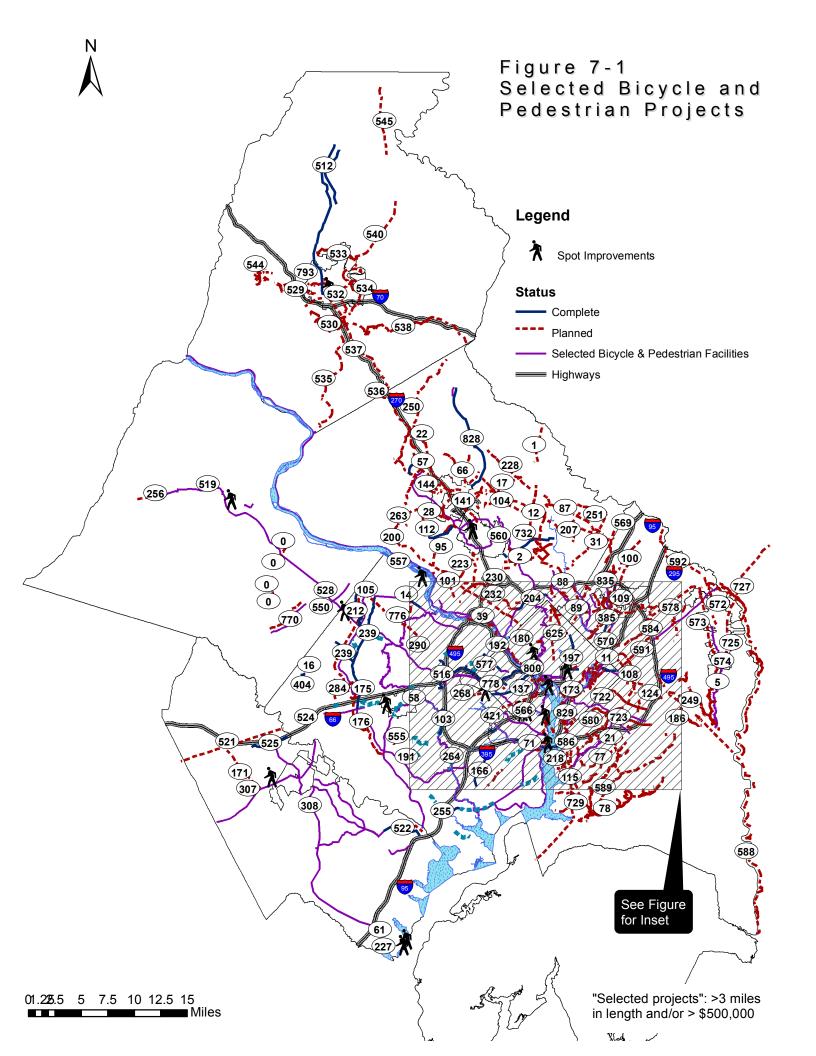
access version of this on-line version of this database can be found at http://www.mwcog.org/bikepedplan/.

Over time the database has proven useful in tracking the progress of bicycle and pedestrian projects at a regional level. A sample database entry and a data dictionary are found in Appendix B.

This project list is intended to be a list of significant planned bicycle and pedestrian projects in the Washington region. It is meant to include pedestrian and bicycle projects built as part of larger transportation projects, as well as stand-alone bicycle and pedestrian projects.

Agencies were encouraged to submit projects for inclusion if they were one mile or more in length, or cost more than \$400,000. Small sidewalk projects are not included unless they were part of a larger pedestrian or bicycle project.

Figures 7-1 and 7-2 show the location of major bicycle and pedestrian projects throughout the region. Pedestrian/bicycle bridge or tunnel projects, multi-use paths greater than three miles in length, and projects estimated by their sponsors to cost more than \$500,000 are mapped, except for area projects that cannot be mapped in a meaningful way. About a quarter of the plan projects are mapped. Project details can be found in the project list in Appendix A, which groups the projects by state and jurisdiction.



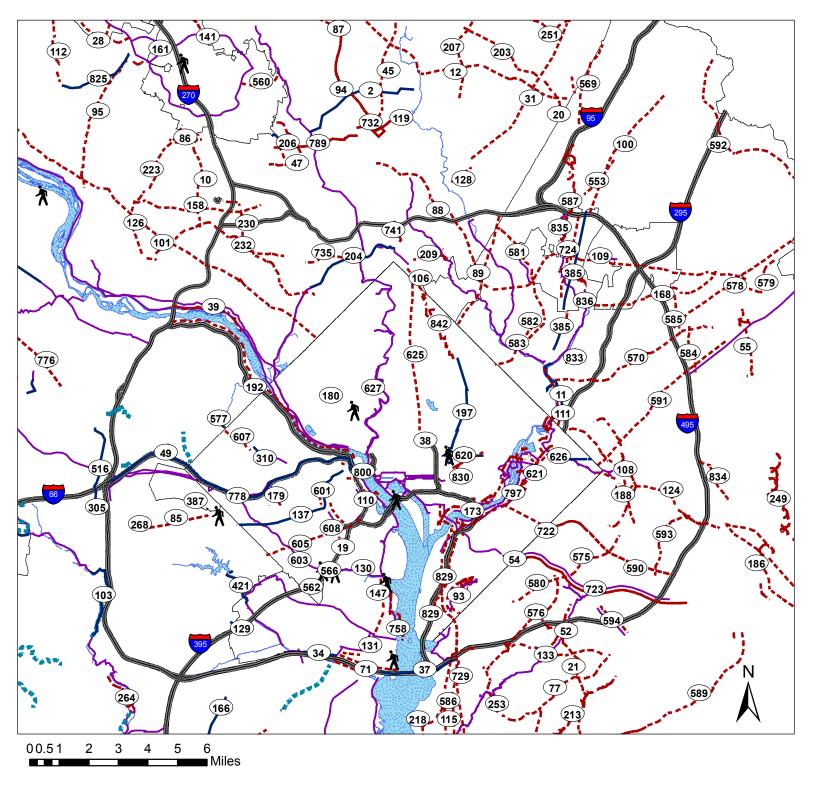
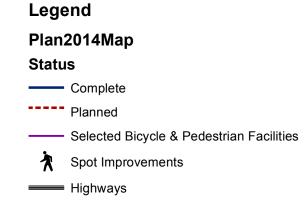


Figure 7-2 Selected Bicycle and Pedestrian Projects



"Selected projects": >3 miles in length and/or > \$500,000

Appendix A

Bicycle and Pedestrian Projects

Of the Long-Range Bicycle and Pedestrian Plan For the National Capital Region This appendix contains a complete list of the projects in the Bicycle and Pedestrian Plan for the National Capital Region. Below is a guide to the printed project list. Appendix B contains a data dictionary for the electronic database, which contains more information than this printed list, as well as a sample data entry form.

PROJECT LIST DATA D	ICTIONARY
Field	Explanation
Line Number	Short ID number used to label projects on the maps
Agency Project ID	The sponsoring agency's project identifying number
Project Name	Descriptive name provided by the sponsoring agency
From	Project Limits
То	Project Limits
Length (Miles)	Length of the project from start to finish in miles. Example: if a project consists of four miles of road with a continuous
	bike lane and sidewalk, the project length is four miles. For
	projects that have no length, such as bicycle racks, the listed length is zero.
Responsible Agencies	Agencies responsible for implementing the project or otherwise involved
Bike Lane	Bike lanes are striped lanes at least 4' wide in the public right- of-way, marked for the exclusive use of bicyclists
Multi-Use Path	A paved or hard-surface path separated from traffic, officially designated for bicycles and other non-motorized users. Should be at least 8' wide.
Sidewalk	Sidewalks are usually less than 8' wide, and are not designed for bicyclists.
Type of Spot/Area	For non-linear projects. The pull-down menu gives the
Improvement	following options:
	Type of Improvement Code Letter
	1. Pedestrian Intersection Improvement I
	2. Pedestrian/Bicycle Bridge or Tunnel B
	3. Traffic Calming TC
	4. Streetscape/Pedestrian Improvements S
	5. Bicycle Parking PK
	6. Bicycle Route Marking BR
	7. Other O
In CLRP	Project is in the Financially Constrained Long-Range
	Transportation Plan for the National Capital Region, and
	therefore is officially considered to have funding available to
	support project completion.
In TIP	Project is in the most recent National Capital Region
	Transportation Improvement Program with specific funding
	amounts identified for program completion.

Field	Explanation							
Status	The pull-down menu offers the following	g options:						
		Code Letter						
	1. Fully Funded ¹ F							
	2. Partially Funded P							
	3. Unfunded U							
	4. Under Construction	UC						
	5. Complete	C						
Cost	In thousands of dollars. As many project be built for many years, and have not be can be a very rough estimate. If a project project the total project cost is <i>not</i> listed the cost which is attributable to the bicy facility. Use of a rule of thumb for such acceptable, i.e. 3% of total project cost. have a cost estimate available.	en fully scoped, this ct is part of a larger , only that portion of cle or pedestrian a estimates was						

¹ "Funded" indicates that the sponsoring agency has considered funding for completion of this project to be reasonably available within projected funding sources. "Unfunded" indicates, that while the project has been identified, there is no projected funding to support its completion at this time.

2014 Draft Bike/Ped Plan Project List

I	Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Bike Side Spo Lane Path walk Are	ot/ In In ea CLRP TIP Status	Cost Est.
DC Dietr	ict-wid	la .							
1		WMATA DC Metrorail Crossing Improvement				WMATA		P	\$346
_	747	Projects Projects				\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			
2		WMATA DC Metrorail Sharrow Projects			1	WMATA		P	\$5 #/22
3	744	WMATA DC Metrorail Sidewalk/ Pathway Projects			ı	WMATA		☐ ☐ P	\$623

Project	ID Project/Facility Name	From	То	Length (Miles)		Bike Lane	Bike Path	Side walk	Spot/ Area	In CLRP	In ' TIP	Status	Cost Est.
Washingto	on												
4 79	4 14th Street Bridge Multi-use Path Improvements	East Basin Drive	14th Street Bridge	0.02	National Park Service DDOT		✓		0			Р	\$515
5 17	3 Anacostia Riverwalk Trail Phase II	Potomac River	Maryland	20	DDOT		~			✓	✓	F	\$20,000
6 79	7 Anacostia Trail Support				National Park Service DDOT								\$500
7 21	5 Bicycle Lanes Phase I			20	DDOT	~					✓	С	\$600
8 84	3 Bicycle Lanes Phase II			20	DDOT	✓						F	
9 5	6 Bicycle Parking Racks				DDOT					~	✓		\$500
10 7	4 Bicycle Route Signs				DDOT						✓	Р	\$100
11 61	9 Blagden Avenue Hiker and Biker Trail - EA	Matthewson Drive	Beach Drive	0.4	DDOT, National Park Service		✓					С	
12 61	3 Capital Bikeshare - District of Columbia				DDOT, Arlington County				0	✓	✓	С	
13 14	2 Cultural/Heritage Trail System				DDOT						✓	С	\$0
14 62	2 District-Wide Bicycle and Pedestrian Program				DDOT	✓		~			✓	Р	\$3,300
15 62	5 Great Streets - Georgia Avenue				DDOT						✓		\$16,140
16 62	0 Great Streets - H Street NE Streetscape	3rd Street NE	14th Street NE	1	DDOT				S		✓	С	\$62,000
17 62	1 Great Streets - Minnesota Avenue NE	A Street SE	Sheriff Road NE	1	DDOT							F	\$7,000
18 62	6 Great Streets - Nannie Helen Burroughs				DDOT						✓	С	\$12,300
19 62	7 Klingle Trail	Porter Street	Woodley Road	1	DDOT						✓	F	\$9,100
20 80	3 L Street Cycle Track	New Hampshire Avenue	12th Street NW	1	DDOT	~						С	\$300
21 83	0 Maryland Avenue NE Complete Street Project	2nd	15th	1	DDOT	✓		✓	S			Р	\$2,000
22 19	7 Metropolitan Branch Trail Phase I	Union Station	Bates Road NE	4	DDOT	✓	✓			~	✓	С	\$20,000
23 84	2 Metropolitan Branch Trail Phase II	Bates Road NE	Silver Spring	2	DDOT	✓	✓			~	✓	Р	
24 9	3 Oxon Run Trail Restoration	South Capitol Street	Southern Avenue	2	DDOT		✓				✓		\$6,000
25 62	8 Pavement Markings & Traffic Calming				DDOT				TC		✓	F	\$34,390

	Project ID	Project/Facility Name	From	То	Length (Miles)		Bike Lane	Bike Path	Side walk	Spot/ Area	In CLRP	In TIP	Status	Cost Est.
26	623	Pedestrian Bridge over Kenilworth Ave			1	DDOT				В		~	F	\$12,000
27	178	Rock Creek Park Trail			4	DDOT, National Park Service		✓				✓	Р	\$2,500
28	629	Safe Routes to School				DDOT						~		\$1,000
29	97	Safe Routes to School Program				DDOT						~	F	\$1,000
30	96	Sidewalk Construction				DDOT			✓					\$2,000
31	624	Transportatation Enhancements				DDOT				S		✓	F	\$13,800
32	75	Union Station Bike Station	(Union Station)			DDOT						✓	С	\$4,000
33	181	Watts Branch Trail	Minnesota Ave	62nd Street, NE	2	DDOT		✓				✓	С	\$3,000
Was	shngton													
34	829	South Capitol Street Trail	Firth Sterling Ave	Oxon Cove	3	DDOT		✓			~	✓	Р	\$7,000
DC	/VA													
Arli	ngton C	ounty, District of Columbia												
35	258	Boundary Channel Bridge Trails				National Park Service								
Reg	ion-wid	e												
36	617	Capital Bikeshare Region-Wide				DDOT, DDOT, Arlington, City of Alexandria, Montgomery				0			С	\$22,284

Pr	oject ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side walk	Spot/ Area	In CLRP	In P TIP	Status	Cost Est.
MD														
City o	f Colle	ege Park												
37	385	College Park Trolley Trail	Paducah Road	Albion Road	4	City of College Park	✓	✓		R			С	\$500
City o	f Fred	erick												
38	532	Carroll Creek Trail	Rocky Springs Road	Monocacy River	0	City of Frederick, MDOT		✓		0		✓	Р	\$10,000
39	849	City of Frederick Bike Lanes			6	City of Frederick	~						С	
40	552	Citywide Sidewalk Retrofit	City of Frederick	City of Frederick	0	City of Frederick							Р	\$240
41	531	Rock Creek Trail	Stonegate Park	US Route 15	0	City of Frederick		✓				✓	Р	\$1,000
42	793	US15 Undercrossing	Baker Park	Waterford Park	1	City of Frederick, MDSHA		✓		В			F	\$2,250
City o	f Fred	erick, Frederick County												
43	551	East Street Rail Trail	Carroll Creek	Tuscarora Creek	0	City of Frederick, MDOT & MTA	✓	✓		0		✓	Р	\$2,000
City o	f Gree	enbelt												
44	802	Springhill Lake Elementary Safe Routes to School	Cherrywood Lane	Springhill Lane	0.3	City of Greenbelt, SH	Α 🗌			TC			UC	\$195
Distric	ct-wid	e												
45	751	WMATA Maryland Metrorail Crossing Improvements				WMATA							Р	\$1,363
46	748	WMATA Maryland Metrorail Sharrows and Bike Lanes			8	WMATA							Р	\$341
47	745	WMATA Maryland Metrorail Sidewalk/ Pathway Project			5	WMATA							Р	\$2,073

	Project ID	Project/Facility Name	From	То	Length (Miles)		Bike Lane	Bike Path	Side Spot/ walk Area	In CLRP	In TIP	Status	Cost Est.
Fred	derick Co	ounty											
48	530	Ballenger Creek Trail	Ballenger Creek Park	Monocacy River	5	Frederick County		~			✓	UC	\$3,200
49	538	Bush Creek Trail	Monocacy River	Montgomery County Line	0	Frederick County		✓				U	\$1,300
50	558	Frederick County Safe Routes to Schools	Countywide	Countywide	0	Frederick County, Frederick County Public Schools						Р	\$350
51	754	MD 180/MD 351, Jefferson Creek Pike	MD 180 Stoney Creek Drive	MD 351 Crestwood BLVD	3.1	MDOT	~		✓	✓	~	Р	2,000,000
52	738	MD 85, Buckey's Town Pike	South of English Muffin Way	North of Grove Road		MDOT	~	✓	✓	✓	✓	Р	5,000,000
53	535	Monocacy River Greenway Future Phases	Ballenger Creek Trail	Potomac River	0	Frederick County		~				U	\$7,000
54	547	On-Street Bikeways Countywide	Countywide	Countywide	0	Frederick County, MD SHA	✓				✓	Р	\$3,000
Fred	derick Co	ounty, City of Frederick											
55	512	H&F Trolley Trail Phase II	Water Street	Moser Road	0	Frederick County, Frederick County Div. of Parks & Rec; City of Fred		✓				С	\$7,000
56	534	Monocacy River Greenway Phase I	Tuscarora Creek	Ballenger Creek Trail	0	Frederick County, Frederick County Div. of Parks & Rec; City of Fred		✓				U	\$5,500
57	533	Tuscarora Creek Trail	Yellow Springs Road	Monocacy River	4.5	Frederick County, Frederick County Div. of Parks & Rec; City of Fred		✓				U	\$2,250
Fred	derick Co	ounty, City of Frederick, Town of	Thurm										
58	529	H&F Trolley Trail Phase III	Thurmont	Frederick	0	Frederick County, Frederick County Div. of Parks & Rec; City of Fred		✓				U	\$6,000

P	roject ID Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side Spo walk Are	t/ In a CLRP	In TIP S	Status (Cost Est.
Frede	rick County, Montgomery County											
59	537 I-270 Transitway	City of Frederick	Montgomery County Line	0	Frederick County, Frederick County Div of Parks & Rec	<u></u> И.	✓				U	\$5,000
60	536 Sugarloaf – Little Bennett Trail	Little Bennett Regional Park	Monocacy River	0	Frederick County, Frederick County Div of Parks & Rec; City of Fred		✓				U	\$375
Frede	rick County, Town of Emmitsburg											
61	545 Emmitsburg Railroad Trail	Rocky Ridge	Emmitsburg	0	Frederick County, Frederick County Div of Parks & Rec / Emmitsburg	/.	✓				U	\$3,250
Frede	rick County, Town of Middletown											
62	543 Middletown – Myersville Trolley Trail	Frederick	Myersville	0	Frederick County		~				U	\$5,000
63	544 Middletown Greenway	Middletown	Middletown	0	Frederick County, Frederick County Div of Parks & Rec; Middletown	<u></u> .	✓				U	\$3,000
Frede	rick County, Town of Mt. Airy, Carrol	I County										
64	539 B&O Trail	Mount Airy	Mount Airy	0	Frederick County, Town of Mt. Airy, Carroll County		✓				U	
Frede	rick County, Town of Woodsboro											
65	540 Walkersville – Woodsboro Corridor I	Monocacy River	Israel Creek	0	Frederick County, Frederick County Div of Parks & Rec; MDOT; Woodsb	/.	✓				U	\$2,000
66	542 Walkersville – Woodsboro Corridor III	Monocacy River	Woodsboro - Railroad	0	Frederick County		✓				U	\$5,500

	Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side walk	Spot Area	/ In a CLR	In P TIP	Status	Cost Est.
Mon	tgomer	y County												
67	9	ADA Compliance: Transportation	Countywide			MCDOT				S		✓	F	\$9,090
68	41	American Legion Bridge	Macarthur Blvd	Fairfax County Line		MDOT, MCDOT, VDOT		✓						\$0
69	234	Bel Pre Road - east	Georgia Avenue (MD97)	Layhill Road (MD182)		MCDOT		✓						\$0
70	241	Bethesda Bikeway and Pedestrian Facilities	Bethesda CBD			MCDOT	✓			I		~	F	\$3,520
71	804	Bethesda CBD Streetcape	Bethesda CBD			MCDOT				S			F	\$8,214
72	805	Bethesda Metro Station South Entrance				MCDOT				В			F	\$80,500
73	190	Bethesda Trolley Trail	South Drive	Twinbrook Metrorail station		MCDOT, MDOT	✓	✓					UC	\$0
74	92	Bethesda Trolley Trail	Twinbrook Metro Station	Norfolk/Rugby Ave. intersection (Bethesda)		MCDOT	✓	✓				✓		\$0
75	33	Bethesda Trolley Trail-NIH connector	Battery Lane	Cedar Lane		MCDOT		✓						\$0
76	153	Bikeway Program – Minor Projects	Countywide		12	MCDOT	✓					✓	F	\$3,620
77	848	Black Hill Regional Park Trails			5	M-NCPPC, Montgomery County		✓					С	
78	17	Bowie Mill Road	Muncaster Mill Road (MD115)	Olney-Laytonsville Road (MD108))	MCDOT	✓							\$0
79	232	Bradley Boulevard (MD191)	Persimmon Tree Road	Wisconsin Avenue (MD355)	6	MCDOT, MDOT	✓						Р	\$0
80	20	Briggs Chaney Road East	Old Columbia Pike	Prince George's County line		MCDOT		✓						\$0
81	203	Briggs Chaney Road West	New Hampshire Avenue	Old Columbia Pike		MCDOT	✓							\$0
82	806	Capital Crescent Trail				MCDOT				В			F	\$95,856
83	35	CCT-Black Hill connector	Crystal Rock Drive	Black Hill Regional Park		MCDOT		V						\$0
84	808	Century Boulevard	Dorsey Mill Road		1	MCDOT		✓	✓				F	
85	250	Clarksburg Road (MD121)/ Stringtown Road	Clopper Road (MD117)	MidCounty Highway	5	MCDOT		v						\$0
86	809	Clarksburg Transportation Connections				MCDOT		v	~				Р	
87	144	Clopper Road/Diamond Avenue (MD117)	Summit Avenue	Clarksburg Road (MD121)	3	MCDOT, MDOT	✓	✓						\$0
88	31	Columbia Pike (US29) North	New Hampshire Avenue/ Lockwood Drive	Spencerville Road (MD198)	7	MDOT, MCDOT		✓						\$0

89		Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side S	Spot/ In Area CLR	In P TIP	Status	Cost Est.
Improvisements	89	57	Corridor Cities Transitway bike path	Shady Grove Metrorail Station	Frederick Road (MD355)		MCDOT, MTA							\$0
630 Dale Drive Sidewalk Mansfield Road Harlsford Avenue 0.4 MCDOT	90	810	•	Shady Grove Metro		1	MDOT		✓	✓			F	
140 Damestown Road - south Key West Avenue (MD28) Wootton Parkway MCDOT	91	261	Crabbs Branch Way	Gude Drive	Shady Grove Road		MCDOT		~					\$0
28 Damestown Road (MD28) - North Seneca Road Great Seneca Highway (MD119) 5 MCDOT, MDOT 2 2 3 3 3 3 3 3 3 3	92	630	Dale Drive Sidewalk	Mansfield Road	Hartsford Avenue	0.4	MCDOT			✓		✓	F	\$5,370
158 Democracy Boulevard Falls Road (MD189) Olid Georgelown Road MCDOT	93	140	Darnestown Road - south	Key West Avenue (MD28)	Wootton Parkway		MCDOT		~					\$0
Part	94	28	Darnestown Road (MD28) - North	Seneca Road	Great Seneca Highway (MD119)	5	MCDOT, MDOT	✓	~					\$0
Montrose Road Montrose Roa	95	158	Democracy Boulevard	Falls Road (MD189)	Old Georgetown Road		MCDOT		~					\$0
174 East Jefferson Street Montrose Road Rollins Avenue MCDOT	96	25	Doctor Bird Road/Norwood Road (MD182)	Layhill Road (MD182)			MCDOT, MDOT		✓					\$0
Second S	97	807	East Gude Drive Roadway Improvements	Crabbs Branch Way	Southlawn Lane	1	MCDOT			✓			Р	
Exeter Road Wisconsin Avenue (MD355) MCDOT	98	174	East Jefferson Street	Montrose Road	Rollins Avenue		MCDOT		~					\$0
Montrose Road Montrose Roa	99	238	Ednor Road/Layhill Road	Norbeck Road (MD28)	New Hampshire Avenue (MD650)		MCDOT		~					\$0
Trail 102 67 Fairland Road - West Randolph Road Columbia Pike (US 29) MCDOT, MDOT	100	244	Elm Street	Exeter Road	Wisconsin Avenue (MD355)		MCDOT	✓						\$0
103 107 Fairland Road East Columbia Pike (US29) Prince George's County line MCDOT	101	165	Executive Boulevard	ů .	Montrose Road		MCDOT	✓						\$0
Falls Road East Side Hiker-Biker Path River Road Dunster Road 4 MCDOT, MDOT	102	67	Fairland Road - West	Randolph Road	Columbia Pike (US 29)		MCDOT, MDOT	✓						\$0
240 Father Hurley Boulevard/Ridge Road Germantown Road (MD118) Brink Road MCDOT	103	107	Fairland Road East	Columbia Pike (US29)	Prince George's County line		MCDOT		~					\$0
106 245 Fieldcrest Road Woodfield Road (MD124) Olney-Laytonsville Road (MD108) MCDOT	104	223	Falls Road East Side Hiker-Biker Path	River Road	Dunster Road	4	MCDOT, MDOT		~			✓	F	\$24,830
107 811 Flower Avenue Sidewalk Piney Branch Road Carroll Avenue 1 Takoma Park, Takoma Park 108 136 Forest Glen Pedestrian Bridge west side of Georgia Avenue at Locust Grove Road West Side of Georgia Avenue at Forest Glen Road 109 43 Forest Glen Road - central Belvedere Place Sligo Creek Trail MCDOT, M-NCPPC	105	240	Father Hurley Boulevard/Ridge Road	Germantown Road (MD118)	Brink Road		MCDOT		~				С	\$0
Takoma Park 108 136 Forest Glen Pedestrian Bridge west side of Georgia Avenue at Locust Grove Road west side of Georgia Avenue at Forest Glen Road 109 43 Forest Glen Road - central Belvedere Place Sligo Creek Trail MCDOT, M-NCPPC	106	245	Fieldcrest Road	Woodfield Road (MD124)	Olney-Laytonsville Road (MD108)		MCDOT	✓						\$0
Locust Grove Road Forest Glen Road 109 43 Forest Glen Road - central Belvedere Place Sligo Creek Trail MCDOT, M-NCPPC	107	811	Flower Avenue Sidewalk	Piney Branch Road	Carroll Avenue	1				✓			F	
	108	136	Forest Glen Pedestrian Bridge				MCDOT					✓	С	\$0
110 141 Frederick Road (MD355) Gude Drive Watkins Mill Road 5 MCDOT, MDOT 🔀 🔀 🖂 💲 \$0	109	43	Forest Glen Road - central	Belvedere Place	Sligo Creek Trail		MCDOT, M-NCPPC		✓					\$0
	110	141	Frederick Road (MD355)	Gude Drive	Watkins Mill Road	5	MCDOT, MDOT		✓					\$0

	Project ID	Project/Facility Name	From	То	Length (Miles)		Bike Lane	Bike Path	Side S	Spot/ In Area CLRI	In P TIP	Status	Cost Est.
111	22	Frederick Road (MD355)-Upcounty	Watkins Mill Road	Frederick County line		MCDOT, MDOT, M- NCPPC		✓					\$0
112	812	Frederick Road Bike Path	Stringtown Road	Milestone Manor Lane	2.5	MCDOT		✓				F	\$5,536
113	204	Georgetown Branch Trail	Bethesda CBD	Silver Spring Metrorail station		MCDOT		✓				С	\$0
114	94	Georgia Avenue (MD97) - North	Olney-Laytonsville Road (MD108)	Glenmont Metrorail station	6	MCDOT, MDOT		✓					\$0
115	1	Georgia Avenue (MD97) - Upcounty	Brookeville Bypass	Howard County line		MCDOT, MDOT	✓						\$0
116	242	Georgia Avenue (MD97)-Brookeville	Olney-Sandy Spring Road (MD108)	Brookeville Road	2	MCDOT, MDOT		✓					\$0
117	263	Germantown Road (MD118)	Darnestown Road (MD28)	Frederick Road (MD355)	7	MCDOT, M-NCPPC		✓					\$0
118	127	Glenallen Avenue	Randolph Road	Kemp Mill Road		MCDOT		✓					\$0
119	813	Gold Mine Road Bridge				MCDOT				В		F	
120	151	Goldboro Road (MD614)	MacArthur Boulevard	Bradley Boulevard (MD191)	2	MCDOT, MDOT	✓						\$0
121	66	Goshen Road	Girard Street	Warfield Road	4	MCDOT	✓	✓				F	\$0
122	44	Greencastle Road - east	Robey Road	Prince George's County line		MCDOT, M-NCPPC		✓					\$0
123	814	Greentree Road Sidewalk	Old Georgetown Road	Fernwood Road	1	MCDOT			✓			UC	\$3,486
124	122	Grosvenor Connector	Beach Drive	Metro station		MCDOT, MDOT		✓					\$0
125	113	Hines Road-North Branch connector	Rock Creek's North Branch Trail	Cashell Road		MCDOT		✓					\$0
126	736	I-270 Watkins Mill Road Extended	Watkins Mill Road, MD 124 Great Seneca Crossing		1	MDOT	✓	✓	✓	✓	✓	Р	2,000,000
127	12	ICC bike path	I-370 terminus	Prince George's County line		MDOT, M-NCPPC, MCDOT		✓					\$0
128	815	Intersection and Spot Improvements				MDOT							
129	735	Jones Bridge Rd			1	MDOT			✓	✓	~	F	0,000,000
130	45	Layhill Road (MD182)	Georgia Avenue (MD97)	Norbeck Road (MD28)	2	MDOT, Montgomery County	✓						\$0
131	128	Lockwood Drive	Columbia Pike (US29)	New Hampshire Avenue (MD650))	MCDOT		✓					\$0
132	146	Long Draft Road	Quince Orchard Road	Clopper Road (MD117)		MCDOT		✓					\$0
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	Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side S walk	pot/ Area C	In LRP	In TIP	Status	Cost Est.
133	39	MacArthur Boulevard Bikeway Improvements	I-495	Oberlin Avenue	4	MCDOT		✓					F	\$8,710
134	2	Matthew Henson Trail	Rock Creek Trail (west of Viers Mill Rd.)	East of Georgia Ave. (Alderton Road)		MCDOT, M-NCPPC		✓				✓	С	\$5,142
135	737	MD 117, Clopper Road	Seneca Creek Park Entrance	Metropolitian Grove Road	1.7	MDOT	✓	✓	V	Į.	/	~	Р	2,000,000
136	734	MD 185			1	MDOT			✓		/	✓	UC	1,000,000
137	733	MD 355, RockvillePike	Randolph Road Maple/Chapman Ave.	Parklawn Drive	0.6	MDOT	✓	✓	✓		/	✓	Р	7,370,000
138	732	MD 9, Georgia Ave Wheaton to Onley	Wheaton	Onley		MDOT					/	✓	Р	5,000,000
139	731	MD 97 (Brookeville Bypass)	South of Brookeville	North of Brookeville	0.7	MDOT	~				/	~	Р	\$630,000
140	741	MD 97, Georgia Ave (Forest Glen Road to 16th St)	16th Street	Forest Glen Road	0.7	MDOT	✓	✓		•	/	✓	Р	2,000,000
141	789	MD Georgia, Ave	Randolph Road		0.4	MDOT, MCDOT	~	✓	✓	0	/	✓	F	\$63,000
142	743	MD124, Woodfield Road	Midcounty Highway	Airpark Road	1.6	MCDOT	✓		✓	•	/	✓	Р	
143	251	MD198/MD28 shared use path	New Hampshire Avenue (MD 650)	Old Columbia Pike	3	MCDOT, MDOT		✓						\$0
144	42	MD384 connector to Silver Spring Metro Station	16th Street	East-West Highway	1	MCDOT, MDOT		✓						\$0
145	106	Metropolitan Branch Trail	Silver Spring Metro Station	DC Line		MCDOT		✓						\$0
146	15	Metropolitan Branch Trail	Silver Spring Metro/Transit Center	Montgomery College Campus Takoma Park	1	MCDOT		✓					F	\$0
147	72	MidCounty Highway	ICC	Frederick Road (MD355)		MCDOT, M-NCPPC		✓						\$0
148	172	Middlebrook Road	Father Hurley Boulevard	MidCounty Highway		MCDOT		✓						\$0
149	86	Montrose Road/Parkway East	Falls Road	Veirs Mill Road (MD586)	2	MCDOT, M-NCPPC		✓		•	/		F	
150	90	Muddy Branch Road	Darnestown Road (MD28)	Clopper Road (MD117)		MCDOT		✓						\$0
151	104	Muncaster Mill Road (MD115)/ Norbeck Road (MD28)	Woodfield Road	Georgia Avenue (MD97)	5	MCDOT, MDOT		✓						\$0
152	169	Nebel Street - north	Old Georgetown Road	Randolph Road		MCDOT	✓							\$0
153	160	Nebel Street - south	Nicholson Lane	Old Georgetown Road		MCDOT	✓							\$0
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	Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side walk	Spot/ In Area CLF	In RP TIP	Status	Cost Est.
154	149	Nebel Street extended	Randolph Road	Chapman Avenue	1	MCDOT		✓				С	\$13,906
155	154	Needwood Road Bike Path	Deerlake Road	Muncaster Mill Road (MD115)	2	MCDOT		✓				F	\$4,200
156	816	Neighborhood Traffic Calming				MCDOT				TC _		F	\$2,424
157	89	New Hampshire Avenue	DC Line	I-495	4	MCDOT, MDOT		✓					\$0
158	134	New Hampshire Avenue (MD650) - Ashton	Ednor Road	Olney-Sandy Spring Road (MD108)	2	MCDOT, MDOT		✓					\$0
159	207	New Hampshire Avenue (MD650) - Colesville	Randolph Road	Spencerville Road (MD198)	4	MCDOT, MDOT	✓						\$0
160	252	New Hampshire Avenue (MD650) - Ednor	Spencerville Road (MD198)	Ednor Road	2	MCDOT, MDOT	✓						\$0
161	120	New Hampshire Avenue (MD650) - Hillandale	I-495	Lockwood Drive	1	MCDOT, MDOT		✓					\$0
162	47	Nicholson Lane/Parklawn Drive	Nebel Street	Twinbrook Parkway		MCDOT, M-NCPPC	✓						\$0
163	87	Norbeck Road (MD28)	Georgia Avenue (MD97)	Layhill Road	3	MCDOT, MDOT		✓					\$0
164	205	North Bethsda Trail Bridges	crossings of I-495 and I-270			MCDOT						С	\$0
165	79	Norwood Road	Layhill Road (MD182)	New Hampshire Avenue (MD650))	MCDOT, M-NCPPC	✓						\$0
166	208	Observation Drive	Germantown Road (MD118)	Frederick Road (MD355)		MCDOT		~					\$0
167	62	Old Baltimore Road/New Cut Road	Clarksburg Road (MD121)	Frederick Road (MD355)		MCDOT		~					\$0
168	257	Old Columbia Pike	E. Randolph Road	MD 198		MCDOT					~		\$0
169	228	Olney-Laytonsville Road (MD108) - Laytonsville	Laytonsville Town boundary	Olney Mill Road		MCDOT, MDOT		✓					\$0
170	236	Olney-Sandy Spring Road (MD108) - Ashton	Layhill Road (MD182)	Howard County line	2	MCDOT, MDOT		~					\$0
171	194	Pedestrian Safety Program	Countywide			MCDOT					~	F	\$9,622
172	126	Persimmon Tree Road	Oaklyn Drive	Falls Road (MD189)		MCDOT		✓					\$0
173	95	Piney Meetinghouse Road	River Road (MD190)	Darnestown Road		MCDOT	✓						\$0
174	112	Quince Orchard Road	Dufief Mill Road	Darnestown Road (MD28)		MCDOT		✓					\$0
175	150	Randolph Road - central	Parklawn Drive	Veirs Mill Road (MD586)		MCDOT	✓						\$0
176	119	Randolph Road - east	Veirs Mill Road (MD586)	Kemp Mill Road/ Northwest Branch Trail		MCDOT		✓					\$0
177	206	Randolph Road - west	Rockville Pike (MD355)	Parklawn Drive		MCDOT		✓					\$0

	Project ID	Project/Facility Name	From	То	Length (Miles)		Bike Lane	Bike Path	Side S walk	Spot/ I Area Cl	In LRP	In TIP \$	Status	Cost Est.
178	183	Redland Road - east	Needwood Road	Muncaster Mill Road (MD115)		MCDOT	✓] [\$0
179	59	Redland Road - west	Shady Grove Metrorail station	Needwood Road	1	MCDOT, M-NCPPC		✓						\$0
180	156	Richter Farm Road	Great Seneca Highway (MD119)	Clopper Road (MD117)		MCDOT		✓					С	\$0
181	221	Riffleford Road	Darnestown Road (MD28)	Germantown Road (MD118)		MCDOT	✓							\$0
182	101	River Road (MD190)	DC line	Seneca Road (MD112)	13	MCDOT, MDOT		✓						\$0
183	817	Robey Road	Greencastle Road	Briggs Chaney Road	1	MCDOT		✓					С	\$8,142
184	157	Rock Creek Trail-Forest Glen Metro connector	Stoneybrook Road	Seminary Road		MCDOT, Montgomery County, M-NCPPC		✓						\$0
185	138	Rock Springs Connector	Democracy Boulevard	Tuckerman Lane		MCDOT		✓						\$0
186	200	Seneca Road	River Road (MD190)	Darnestown Road (MD28)		MCDOT, MDOT	✓							\$0
187	10	Seven Locks Road	Montrose Road	Bradley Blvd.	5	MCDOT	✓	✓					Р	\$27,000
188	152	Shady Grove Road - east	Frederick Road (MD355)	Muncaster Mill Road (MD115)		MCDOT	✓						UC	\$0
189	170	Shady Grove Road - west	Darnestown Road	Frederick Road (MD355)		MCDOT	✓	✓					Р	\$0
190	819	Sidewalk and Infrasturcture Revitalization				MCDOT				S [F	\$44,762
191	231	Sidewalk Program - minor projects	countywide			MCDOT						✓	F	\$14,387
192	209	Silver Spring Green Trail	Silver Spring Metro Station	Sligo Creek Hiker-Biker Trail		MCDOT	✓					✓	F	\$6,334
193	820	Snouffer School Road	Sweet Autumn Drive	Centerway Road	1	MCDOT	✓	✓	✓				Р	\$23,710
194	68	Spencerville Road (MD198) - Fairland	Old Columbia Pike	Prince George's County line	2	MCDOT, MDOT		✓						\$0
195	823	Street Tree Preservation				MCDOT				S [F	\$24,900
196	821	Streetlight Enhancements - CBD/Town Center				MCDOT				0 [F	\$3,430
197	117	Tilden Lane	Nicholson Lane	Hounds Way		MCDOT	✓							\$0
198	822	Traffic Signals				MCDOT				0 [F	\$35,106
199	824	Transportation Improvements for Schools				MCDOT				S [F	\$1,796
200	825	Travilah Road	Darnestown Road	Dufief Mill Road	2	MCDOT		✓	✓				С	\$13,601
201	46	Tuckerman Lane	Old Georgetown Road	Rockville Pike (MD355)		MCDOT	~							\$0
202	76	Twinbrook Parkway	Frederick Road (MD355)	Veirs Mill Road (MD586)		MCDOT	✓							\$0

	Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side Sp walk A	oot/ In In rea CLRP TIP \$	Status C	Cost Est.
203	88	University Boulevard	Georgia Avenue	Prince George's County Line		MCDOT, MDOT		✓				\$0
204	220	Viers Mill Road (MD586) - west	Twinbrook Parkway	Matthew Henson Trail	2	MCDOT, MDOT	✓					\$0
205	229	Watkins Mill Road	Frederick Road (MD355)	MidCounty Highway		MCDOT		✓				\$0
206	81	Wayne Avenue Green Trail	Spring Street	Sligo Creek Trail		MCDOT, M-NCPPC		✓				\$0
207	233	West Cedar Lane	Old Georgetown Road	Beach Drive		MCDOT		✓			Р	\$0
208	40	Western Avenue	River Road	Chevy Chase Circle		MCDOT		✓				\$0
209	185	Westlake Drive	Westlake Terrace	Tuckerman Lane		MCDOT	✓				С	\$0
210	230	Westlake Terrage/Fernwood Road/Green Tree Road	Rockledge Drive	Old Georgetown Road		MCDOT	✓					\$0
211	826	White Flint District East				MCDOT	~	✓	✓	В	F	
212	827	White Flint District West				MCDOT	✓	✓	✓		F	
213	84	Willard Avenue Bike Lanes	Willard Avenue Park	Wisconsin Avenue		MCDOT	✓					\$0
214	121	Wilson Lane (MD188) - west	MacArthur Boulevard	Elmore Lane	2	MCDOT, MDOT	✓					\$0
215	260	Wisconsin Avenue Path	Bradley Lane	Oliver Lane		MCDOT, M-NCPPC	✓					\$0
216	828	Woodfield Road Extended	Main Street	Ridge Road	1	MCDOT		✓			С	\$13,842
217	83	Woodmont Avenue	Bethesda Avenue	Battery Lane		MCDOT	~					\$0

Project	ID Project/Facility Name	From	То		Responsible Agencies	Bike Lane	Bike Path	Side Sp walk A	oot/ In rea CLRF	In P TIP	Status	Cost Est.
Prince Ge	orge's County											
218 18	38 Addison Road	MD 214	Walker Mill Road		Prince Georges County	✓		✓			Р	\$2,343
219 58	Adelphi Road Sidewalks and Bike Lanes	MD 193	MD 410	0	Prince Georges County, M-NCPPC	✓					U	\$1,400
220 7	77 Allentown Road	MD 5	Old Fort Road		Prince Georges County	✓					U	
221 11	11 Anacostia River Trail	Bladensburg Marina	Wash. D.C. line		M-NCPPC, Prince Georges County		✓				С	\$500
222 24	17 Auth Road	MD 337 (Allentown Road)	MD 5 (Branch Avenue)		Prince Georges County	✓	✓				F	\$450
223 59	Auth Road Sidewalks and Bike Lanes	MD 337	Auth Way	0	Prince Georges County, M-NCPPC	✓					U	\$1,000
224 85	51 Black Branch Stream Valley Trail - Oak Creek Club			2	Prince Georges County		~				С	
225 15	55 Bock Road	Livingston Road	Tucker Road		Prince Georges County	✓						
226 13	Brinkley Road	Allentown Road	St. Barnabas road		Prince Georges County	✓					U	
227 10	08 Cabin Branch Trail	Presidential Corporate Center	Western Branch		M-NCPPC, Prince Georges County		✓					\$1,350
228 5	3 Cabin Branch Trail	MD 214	Cheverly Metro		M-NCPPC, Prince Georges County		✓					\$260
229 58	88 Charles Branch Trail	Rosaryville Creek	Western Branch	0	M-NCPPC, Prince Georges County, M- NCPPC		✓				U	\$4,000
230 12	24 Chesapeake Beach Rail-Trail	Capital Beltway	Upper Marlboro		M-NCPPC, Prince Georges County		✓				U	\$1,080
231 13	35 Chesapeake Beach Rail-Trail	MD 704	Addison Road Metro		M-NCPPC, Prince Georges County, City of Seat Pleasant	у	✓				U	\$200
232 12	25 Chesapeake Beach Rail-Trail	MD 214	Capital Beltway		M-NCPPC, Prince Georges County		✓				U	\$650
44 lan 45												2 10

	Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side Spo walk Are	ot/ In ea CLF	In RP TIP	Statu	s Cost Est.
233	573	Chestnut Avenue/Highbridge Road Sidepath	MD 450	MD 564	0	Prince Georges County, M-NCPPC	✓					U	\$1,512
234	5	Collington Branch Trail	MD 214	Upper Marlboro	6	M-NCPPC, Prince Georges County		✓				Р	\$2,000
235	23	East Coast Greenway American Discovery Trail	Washington D.C.	Anne Arundel County		MDOT, M-NCPPC, Prince Georges County	✓	✓					\$0
236	833	Edmonston Road Complete and Green Street	MD 201	51st Street	0.5	Prince Georges County	✓		✓			Р	\$4,379
237	839	Evarts Street Bike Lanes	I-495	Ruby Lockhart Boulevard	0.2	Prince Georges County	✓		✓			С	
238	55	Folly Branch Trail	Bald Hill Branch	Glenwood Park Neighborhood Park		M-NCPPC, Prince Georges County		✓				Р	\$1,000
239	218	Fort Foote Road	Oxon Hill Road (north)	Oxon Hill Road (south)		Prince Georges County	✓						
240	163	Fort Washington Road	MD 210	Fort Washington National Park		Prince Georges County	✓					U	
241	168	Good Luck Road	MD 193	MD 201		Prince Georges County	✓					U	
242	569	Gunpowder Road Sidepath and Bike Lanes	MD 212	MD 198	0	Prince Georges County, M-NCPPC	✓	✓				Р	\$2,000
243	834	Harry S Truman Drive Complete and Green Street	Mt. Lubentia Way	Lottsford Road	1.6	Prince Georges County	✓		✓			Р	\$15,075
244	52	Henson Creek Trail extension	Brinkley Road	Branch Avenue Metro		M-NCPPC, Prince Georges County		✓				Р	\$1,367
245	739	I-95/I-495 Capital Beltway	Auth Way	I-495/I-95 Phase 2 (Acces Road	1	MDOT	~	✓	✓	✓	✓	Р	8,000,000
246	798	Improve Ped Crossing at Suitland Pkwy Forestville				National Park Service							\$367
247	580	Iverson Street Sidewalks and Bike Lanes	MD 5	Iverson Place	0	Prince Georges County, M-NCPPC	✓					U	\$700
248	582	Jamestown Road Sidewalks and Bike Lanes	MD 500	Ager Road	0	Prince Georges County, M-NCPPC						U	\$1,000
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	Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side walk	Spot/ Area (In CLRP	In TIP	Status	Cost Est.
249	571	Jericho Park Road Sidepath and Bike Lanes	MD 197	Race Track Road	0	Prince Georges County, M-NCPPC	✓						U	\$385
250	587	Little Paint Branch Trail Extension	Cherry Hill Road	Sellman Road	0	M-NCPPC, Prince Georges County, DPW&T	✓	✓					Р	\$5,000
251	6	Livingston Road	Oxon Hill Road	MD 210		Prince Georges County	✓			I			U	
252	726	MD 117, Collington Road	Kenhill Dr.	MD 450	1.4	MDOT	✓		✓		✓	✓	Р	4,100,000
253	109	MD 193	MD 564	Montgomery Co. line		MDOT	✓	✓						\$0
254	592	MD 197 Sidepath	MD 198	Rockledge Drive	0	MDOT, M-NCPPC	✓	✓					U	\$18,000
255	753	MD 201 (Edmonston Road/US 1 Balimore Ave.)	I-95	Muirkirk Road	18	MDOT	✓		✓		✓	✓	Р	6,000,000
256	729	MD 210, Indian Head HWY				MDOT	✓		✓		✓	✓	F	4,574,000
257	788	MD 223 Piscataway Rd	Steed Rd	MD 4	8	MDOT				•	✓	✓	F	\$1,140
258	589	MD 223 Sidepath	MD 4	Livingston Road	0	MDOT, M-NCPPC	✓	✓					U	\$15,000
259	728	MD 28, Norbeck Rd/MD 198 Spencerville Road	MD 97	I-95	11	MDOT					✓	✓	U	5,000,000
260	727	MD 3, Robert Crain HWY	US 50	MD 32	8.9	MDOT	✓		✓		✓	✓	U	5,400,000
261	590	MD 4 Sidepath	I-495	Southern Avenue	0	MDOT, M-NCPPC	✓	✓					U	\$4,000
262	730	MD 450 Annapolis Road	Stoneybrook Dr.	West of MD	1.7	MDOT		✓	✓	0	✓	✓	U	1,000,000
263	570	MD 450 Sidepath and/or wide sidewalks	Seabrook Road	US 1	0	MDOT, SHA	✓	✓					U	\$3,000
264	740	MD 5 Branch Ave (Interchange at MD 373/Brandywine)	At BrandyWine Road (MD 373/381)		0.9	MDOT		✓	✓	I	✓	✓	Р	3,000,000
265	116	MD 564 Sidepath and Bike Lanes	MD 197	MD 450		Prince Georges County, M-NCPPC	✓	✓		I			U	\$4,000
266	578	MD 564 Sidepath and Bike Lanes	MD 197	MD 450	0	MDOT, M-NCPPC	✓	✓					U	\$10,000
267	591	MD 704 Sidepath and Bike Lanes	MD 450	Eastern Avenue	0	MDOT, M-NCPPC	✓	✓					U	\$60,000
268	721	MD210, Indian Head HWY	I-95/I-495	MD 228	10	MDOT				0	✓	✓	U	2,700,000
269	574	Mitchellville Road Sidepath	Mt. Oak Road	US 301	0	Prince Georges	✓	✓					U	\$768

	Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side Spot/ walk Area	In CLRP	In TIP	Status	Cost Est.
						County, M-NCPPC							
270	838	Montpelier Road Complete and Green Street	MD 197	200 feet south of Carland Place	1.4	Prince Georges County	✓		✓			Р	
271	577	Old Chapel Road Sidewalk and Bikeway	MD 197	Race Track Road	0	Prince Georges County, M-NCPPC	~					С	\$2,000
272	235	Old Fort Road	MD 210	Fort Washington Road		Prince Georges County	✓						
273	51	Oxon Hill Road	MD 210	Livingston Road		Prince Georges County, DPW&T	✓					UC	\$0
274	139	Oxon Hill Road (MD 414)	MD 210	St. Barnabas Road		MDOT	✓						\$350
275	586	Oxon Run Trail	Southern Avenue	Naylor Road	0	M-NCPPC, Prince Georges County, M- NCPPC		✓				U	\$1,100
276	836	Paint Branch Parkway Complete and Green Street	MD 201	River Road	0.8	Prince Georges County	~		✓			Р	\$2,540
277	835	Paint Branch Parkway Complete and Green Street	River Road	MD 201	0.9	Prince William Co. DPW	✓		✓			F	\$2,540
278	78	Piscataway Creek Trail	Dower House Branch near Cheltenham	Potomac River		M-NCPPC, Prince Georges County, National Park Service		✓				Р	\$2,300
279	115	Potomac Heritage On-Road Bicycle Route	Oxon Cove Park	Piscataway		Prince Georges County, DPW&T	✓					Р	\$0
280	198	Prince George's Connector	Chillum Road	Gallatin Street		M-NCPPC, Prince Georges County		✓				Р	\$400
281	585	Princess Garden Parkway Sidewalks and Bike Lanes	MD 450	Good Luck Road	0	Prince Georges County, M-NCPPC	✓					U	\$700
282	579	Prospect Hill Sidewalks and Bike Lanes	Hillmeade Road	MD 953	0	Prince Georges County, M-NCPPC	✓					U	\$800
283	583	Queen Chapel Road Sidewalks and Bike Lanes	MD 410	Eastern Avenue	0	MDOT, M-NCPPC	✓					U	\$5,000
284	572	Race Track Road Sidepath and Bike Lanes	MD 450	MD 197	0	Prince Georges County, M-NCPPC	✓	✓				U	\$1,900
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	Project ID	Project/Facility Name	From	То	Length (Miles)		Bike Lane	Bike Path	Side Spot/ walk Area	In CLRF	In ' TIP	Status	Cost Est.
285	850	Rhode Island Avenue Trolley Trail Ext. Phase I	Queensbury Road	US 1	1	M-NCPPC, Prince Georges County		✓				С	
286	553	Rhode Island Avenue Trolley Trail Ext. Phase II	Farragut Street	Armentrout Drive	0	M-NCPPC, Prince Georges County		✓				Р	\$1,500
287	593	Ritchie Branch Trail	Marlboro Pike	Walker Mill Road	0	M-NCPPC, Prince Georges County, M- NCPPC		✓				U	\$2,000
288	186	Ritchie Marlboro Road	Old Marlboro Pike	Capital Beltway		Prince Georges County		✓					\$1,100
289	840	Ruby Lockhart Boulevard	Evarts Street	St. Joseph's Drive	0.6	Prince Georges County	✓	✓	✓			С	
290	575	Silver Hill Road Sidewalks and Bike Lanes	MD 5	Walker Mill Road	0	MDOT, DPW&T	✓					U	\$1,680
291	576	St. Barnabas Road Sidewalks and Bike Lanes	Silver Hill Road	Livingston Road	0	Prince Georges County, M-NCPPC	✓					U	\$2,500
292	54	Suitland Parkway Trail	Washington D.C.	MD 4	6	National Park Service		✓					\$0
293	837	Swan Road Complete and Green Street	MD 458	200 feet south of Swann Place	0.7	Prince Georges County	✓		✓			Р	\$4,885
294	21	Temple Hills Road	Saint Barnabas Road	Piscataway Road		Prince Georges County	✓					U	
295	213	Tinkers Creek Trail	MD 5	Piscataway Creek		M-NCPPC, Prince Georges County		✓					\$1,600
296	253	Tucker Road	Saint Barnabas Road	Allentown Road		Prince Georges County	✓						
297	100	US 1	Sunnyside Avenue	Contee Road		MDOT	✓	✓					\$1,000
298	118	US 1 (College Park)	Sunnyside Avenue	Albion Road		MDOT	~	~					\$0
299	724	US 1, Baltimore Ave	College Ave	I-95/I-495	4.6	MDOT	✓		✓	✓	~	U	0,000,000
300	725	US 301, Crain Highway	Mount Oak Road	US 50	2	MDOT	~		✓	✓	✓	U	8,800,000
301	841	Walker Mill Road bike lanes	Southwest Branch	Beechnut Road	0.7	M-NCPPC, Prince Georges County	✓					С	
302	852	WB&A Spur Trail			1	M-NCPPC, Prince Georges County		✓				С	

	Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side walk	Spot/ Area	In CLRP	In TIP	Status	Cost Est.
303	201	WB&A Spur Trail	WB&A Trail	Fran Uhler Natural Area		M-NCPPC, Prince Georges County		✓					UC	
304	249	Western Branch Trail	Lottsford Road	Upper Marlboro		M-NCPPC, Prince Georges County		✓						\$3,100
305	584	Whitfield Chapel Road Sidewalks and Bike Lanes	MD 704	MD 450	0	Prince Georges County, M-NCPPC	✓						U	\$800
306	196	Woodrow Wilson Bridge	Oxon Hill Road	Virginia		M-NCPPC, Prince Georges County, MDOT		✓		В	✓	✓	С	\$0
Prin	ce Geor	ge's CountyM												
307	723	MD 4, Pennsylvania Ave (Suitland PKWY Interchange)	MD 4 Suitland PKWY			MDOT	✓	✓		0	✓	✓	Р	0,000,000
308	722	MD 4, Pennsylvania Ave.	I-95/I-495	MD 223	3.1	MDOT	~			0	✓	✓	Р	7,300,000
Roc	kville													
309	559	Accessible Pedestrian Signals	Citywide project		0	City of Rockville				I			UC	\$1,129
310	24	Bicycle Route System Improvements	Citywide project			City of Rockville							С	\$1,057
311	167	Millennium Trail South - Wootton Parkway	W. Edmonston Dr	Veirs Mill Rd	1	City of Rockville, Maryland State Highway Administration		✓					С	\$905
312	161	Ped/Bike Bridge Over I-270 along MD 28	Adclare Rd and Nelson Street	Darnestown Road	2	City of Rockville, Maryland State Highway Administration		✓		В			С	\$4,714
313	216	Pedestrian Safety	Citywide project			City of Rockville							UC	\$1,366
314	560	Rockville Intermodal Access - Baltimore Road	Rockville Town Center	City limit	0	City of Rockville						✓	F	\$6,393
315	818	Rockville Sidewalk Extensions			1	MCDOT			✓				F	\$532
316	143	Sidewalks	Citywide project		2	City of Rockville			✓				UC	\$1,422
Tako	oma Par	k												
317	50	Carroll Avenue Bike Lanes	DC Line	Piney Branch Road		MDOT, Takoma Park								\$0

Pr	oject ID Project/Facility Name	From	То		Responsible Agencies	Bike Bike Side Sp Lane Path walk A	oot/ In In rea CLRP TIP Status	Cost Est.
Town	of Emmitsburg							
318	546 Emmitsburg Greenway Trail	Emmitsburg	Emmitsburg	0	Frederick County, Town of Emmitsburg		U	\$2,500
Regio	on-wide							
Nation	al Park Service							
319	795 Implement Recommendations of NCR Paved Trails Plan				National Park Servic	e 🗌 🗎		\$1,000
Regio	n-wide							
320	568 WMATA Bicycle Parking Project			0	WMATA		P	\$1,165

Project ID Project/Facility Name

From

To

Length Responsible (Miles) Agencies

Bike Date Path Side Spot/ In In Status Cost Est.

VA

Alexandria, Fairfax County, Falls Church, Loudoun

321 651 VA 7 Trail

Leesburg Alexandria NVTA | | | | | |

	Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike , Path ,	Side :	Spot/ Area	In CLRP	In TIP	Status	Cost Est.
Arlin	gton C	ounty												
322	384	ADA sidewalk upgrades				Arlington County, VDOT			✓	I			UC	\$100
323	859	Arlington Bicycle Network				Arlington County, NVTA							U	\$10,000
324	609	Arlington Blvd. Irving St. HSIP	Arlington Boulevard	Irving Street		Arlington County, VDOT				I	✓	✓	F	\$473
325	610	Arlington Blvd. Park Drive HSIP	Arlington Boulevard	Park Drive		Arlington County, VDOT				I	✓	✓	F	\$495
326	601	Arlington Blvd. Trail improvements	Pershing Drive	Washington Blvd.	1	Arlington County, VDOT		✓				✓	Р	\$800
327	123	Arlington Boulevard Trail Improvements	10th Street overpass	Washington Boulevard	0.8	Arlington County, Arlington County		✓		S			F	\$670
328	19	Army Navy Country Club Emergency Access Drive	S. Queen St.	Army Navy Country Club (Private Drive)	9 0.2	Arlington County			✓	0			U	\$5,000
329	599	Army Navy Drive/Joyce St. bike facilities	S. Joyce Street	12th Street South	1	Arlington County, FHWA, VDOT	✓						U	\$1,000
330	611	Arterial Street Safety improvements				Arlington County				S			F	\$800
331	618	Capital Bikeshare - Arlington				Arlington County, DDOT				0			UC	\$5,423
332	604	Carlin Spring Rd. bridge replacement	Carlin Springs Rd.	North George Mason Drive	0	Arlington County				В			F	\$550
333	686	Clarendon Blvd Trail	Wilson Blvd	Washington Blvd		NVTA								
334	608	Columbia Pike Complete Streets	Frederick St.	Fairfax County Line	3	Arlington County	✓			S	✓	V	Р	\$2,000
335	612	Complete Streets (R-B corridor)				Arlington County				S			F	\$300
336	865	Crystal City Complete Streets				NVTA				S			Р	\$2,000
337	383	CUSTIS TRAIL WESTOVER UNDERPASS @ I-66				Arlington County							С	\$75
338	605	Doctor's Run Trail	South Quincy Street	South George Mason Drive	0	Arlington County							U	\$500
339	653	Four Mile Run Trail	Shirlington Road	Glebe Road		NVTA								
340	313	General Trail Improvements			0	Arlington County							UC	\$100

	Project ID	Project/Facility Name	From	То	Length (Miles)		Bike ∟ane	Bike Path	Side :	Spot/ Area (In CLRP	In TIP	Status	Cost Est.
341	698	George Mason Drive Trail	Old Dominion Drive	Four Mile Run Drive		NVTA							U	
342	514	Glebe Road Bridge Replacement	500' south of Route 50	500' north of route 50	0	VDOT							С	\$1,950
343	518	Glebe Road Pedestrian Crossings	Fairfax Drive	North Carlin Springs Road	0	VDOT					✓	✓	С	\$2,780
344	311	I-395 Shirlington Underpass, Four Mile Run Trail	Shirlingotn Rd	West Glebe Rd	0	Arlington County, VDOT							С	\$2,000
345	602	Kirkwood Rd. sidewalks	Lee Highway	14th Street North	1	Arlington County			✓			✓	Р	\$400
346	598	Long Bridge Park Esplanade Bridge	Boundary Drive	GW Parkway	0	Arlington County, FHWA, VDOT, NPS				В			U	\$2,000
347	644	Metrorail Trail	Cameron Street	Cyrstal City		NVTA								
348	607	Old Dominion Drive Complete Streets	N. Glebe Rd.	Fairfax Co. line	1	Arlington County, VDOT			✓	S	✓	✓	Р	\$2,000
349	310	Old Dominion Drive Complete Streets (phase I)	Lee Highway	N. Glebe Rd.	0	Arlington County, VDOT				S			С	\$1,000
350	219	Old Jefferson Davis Highway/ Mount Vernon Trail CO				National Park Service								
351	147	Potomac Yard/Four Mile Run Trail	Potomac Avenue	Four Mile Run Trail	0.1	Arlington County, City of Alexandria		✓		0			Р	\$1,500
352	606	Priority Bus Stop improvements				Arlington County, WMATA				S	✓	✓	F	\$450
353	799	Re-alignment of Mt. Vernon Trail at Daingerfield I				National Park Service				0				\$713
354	110	Route 110 Trail	Memorial Dr	Pentagon North Parking Lot	0.7	Arlington County, National Park Service		✓		0			F	\$734
355	603	Shirlington Rd. bridge replacement	Shirlington Rd.	Four Mile Run		Arlington County				В			U	\$1,000
356	800	Theodore Roosevelt Island Trailhead Improvements				National Park Service							F	\$500
357	692	US 50 Trail	Wilson BLVD	Nottingham Street		NVTA								
358	179	VA 120 (Glebe Road)	N. Randolph Street	Fairfax Drive		Arlington County, VDOT				I		✓	F	\$2,500
359	664	VA 237 Trail	Glebe Road	Washington BLVD		NVTA								

	Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane Bike Path Side Spot/ walk Area	In In CLRP TIP	Status	Cost Est.
360	699	VA 27 Trail	Arlington Blvd	Columbia Pike		NVTA				
361	315	Washington Blvd Trail Phase I	Arlington Blvd	Walter Reed	0	Arlington County, VDOT			С	\$350
362	600	Washington Blvd. Trail (phase II)	S. 2nd Street	Columbia Pike	1	Arlington County, FHWA, VDOT			F	\$1,500
363	685	Wilson blvd Trail	Wilson Blvd	Key Bridge		NVTA				
Arli	ington C	ounty, District of Columbia								
364	27	Rosslyn Circle & Lynn Street improvements	N. Lynn St	Ft. Myer Dr	0.3	Arlington County, VDOT	_ v _ I		F	\$5,500
Arli	ngton C	ounty, Fairfax County								
365	192	Mount Vernon Trail Extension	Beltway	Theodore Roosevelt Island		National Park Service Fairfax County	e, 🗌 🗸 🗌			

Pro	oject ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane Bike Side Spot/ In In Cost Est.
City of	Alex	andria					
366	844	Access to Transit	King Street	Callahan Drive	0	City of Alexandria	☐ ☐ ☑ I ☐ ☐ F \$1,200
367	976	Backlick Run Multi-Use Paths				City of Alexandria	☐ ☑ ☐ ☐ U \$3,200
368	971	Bicycle and Pedestrian Master Plan Update	citywide			City of Alexandria	✓ ✓ ✓ O ☐ ☐ F \$500
369	564	Bicycle Parking and Racks-on-Buses	various	various	0	City of Alexandria	☐ ☐ ☐ C \$2,300
370	847	Bicycle Parking at Major Transit Stops	various	various		City of Alexandria, VDOT	P F \$400
371	972	Cameron and Prince Street Bicycle Facilities	King Street Metro	Waterfront	2	City of Alexandria	☑ ☐ F \$300
372	759	Capital Bikeshare	Citywide	Citywide		City of Alexandria, VDOT	□ □ □ ☑ P \$3
373	974	Complete Streets	Citywide			City of Alexandria	✓ ✓ I □ □ P \$9,440
374	761	Crystal City to Cameron Street Trail	Crystal City	Cameron Street	4	NVTA, WMATA	U \$1,000
375	129	Duke Street Pedestrian Bridge	Cameron Station	Ben Brennman Park	1	City of Alexandria	□ □ ☑ ☑ C \$750
376	64	Duke Street Sidewalk Improvements at I-395	Oasis Drive	Walker Street	0.5	City of Alexandria, VDOT	☐ ☐ ✔ F \$1,210
377	845	Edsall Rd and S Picket St Pedestrian Improvements	Edsall Road	South Pickett Street		City of Alexandria, VDOT	I F \$400
378	561	Eisenhower Ave Complete Street	Stovall	Holland	0	City of Alexandria, VDOT	✓
379	34	Eisenhower Multi-Use Trail	Cameron Run East	Telegraph Road	2	City of Alexandria	☐ ✓ ☐ ✓ C \$1,600
380	860	Holland Avenue Trail				NVTA	□ ☑ □ □ U \$5,000
381	98	Holmes Run Greenway Tunnels	N Ripley	Beauregard	1	City of Alexandria	□ ✓ □ ✓ F \$4
382	777	I-395 Seminary Road HOV Ramp and Ped bridge			0.4	VDOT	□ ☑ □ B ☑ ☑ F
383	37	I-95/I-495 Woodrow Wilson Memorial Bridge - Trail	Prince George's County, MD	Mount Vernon Trail, Alexandria	2	City of Alexandria	✓ ✓ C \$24,400
384	217	King Street/Beauregard Intersection	Beauregard/Walter Reed Dr.	28th Street	1	City of Alexandria, VDOT	☐ ☐ ☑ ☑ F \$11,000
385	758	Mount Vernon Trail at Abingdon	Slater's Lane	Pendleton Street	1	City of Alexandria,	☐ ☑ ☐ F \$750

	Project ID	Project/Facility Name	From	То	Length (Miles)		Bike Lane	Bike Path	Side walk	Spot/ Area	In CLRP	In TIP	Status	Cost Est.
						VDOT								
386	565	Old Cameron Run Channel Trail	Mill Road	South Payne Street	0	City of Alexandria		~			~	v	F	\$3,500
387	563	On-Street Bikeways	various	various	0	City of Alexandria	✓				~		Р	\$500
388	130	Pedestrian Improvements on Mount Vernon	Reed	Reed	0	City of Alexandria					~		С	\$500
389	26	Potomac Yard Park/Landbay K	Braddock Road Metro	Four Mile Run	2	City of Alexandria, VDOT		✓					UC	\$9,000
390	780	Rt. 7/King Street bridge over I-395	0.3 miles East	0.3 miles West	0.6	VDOT		~		В		v	Р	
391	773	Rt. 95 Jones Point Reforestation - w/ trails	0.4 miles east of Rt. 1	0.8 miles east of Rt. 1	0.9	VDOT		~		S		v	С	
392	562	Safe Routes to School	Charles Barrett Elementary School	Charles Barrett Elementary School	ol 0	City of Alexandria, VDOT	✓	✓			✓	✓	С	\$400
393	757	Safe Routes to Schools	Citywide	Citywide		City of Alexandria				ı			F	\$275
394	975	Shared Use Paths	Citywide		10	City of Alexandria		~					Р	\$3,000
395	99	Sidewalk/Trail Construction- Holmes Run/Chambliss	Citywide	Citywide	1	City of Alexandria, VDOT			✓		✓	✓	UC	\$750
396	691	VA 236 Trail	Wakefeild Drive	Van Dorn Street		NVTA								
397	973	Van Dorn & Beauregard Bicycle Facilities	Holmes Run Trail	King Street	4	City of Alexandria	✓	~					U	\$1,520
398	756	Wilkes Street Bikeway	Royal Street	N Fayette Street	1	City of Alexandria							F	\$180
399	131	Wilkes Street Tunnel	South Royal	South Union	0	City of Alexandria							С	\$770
City	of Alex	andria, Arlington County												
400	566	Four Mile Run Pedestrian and Bicycle Bridge	S Eads	Commonwealth Ave	0	Arlington County, VDOT					✓	✓	Р	\$6,000
City	of Alex	andria, Fairfax County												
401	71	Woodrow Wilson Bridge Project	Md State Line	Telegraph Road	2	VDOT		~		В	✓	~	С	
City	of Fairf	ax												
402	58	Accotink Gateway Connector Trail	Daniel's Run	Pickett Road	1	VDOT, City of Fairfax		✓			✓	v	С	\$1,762
403	521	Route 29 Spot Improvements			0	VDOT					✓	✓	F	\$6,677
404	175	US 29 (Lee Highway) Fairfax Circle	@ US 50			VDOT, City of Fairfax				Ι	✓	✓	F	\$11,586

İ	Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Bike S	Side S walk <i>A</i>	pot/ Area (In I	In ΓΙΡ S	tatus (Cost Est.
City	of Falls	s Church											
405	858	Falls Church Complete Streets				City of Falls Church, NVTA			S			U	\$2,000
City	of Mana	assas											
406	262	Old Town Manassas City Square, Walkways, & Crosswa	Phase I and Phase II			VDOT			I	✓	✓	С	\$557
City	of Mana	assas Park											
407	63	Manassas Drive Sidewalk	Andrew Drive	Euclid Avenue		VDOT, City of Manassas Park			S	✓ .	✓	С	\$195
Distr	rict-wid	е											
408	8	Bicycle Parking (M-70A)	District-wide			VDOT			Р			С	
409	180	Interstate Bicycle Route 1	14th street bridge Arlington County	Southern Prince William County border	54	VDOT			0			F	\$100
410	801	Mt Vernon Trail Bridges				National Park Service	; 🗌 🖺		В				\$1,500
411	796	North Park Trail Connection				National Park Service VDOT	e, 🗌 🖺					Р	\$1,200
412	225	NOVA signal Program	District-wide			VDOT			I			С	\$9,000
413	752	WMATA Virginia Metrorail Crossing Improvements				WMATA						Р	\$510
414	749	WMATA Virginia Metrorail Sharrow and Bike Lanes			3	WMATA						Р	\$79
415	746	WMATA Virginia Metrorail Sidewalk/ Pathway Project			2	WMATA						Р	\$753
Fairf	ax and	Arlington Counties, City oFalls C	hurch										
416	778	I-66 Corridor Multimodal study	I-495	Theodore Roosevelt Bridge	17	VDOT			0		✓	С	

Pi	roject ID	Project/Facility Name	From	То	Length (Miles)		Bike ane	Bike S	Side :	Spot/ Area C	In LRP	In TIP	Status	Cost Est.
Fairfa	x Cou	nty												
417	103	Accotink Gateway Connector Trail	King Arthur Drive	Wakefield Park	1	VDOT, Fairfax County		✓		[✓	✓	С	\$2,619
418	264	Accotink Stream Valley Trail - Dam to Hunter Villa	Lake Accotink Park	Hunter Village Drive	0	Fairfax County Park Authority		✓		[С	\$400
419	267	Arlington Boulevard	Graham Road		0	Fairfax County				1 [F	
420	386	Arlington Boulevard	Patrick Henry Drive		0	Fairfax County				1 [С	
421	268	Arlington Boulevard (US 50)	Jaguar Trail	Seven Corners	0	VDOT				1 [~	✓	F	\$3,000
422	387	Arlington Boulevard Pedestrian Bridge	Peyton Randolph Drive	Seven Corners Shopping Center	0	Fairfax County, VDOT				В [С	\$5,200
423	784	ARRA -C Fairfax County Parkway @ Fair Lakes	0.64 miles south of Ffx Co. Parkway exit 166	0.16 miles W of Exit 166	3.1	VDOT				[
424	782	ARRA -C Route 7100 Fairfax Co. Pkway at Fair Lakes	0.64 M south of EB I-66	0.16 miles North of Rt. 750(Rugby	y) 3.1	VDOT				[
425	783	ARRA-C Route 7100 FFX Pkway @ Fair Lakes	0.64 M south of EB I-66	0.16 M North of Rt. 750(Rugby)	3.1	VDOT								
426	785	ARRA-C, Fairfax County Parkway(with 95549)	0.64 miles north of exit 166).16 miles west of exit 166	3.1	VDOT		~		0	~	✓	F	
427	648	Backlick Road Trail	Lee Highway	Capital Beltway		NVTA				[U	\$9,900
428	640	Backlick Run Trail	Backlick Road	Clermont Ave	5	NVTA		✓		[U	\$15,900
429	638	Beltway Trail	Dolley Madison Boulevard	Live Oak Drive		NVTA		✓		[U	\$11,900
430	918	Beulah Road Walkway			1.0	Fairfax County				[F	\$2,650
431	166	Beulah Street	Franconia Road	Franocia-Springfield Parkway	1	VDOT		✓		[С	\$15,094
432	946	Bobann Drive Bikeway			0.9	Fairfax County				[С	\$1,400
433	389	Braddock Road	Guinea Road		0	Fairfax County				Ι [F	
434	391	Braddock Road	Rolling Road		0	Fairfax County				1 [F	
435	392	Braddock Road	Wakefield Chapel Road		0	Fairfax County				1 [F	
436	639	Braddock Road Trail	Guinea Road	Little River Turnpike		NVTA				[
437	114	Burke Center Parkway	Marshall Pond Road	Burke Lake Road	1	VDOT		✓		[_		С	\$1,900
438	191	Burke Lake Road Widening	Fairfax County Parkway	Lee Chapel Road	1	VDOT		V		[С	\$7,000

	Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side :	Spot/ Area	In CLRP	In TIP	Status	Cost Est.
439	965	Burke Road Lane Diet and On-Road Bike Lanes			1.3	Fairfax County							F	\$40
440	646	Capital Beltway Ramp Trail	I-95	US 1		NVTA								-
441	396	Centreville Road	New Braddock Road		0	Fairfax County							С	
442	395	Centreville Road	Green Trails Boulevard		0	Fairfax County				I			С	
443	397	Centreville Road	Sunrise Valley Drive		0	Fairfax County				1			С	
444	394	Centreville Road	Compton Road		0	Fairfax County Park Authority				I			С	
445	867	Cinderbed Bikeway	Fort Belvoir	Franconia-Springfield Metrorail Station.	3	Fairfax County		✓					U	
446	557	Clarks Branch Bridge at Riverbend Park	Clarks Branch		0	Fairfax County Park Authority							С	\$500
447	402	Columbia Pike	Powell Lane	Homes Run	0	Fairfax County, VDO				S			С	\$1,106
448	30	Cross County Trail	Great Falls Park to Alban Road	Lake Accotink Dam to Hunter Village Drive segment	5	VDOT, Fairfax County	/ 🗆	✓			✓	✓	С	\$1,060
449	403	Cross County Trail			0	Fairfax County Park Authority								
450	960	Cross County Trail (CCT) Pavement Upgrades			2	Fairfax County							F	\$876
451	404	Cub Run Valley Stream Connections	Samuels Pine Rd	Cub Run Rec Center / Schneider's Branch	0	Fairfax County Park Authority							С	\$625
452	405	Danbury Forest	Lake Accotink Park	Danbury Forest Dr	0	Fairfax County Park Authority							С	\$376
453	407	Dolley Madison Boulevard	Great Falls Street/Lewinsville Road		0	Fairfax County				I			С	
454	212	Dranesville Road Widening	Herndon	Route 7	2	VDOT	✓				✓	✓	С	\$18,000
455	176	Fairfax County Parkway	123	7	10	VDOT, Fairfax County	/	✓			✓	✓	Р	\$122,000
456	408	Fairfax County Parkway	Old Keene Mill Road		0	Fairfax County				I			С	
457	595	Fairfax County Pedestrian Program			0	Fairfax County				I			F	\$58,000
458	666	Fairview Avenue Traul	Center Street	Oakview Dr		NVTA								

	Project ID	Project/Facility Name	From	То	Length (Miles)		Bike Lane	Bike Path	Side :	Spot/ Area C	In LRP	In TIP	Status	Cost Est.
459	967	Fox Mill Road Walkway from Fairfax County Parkway to Reston Parkway			1.1	Fairfax County				[F	\$2,400
460	636	Franconia-Springfield Parkway Trail	Loisdale Road	Beulah		NVTA				[
461	516	Gallows Road On Road Bicycle Facility	Lee hwy	Old Courthouse Road	0	VDOT	~			[~	✓	С	\$1,099
462	304	Georgetown Pike Multi-Use Path	I-495	Route 7	2	VDOT		~		[F	\$845
463	955	GMU-Fairfax City-Vienna Metrorail Bike Route			5.1	Fairfax County				[F	\$10
464	966	Government Center Area Bicycle Demonstration Project			3.1	Fairfax County				[F	\$180
465	49	Great Falls Street Trail	Crutchfeild Street	Hutchinson Street		Fairfax County, VDOT				[С	\$596
466	655	Haycock Road Trail	Broad Street	I-66		NVTA				[
467	637	Hayfield Road Trail	Manchester Road	Telegraph Road		NVTA				[
468	421	Holmes Run Stream Valley	Columbia Pike	Glenn Hills Park / Alexandria	0	Fairfax County Park Authority		✓		[С	\$1,268
469	954	Hunter Village Drive Shoulder Widening			0.9	Fairfax County				[F	\$1,600
470	18	Huntington Metro Station Vicinity	Pedestrian Improvements			VDOT, Coalition for Smarter Growth				S [✓	✓	С	\$174
471	947	I-495 Express Lanes Ped/Bike at Chain Bridge Road			1.3	VDOT				[F	\$1,750
472	548	I-495 HOT Lanes	Hemming Avenue	Old Dominion Road	0	VDOT				В [~	✓	С	
473	689	I-66 Trail	Sully Road	Paddington Lane	3	NVTA		✓		[U	\$6,000
474	779	I-95NB directional off ramp to NB Ffx Co. Pkway	Exit 166	0.6 miles from Exit 166	0.6	VDOT		✓		В [Р	
475	948	Idylwood Road Trail (TMSAMS)			0.7	Fairfax County				[F	\$1,050
476	951	Lake Braddock Drive Road Diet			2.3	Fairfax County				[F	\$40
477	428	Lee Highway	Monument Drive		0	Fairfax County				[С	
478	444	Leesburg Pike	Tysons Square Center Entrance		0	Fairfax County				Ι [F	
479	443	Leesburg Pike	Tyco Road/Westwood Center Drive		0	Fairfax County, WMATA				[F	

	Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Bik Lane Pat	e Side h walk	Spot/ Area C	In CLRP	In TIP	Status	Cost Est.
480	442	Leesburg Pike	South Jefferson Street		0	Fairfax County			Ι [С	
481	439	Leesburg Pike	Magarity Road		0	Fairfax County			Ι [С	
482	445	Lewinsville Road	Balls Hill Road		0	Fairfax County			Ι [С	
483	448	Little River Turnpike	Braddock Road		0	Fairfax County			Ι [С	
484	449	Little River Turnpike	Oasis Drive	Beauregard	0	VDOT, Fairfax County	у 🗌 🗀		Ι [~	✓	С	\$933
485	255	Lorton Road Widening	US 1	Route 748	1	VDOT	V V		[✓	✓	С	\$9,000
486	682	Manassas Clifton Trail	Park Center Ct	South County East West Trail		NVTA			[
487	337	Manchester Road Trail	Beulah Street	Hayfield		VDOT			[U	
488	957	Mason Neck Trail 2B			1.9	Fairfax County			[F	\$2,290
489	681	Mt Vernon Trail Ext.	Potomac Heritage Trail	GW Parkway		NVTA			[
490	455	North Kings Highway	Huntington Metro		0	Fairfax County			Ι [F	
491	193	NoVi (Northern Vienna) Trail	Phase I			VDOT, Fairfax County	у 🗌 🗀		[~	✓	С	\$303
492	461	Old Keene Mill Road	Sydenstricker Road		0	Fairfax County			Ι [С	
493	460	Old Keene Mill Road	Shiplett Boulevard		0	Fairfax County			Ι [С	
494	674	Old Ox Road Trail	Old Ox Road	Herndon Parkway		NVTA			[
495	774	Phase 1 - Maintenance of FFx County Parkway Trail				VDOT			[F	\$350,000
496	775	Phase 2 - Maintenance of Ffx County Pkwy Trail				VDOT			0 [F	\$350,000
497	554	Pohick Stream Valley CCT reroute	Dominion Powerline Easement	Forest View	0	Fairfax County Park Authority			[С	\$650
498	555	Pohick VRE Trail (Pohick Stream Valley Rail- Trail)	Burke Station VRE	Burke Village Shopping Center	1	Fairfax County Park Authority, Fairfax County			[С	\$1,270
499	642	Potomac Heritage Trail	Northern End fo Beltway Trail	american legion bridge		NVTA			[U	\$235,100
500	484	Richmond Highway	Old Mill Road/Mt. Vernon Memorial Highway		0	Fairfax County			I [С	
501	945	Richmond Highway from Old Mill Road/Jeff			3.4	Eastern Federal						UC	\$180,000

	Project ID	Project/Facility Name	From	То	Length (Miles)		Bike Lane	Bike Path	Side S walk A	pot/ Area C	In I LRP T	n TP S	Status	Cost Est.
		Todd Way to Telegraph Road				Lands Highway Division								
502	479	Richmond Highway Pedestrian Safety Improvements	Ladson Ln, Lukens Ln, Backlick Rd, Kings,	Belford Drive S., Frye Road, Mohawk Lane	0	Fairfax County				Ι [Р	
503	280	Roberts Road	Braddock Road	Shenandoah Lane	0.3	Fairfax County							Р	
504	214	Route 1 widening	Telegraph Road	Lorton Road	1	VDOT		✓		•		/	С	\$23,326
505	524	Route 29 Bridge Replacement over Rocky Run			0	VDOT				•	/	/	UC	\$15,000
506	527	Route 50 Intersection Improvements @ Patrick Henry			0	VDOT							С	\$786
507	959	Route 50 Trail from West Ox Road to East of Lee Road			4.9	Fairfax County							F	\$1,400
508	949	Route 7 Walkway (TMSAMS)			4.4	Fairfax County							F	\$5,375
509	105	Route 7 Widening	Rolling Holly Drive	Tyco Road	1	VDOT		v		•	/	/	F	\$37,263
510	767	Rt. 7100(Rt. 286) reconstruction	south of Fair lakes	north of Rt. 50	3.1	VDOT								
511	776	Rt.7 widen to 6 lanes - PE only	Reston Ave	Jarrett Valley	6.9	VDOT		✓		•	/	/	Р	
512	952	Scotts Run Walkway (TMSAMS)			0.6	Fairfax County Park Authority] [F	\$2,300
513	961	Sherwood Hall Lanes Marking Plans			1.8	Fairfax County							F	\$50
514	963	Shipplett Boulevard On-Road Bike Lanes			1.2	Fairfax County							F	\$40
515	950	Silverbrook Road Walkway from Hooes Road to South County High School			1.1	Fairfax County							F	\$2,300
516	650	South County East West Trail	Manassas Clifton Trail	I-395		NVTA								
517	556	Spring Hill Rec Center Connector	Spring Hill Recreation Center	Spring Hill Farm HOA	0	Fairfax County Park Authority								\$120
518	861	Springfield to Tysons Corner Trail	Springfield	Tysons		NVTA							Р	\$1,900
519	284	Stringfellow Road	Fair Lakes Boulevard	Route 50	2	VDOT, Fairfax County	/ 🗌	✓	✓				UC	\$46,000
520	958	Sunrise Valley Drive Sidewalk (RMAG)			1.9	Fairfax County							F	\$4,284
521	956	Sunrise Valley Drive Walkway (DCBPA)			1.0	Fairfax County				[F	\$2,000

	Project ID	Project/Facility Name	From	То	Length (Miles)		Bike Lane	Bike Path	Side walk	Spot/ Area	In CLRP	In TIP	Status	Cost Est.
522	953	Sunrise Valley Drive Walkway (DCBPA)			1.0	Fairfax County							F	\$1,750
523	285	Sunset Hills Road	Plaza America		0	Fairfax County							UC	
524	645	Telegraph Road Trail	Richmond Highway	King Highway	2	NVTA								
525	962	Telegraph Road Walkway from Huntington Avenue to Rose Hill Drive			2.4	Fairfax County							F	\$2,100
526	515	Telegraph Road Widening	Leaf Road	South Kings Hwy	0	VDOT	✓	~			✓	✓	Р	\$97,000
527	199	Trail and Pedestrian Improvements	Fairfax County wide			VDOT, Fairfax County				S	✓	✓	F	\$1,600
528	29	Trail Construction/Linway Terrace Safety Upgrade	6330 Linway Terrace	6332 linway Terrace		Fairfax County							С	\$43
529	290	Trap Road	Wolf Trap Farm Park	Beulah Road	1	VDOT			✓		✓	✓	С	\$2,242
530	177	Tysons Corner	Pedestrian Improvements Identified by	the HJR 276 Committee		VDOT, Fairfax County				I	✓	✓	С	\$123
531	292	Tysons Priority Access Improvement Projects			0	Fairfax County								
532	687	US 29 Trail	Dixie Hill Road	Vietch Street		NVTA								\$1,900
533	305	US 29 Widening	WEST MERRILEE DRIVE	ROUTE I-495	1	VDOT, Fairfax		✓			~	✓	С	\$119,000
534	137	US 50 install median barrier & fence	VA 7	Patrick Henry Drive	0	VDOT, Fairfax County				S	~	✓	С	\$601
535	256	US 50 Pedestrian Bridge	Vicinity of the Seven Corners Shopping Center			VDOT, Fairfax County				I	✓	✓	С	\$5,353
536	85	US 50 Pedestrian Improvements	Jaguar Trail	Seven Corners		VDOT, Fairfax County				S	✓	✓	Р	\$3,000
537	688	US 50 Trail	Nutley Street	Arlington Blvd		NVTA		✓					U	\$19,900
538	669	US Bike 1 Trail	US 1	VA 123		NVTA								
539	189	VA 193 - Georgetown Pike Trail	Innsbruck Road	River Bend Road	4	VDOT, Fairfax County		✓			~	✓	С	\$1,468
540	663	VA 28 Trail	Walney Road	Dulles Toll Road		NVTA								
541	694	VA 638 Trail	South County East West Trail	I-95		NVTA								
542	635	VA 7100 Trail	Monument Drive	Lee Chapel		NVTA								
543	14	Walker Road Trail	Columbine Street	Colvin Run Road	2	VDOT, Fairfax County		✓			✓	✓	С	\$447
544	772	Walney Road Bridge Replacement/widening			0.6	VDOT	✓	V	✓			✓	F	

	Project IE	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane Bike Side Spo walk Are	ot/ In ea CLRF	In P TIP	Status	Cost Est.
545	239	West Ox Road (route 608)	Ox Trail Road	Lawyers Road	2	VDOT		✓	✓	С	\$11,300
546	964	Westmoreland Street On-Road Bike Lanes			1.1	Fairfax County				F	\$40
547	755	Widen Rt. 7 w/ paths on both sides	Reston Ave	Reston Pakway	0.5	VDOT				U	
Fair	ax Cou	ınty, Loudoun, Prince William Cou	unty								
548	659	Tri-County Parkway Trail	Braddock Road	Sudley Road	6	NVTA				U	\$1,300
Fair	ax Cou	ınty, Prince William County									
549	863	US 1 Bike Trail	Stafford County	I-495	30	NVTA				U	\$75,500
Herr	ndon										
550	60	Sugarland Run Trail	W&OD Trail	Fairfax County's Sugarland Run Trail	1	VDOT, Town of Herndon		✓	✓	С	\$531

P	roject ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side walk	Spot/ Area	In CLRP	In P TIP S	Status	Cost Est.
Loud	oun Co	ounty												
551	678	Algonkian Parkway Trail	Harry Bird Highway	Unnamed 5		NVTA								
552	528	Atlantic Blvd	Church Road (Rt. 625)	Magnolia Road (Rt. 1525)	0	VDOT							С	\$24,000
553	715	Atlantic Blvd & Warp Dr Signal				Loudoun County				I			F	
554	709	Atlantic Boulevard Bike & Ped Improvements	VA Route 7	Magnolia Road		Loudoun County				S			Р	
555	641	Atlantic Boulevard Trail	Harry Bird Highway	Church Road		NVTA								
556	269	BATTLEFIELD PARKWAY - 4 LANES ON 6 LANE R/W	KINCAID BOULEVARD	ROUTE 7	1	VDOT		V	✓		✓	✓	С	\$30,000
557	977	Belmont Ridge Road (South of Greenway)	Broadlands Blvd	Northstar Blvd	2	Loudoun County, Developer, VDOT		~					Р	
558	857	Belmont Ridge Road Trail North of Greenway	VA 7	Hay Road	3	NVTA, VDOT, Loudoun County		~					U	\$4,400
559	672	Berlin turnpike Trail	Harpers Ferry Bridge WV	Charles Town Pike		NVTA								
560	719	Cascades Parkway Trails	Old Vestals Gap road	Loudoun Park Lane		Loudoun County				S			F	
561	705	Claiborne Parkway	Ryan Road	Croson Lane		Loudoun County							F	
562	661	Claiborne Parkway Trail	Loudoun County Parkway Trail	Ryan Road		NVTA		✓					U	\$300
563	519	Clarks Gap Ped Signals			0	VDOT							С	\$1,500
564	703	Crosstrail Boulevard	Sycolin Road	Kincaid Boulevard	2	Loudoun County							F	
565	652	Dulles Toll Road Trail	Sully Road	Memorial Highway		NVTA								
566	270	Loudoun Cnty Pkwy WIDEN UNPVD 2 LN TO 4 LNS DIV ON	1.9 MILES SOUTH ROUTE	0.5 MILE SOUTH ROUTE 7	1	VDOT		V	✓		✓	✓	С	\$12,000
567	671	Loudoun County Parkway Trail	Ryan Road	W&OD Trail		NVTA							U	
568	657	Loudoun County Parkway Trail	Mosby highway	Ryan Road		NVTA								
569	714	Loudoun County Pkwy & Center St Signal				Loudoun County				1			Р	
570	700	Old Ashburn Sidewalks	Partlow Road	W&OD Trail		Loudoun County				S			F	
571	717	Old Ox Road & US Route 50 Interchange				Loudoun County				0			F	
572	309	Old Ox Road Widening (Rt. 606)	Mills Road (Rt. 621)	Dulles Greenway (Rt. 267)	5	VDOT,		V					С	\$49,450

	Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side walk	Spot/ Area	In CLRI	In P TIP	Status	Cost Est.
573	768	Pacific Blvd 4 lane reconstrnew alignment			0.7	VDOT		✓	✓	I	✓	✓	С	
574	769	Pacific Blvd Loudoun 1036 widen to 4 lanes			0.4	VDOT		✓	✓	Ι	✓	V	С	
575	271	PACIFIC BOULEVARD (MPO PROJECT	AUTOWORLD DRIVE (NORTHERN TERMINUS	SEVERN WAY	1	VDOT		✓			~	✓	С	\$10,000
576	710	Potomac View Road Pedestrian Improvements	S. Cottage Road	Business driveway		Loudoun County				S			F	
577	711	River Creek Parkway Pedestrian Improvements	Fort Evans Road	Potomac Station Drive		Loudoun County				S			Р	
578	704	Riverside Parkway	River Creek Parkway	Upper Meadow Riverlook Drive		Loudoun County							F	
579	526	Route 7 Sidewalk	NORTH SIDE OF WEST MAIN STREET; NORTH 28TH STREET;	NORTH 33RD STREET	0	VDOT					✓	✓	С	\$845
580	766	Rt. 606 Loudoun county parkway				VDOT								
581	770	Rt. 606 Loudoun County Parkway/Old Ox Rd.	Rt. 621	Rt. 267	5	VDOT		~		I	✓	✓	F	
582	771	Rt. 606 Loudoun County Parkway/Old Ox Rd.	1.6 miles west of Rt. 267	Rt. 267	1.8	VDOT		✓		I	✓	✓	F	
583	786	Rt. 659 - Reconstruct (Belmont) to 4 lanes w/ path	0.26 M south of Portsmount	0.23 M North of Gloucester Parkway	1.4	VDOT		✓		0		✓		
584	765	Rt.606 loudoun County Parkway/Old Ox Road				VDOT								
585	701	Rural Splitter at Rt 659 & W&OD Trail				Loudoun County				0			Р	
586	702	Russell Branch Parkway	Ashburn Village Boulvard	Ashburn Road		Loudoun County				0			F	
587	658	Shaw Road Trail	W&OD Trail	Dulles Toll Road		NVTA								
588	708	Sterling Boulevard	W&OD Trail	Chase Heritage Circle		Loudoun County							Р	
589	712	Sycolin Road & Loudoun Center Place Signal				Loudoun County				Ι			F	
590	706	Tall Cedars Parkway	Pinebrook Road	Gum Springs Road		Loudoun County							F	_
591	713	Tall Cedars Pkwy & Poland Rd Signal				Loudoun County				I			F	_
592	690	US 15 Trail	Braddock Road	James Monroe Highway		NVTA								
593	684	US 50 Trail	Fauquier County Line	Pleasant Valley Drive		NVTA								
594	654	VA 690 Trail	Main Street	W&OD Trail		NVTA								

	Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side walk	Spot/ Area	In CLRP	In TIP	Status	Cost Est.
595	670	VA 734 Trail	US 50	Harry Byrd Highway		NVTA								
596	662	VA 772 Trail	Belmont Ridge Road	Ryan Road	1	NVTA		✓					U	\$500
597	224	VA 846 (Sterling Boulevard Landscaping)	VA 28	US 7		VDOT, Loudoun County				S	✓	✓	С	\$53
598	668	VA 9 Trail	Harpers Ferry Road	Harry Byrd Highway		NVTA								
599	716	VA Route 7 & Belmont Ridge Rd Interchange				Loudoun County				0			F	
600	718	VA Route 7 & Hillsboro Road Interchange				Loudoun County				S			U	
601	720	VA Route 7 Pedestrian Overpass				Loudoun County				В			U	
602	259	W&OD Trail Extension	W&OD Trail End (Purcellville)	Round Hill	3	VDOT, Loudoun County		✓			✓	✓	F	\$1,700
603	69	W&OD/White's Ferry Connection to C&O	W&OD	Potomac River at White's Ferry		VDOT, Northern Virginia Regional Par								
604	707	Waxpool Road Intersection Improvements	Pacific Boulevard	Broderick Drive		Loudoun County				S			F	
Lou	udoun Co	ounty, Fairfax County												
605	854	VA 7 Trail from Leesburg to Alexandria	Leesburg	Alexandria	38	NVTA		✓					U	\$87,000
606	16	US 50 widening	Pleasant valley Drive	Lee Road	1	VDOT		✓			✓	✓	F	\$70,900
Pri	nce Willia	am and Fairfax Counties												
607	211	123 Widnening	Davis Road	South Burke Lake Road	9	VDOT		✓					С	\$6,181

Project	ID Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side walk	Spot/ Area	In CLRP	In TIP	Status	Cost Est.
Prince Wi	Iliam County												
608 67	75 234 BYPASS trail	Braddock Road	Lee Highway		NVTA							U	
609 30	08 234 Off-Road Multi Use Trail	Lake Jackson Drive	PW Parkway	1	VDOT					v	✓	С	\$662
610 52	25 Balls Ford Road Widening	Bus 234	234	2	VDOT					~	✓	U	
611 67	77 Bike Route 1	Fleetwood Drive	Dumfries Road		NVTA							U	
612 30	06 Bus 234 Add Signalized Crosswalks	All Major Intersections	All Major Intersections		VDOT				В			С	\$650
613 30	D7 Bus 234 Sidewalk/Ramps Improvments	Balls Ford Road	Godwin Drive		VDOT				I		~	С	\$1,000
614 66	60 Godwin Drive Trail	Sudley Road	Nokesville Road	2	NVTA							U	\$600
615 69	95 Gordon Blvd Trail	US 1	Commerce		NVTA								
616 78	B1 I66/Rt.15 interchange reconst. w/ paths & sdwlks			0.8	VDOT				В		✓	F	
617 78	Install asphalt path and crosswalks on Rt. 3000, P	0.03 M East of Cato Hill road	0.017 M East of Honer Corner commuter lot		VDOT				0		✓		\$450
618 96	59 Jame Madison Highway Trail	Prince William County Line	Sudley Road	5	Prince William Co. DPW, VDOT		V					U	\$14,400
619 86	66 John Marshall Highway Trail	I-66	Lee Highway	2	NVTA		~					U	\$500
620 65	56 Liberia Avenue Trail	Old Bridge Road	Jefferson Davis Highway		NVTA							U	
621 67	73 Linton Hall Road Trail	Lee Highway	Nokesville Road		NVTA								
622 17	71 Linton Hall Road Widening	Glenkirk Road	Devlin Road	3	VDOT		~			~	~	С	\$8,000
623 69	97 Minnieville Road Trail	Dumfries Road	Old Bridge Road		NVTA							U	
624 67	76 New Cherry Hill Road	Potomac Heritage Trail	Potomac Parkway Trail		NVTA								
625 52	22 Old Bridge Road Sidewalk	Titania	Crickett	0	VDOT						✓	С	\$1,800
626 52	23 Old Bridge Road Sidewalk	Mohican	Oakwood Drive	0	VDOT							С	\$749
627 67	79 Old Bridge Road Trail	Prince William Parkway	Poplar Lane	4	NVTA							U	
628	Pedestrian Bridge over CSX Railroad	Veterans Memorial Park	DOT #860626C		VDOT				S	~	✓	С	\$3,119
629 64	Potomac Heritage Trail	Wharton Drive	Jefferson Davis Highway		NVTA							U	
630 66	7 Potomac Parkway trail	Old Stage Coach Road	New Cherry Hill Road		NVTA								
44 155 45													Da 2 40

	Project ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side walk	Spot/ Area (In CLRP	In TIP	Status	Cost Est.
631	649	Prince William Parkway trail	Nokesville Road	Dumfries Road	4	NVTA		✓					U	\$900
632	634	Prince William Parkway Trail	Prince William Parkway	Signal Hill Road	8	NVTA		~					С	
633	517	Route 234 and Rotue 1 Interchange	.4 miles east of route 1	.4 Miles west of Route 1	0	VDOT		✓			✓	✓	Р	\$87,000
634	968	Route 28 Trail	Sudley Road	Fairfax County Line	2	Prince William Co. DPW, VDOT		✓					U	\$6,300
635	164	Route 28 Trail Extension	Fauquier Co. Line	Vint Hill Road	7	VDOT		~			✓	~	Р	\$6,500
636	864	South County East-West Trail	Manassas	I-395		NVTA		✓					U	\$51,600
637	680	Spriggs Road Trail	Hoadly Road	Dumfries Road		NVTA								
638	643	US 1 Trail	Stafford County	I-495		NVTA								
639	102	VA 234 Bike Trail Phase I	Prince William Parkway	Country Club Drive	6	VDOT, NVTA		V			✓	~	С	\$6,000
640	970	VA 234 Bike Trail Phase II	Country Club Road	Route 1	2	Prince William Co. DPW							F	\$5,650
641	665	VA 234 Trail	Dumfries Road	Jefferson Davis Highway		NVTA								
642	693	VA 784 Trail	Delaney Blvd	US 1		NVTA								_
Prin	nce Willia	am County, Fairfax County												
643	683	VA 123 Trail	Clifton Road	Gordon Boulevard		NVTA								
Pur	cellville													
644	226	Multiple Sidewalk Enhancements	Purcellville			VDOT				S			С	\$500
645	254	PURCELLVILLE - BICYCLE ACCESS TO HIGH SCHOOL & W&O	Main Street	W&OD Trail	1	VDOT		✓					С	\$460
Tov	vn of Clif	ton												
646	248	Pedestrian/Bicycle Plaza & Pathways	Town of Clifton	- Phase II		VDOT				S	✓	✓	С	\$70
Tov	vn of Har	milton												
647	11	Main Street	Town of Hamilton (Improvements)			VDOT, Town of Hamilton				S	✓	✓	С	\$47

P	roject ID	Project/Facility Name	From	То	Length (Miles)	Responsible Agencies	Bike Lane	Bike Path	Side walk	Spot/ Area	In CLRP	In TIP S	Status	Cost Est.
Town	of Ha	ymarket												
648	210	Town of Haymarket (Streetscaping)	Phase 1			VDOT, Town of Haymarket				S			С	\$1,008
649	4	Town of Haymarket Streetscaping	Washington Street	Phase II		VDOT, Town of Haymarket				S	✓	✓	F	\$2,026
Town	of He	rndon												
650	549	Van Buren Street Trail to Dulles Metrorail	North of Herndon Pkwy at existing Folly Lick Trail	Herndon Monroe Metrorail station	0	Town of Herndon, Fairfax County		✓			✓		Р	\$600
651	631	Herndon Downtown Elden Streetscape	Elden St / Center St intersection	Elden St / Monroe St intersection	0.8	VDOT, Town of Herndon		✓	✓	S			С	\$2,100
652	856	Herndon Metro Access Trail	Van Buren Street	Herndon Metrorail	1	Town of Herndon		✓					Р	\$400
653	855	Sugarland Run Trail Extension	Sugarland Run Trail Terminus	Herndon Metrorail	1	NVTA		✓					U	\$1,000
654	550	W&OD Trail Crossing at Crestview Drive	W&OD Trail at Crestview Drive	W&OD Trail at Crestview Drive	0	Town of Herndon, Northern Virginia Regional Park Authority				1			Р	\$300
Town	of Hill	Isboro												
655	70	PEDESTRIAN STUDY & IMPROVEMENTS	Town of Hillsboro	On 704		VDOT				S			Р	\$15,348
Town	of Lo	vettsville												
656	184	Ped & Bike Path Network	Town of Lovettsville		6	VDOT, Town of Lovettsville		✓		S	✓	✓	Р	\$450
Town	of Oc	coquan												
657	7	Riverfront Boardwalk	on the Occoquan River	in the Town of Occoquan		VDOT, Town of Occoquan				S	✓	✓	С	\$296
Town	of Qu	antico												
658	227	Potomac Avenue	CSX Railroad	Potomac River		VDOT, Town of Quantico				S	✓	✓	С	\$871
659	61	Potomac Transportation Facility	AMTRAK / VRE Station	Potomac River		VDOT, Town of Quantico				S	✓	✓	С	\$512

Appendix B

Data Dictionary and Sample Database Entry Form

For the Regional Database of Bicycle and Pedestrian Projects in the Long-Range Bicycle and Pedestrian Plan for the National Capital Region

FIELD	EXPLANATION
COG Project ID	COG's internal identifying number for the project in this
	database
Agency Project ID	The responsible agency's project identifying number
Project Name	Descriptive name provided by the sponsoring agency
From	Project Limits
То	Project Limits
Length of Project	Length of the project from start to finish. Example: if a
	project consists of four miles of road with a continuous bike
	lane and sidewalk, the project length is four miles.
Jurisdiction(s)	Jurisdiction(s) in which the project is located
State	State or States in which the project is located.
Agency	Lead agency that is responsible for implementing the project
Secondary Agency	Other agency involved in the project
Cost	In thousands of dollars. As many projects in the plan may not
	be built for many years, and have not been fully scoped, this
	can be a very rough estimate. If a project is part of a larger
	project the total project cost is <i>not</i> listed, only that portion of
	the cost which is attributable to the bicycle or pedestrian
	facility. Use of a rule of thumb for such estimates was
	acceptable, i.e. 3% of total project cost. Many projects do not
	have a cost estimate available.
URL for more project	If the project has a web site, or if the agency has more detail
information	on its web site, the URL may be listed.
Project Manager Name	If the project has a project manager, his or her name may be
D : . M . DI	listed.
Project Manager's Phone	
Project Manager's E-mail	
Project is in the CLRP	Project is in the Financially Constrained Long-Range
	Transportation Plan for the National Capital Region, and
	therefore is officially considered to have funding available to
Duning 4 in its 41 THD	support project completion.
Project is in the TIP	Project is in the most recent National Capital Region Transportation Improvement Program with specific funding
	Transportation Improvement Program with specific funding
	amounts identified for program completion.

Project is Part of a Larger	Is the project part of a larger project, i.e. a high	way, bridge, or
Project	transit project?	
Length of Bike Lane	Bike lanes are striped lanes at least 4' wide in t	he public right-
C	of-way, marked for the exclusive use of bicycli	
	lane is found on both sides of the street for four	
	should be reported as four miles of bike lane, n	-
Length of Multi-Use Path	A paved or hard-surface path separated from tr	
C	designated for bicycles and other non-motorize	
	Should be at least 8' wide.	
Length of Sidewalk	Sidewalks are usually concrete, less than 8' wid	de, and have
	other design characteristics (street furniture, lin	nited sight-
	lines) that render them unsuitable for all but the	e slowest
	bicyclists.	
Type of Spot/Area	For non-linear projects. The pull-down menu g	gives the
Improvement	following options:	
	Type of Improvement	Code Letter
	Pedestrian Intersection Improvement	I
	2. Pedestrian/Bicycle Bridge or Tunnel	В
	3. Traffic Calming	TC
	4. Streetscape/Pedestrian Improvements	S
	5. Bicycle Parking	P
	6. Bicycle Route Marking	BR
	7. Other	O
Path Alignment	Is the multi-use path along a road, or is it on its	_
	way? This field is meant to distinguish betwee	-
	which are built adjacent to a road and cross nur	
	ways and intersections, and a multi-use path on	_
	of way, such as an old railroad, canal tow-path,	
	valley. Paths built along limited-access highwa	-
	parkways such at the Mount Vernon Trail shou	
	being built on an independent route, since they	
	intersection or driveway conflicts, and are set b	
States	distance from the roadway for most of their len	•
Status	The pull-down menu offers the following option	
	1 Eully Eundad ¹	Code Letter
	1. Fully Funded	F
	2. Partially Funded3. Unfunded	P
	4. Under Construction	U UC
		C
	5. Complete	C

¹ "Funded" indicates that the sponsoring agency has considered funding for completion of this project to be reasonably available within projected funding sources. "Unfunded" indicates, that while the project has been identified, there is no projected funding to support its completion at this time.

	, i
Year of Completion or	This database is meant to list planned facilities rather than existing facilities, but since 2006 many of the projects in the plan have been completed. If the project has been completed or implemented, in what
Implementation	year did that happen?
Project Within a Regional Activity Center	Is the project located with in a regional activity center or cluster? See the link for on-line information on activity centers and clusters. A paper map of centers and clusters, which is easier to read than the one on the web, will be sent to anyone who requests one.
Project is Between Regional Activity Centers	Project connects one regional activity center or cluster with another
Maintenance	Project is primarily maintenance or reconstruction of an existing facility
Project Connects to a Transit Facility	Project connects to a metrorail station, commuter rail station, or transit center
BikeNetConnect	Bicycle Network Connectivity. Does the project improve the connectivity of the regional bicycle network? Does it connect to any existing bicycle facilities?
Pedestrian Safety Project	Is the primary purpose of this project to improve pedestrian safety?
Project Identified as a Regional Priority*	Is the project one of the regional priority unfunded bicycle and pedestrian projects recommended by the Transportation Planning Board for consideration in the TIP?

Transportation Planning Board National Capital Region Bicycle and Pedestrian Plan

SearchResults List

- <u>Results</u> <u>L</u>

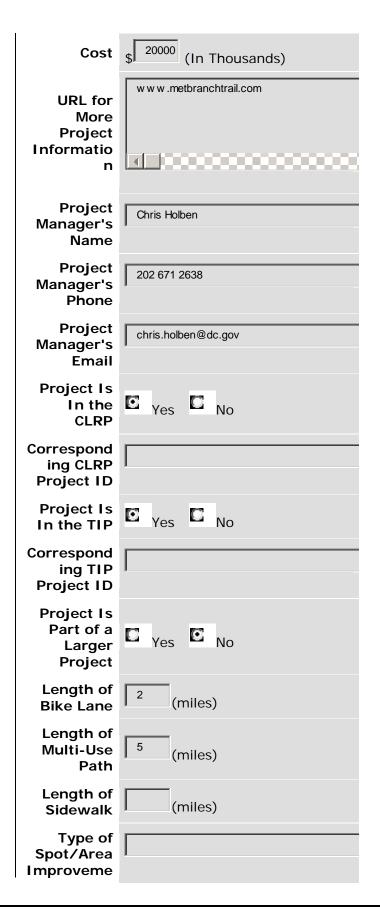
Log Out

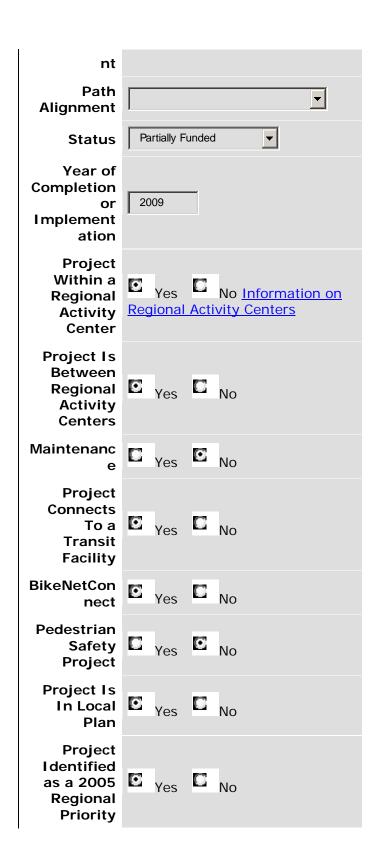
Bike Ped Plan

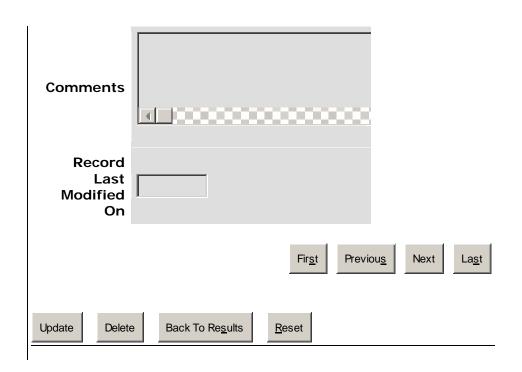
Search Last Results View List All

Related Records: Agency

COG Project ID	167967369
Agency Project ID	
Project Name	Metropolitan Branch Trail
From	Union Station
То	Takoma Park
Length of Project	7 (miles)
Description	Construct a 7 mile trail along the red line from U
Jurisdiction (s)	Washington
State	DC •
Agency	DDOT
Secondary Agency	







Appendix C

Completed Projects from the 2010 Bicycle and Pedestrian Plan

			_

COGProjectID	Project Name	From	То	Description	State	Agency
310	Old Dominion Drive Complete Streets (phase I)	Lee Highway	N. Glebe Rd.	CONSTRUCT CURB & GUTTER & SIDEWALKS ON THE WEST SIDE OF OLD DOM. DR. WITH POSSIBLE REALIGNMENT & RECONSTRUCTION OF EAST SIDE TO PROVIDE CONFORMING STREET SECTION TO VDOT REQUIREMENTS WITHIN AVIALBLE R.O.W., ALSO INCLUDES ADDITIONAL PAVEMENT WIDTH FOR ON STREET BIKEWAY. CHANGED TO T2 ON 4/11/03.	VA	Arlington County
34	Eisenhower Multi- Use Trail	- Cameron Run East	Telegraph Road	Enhancement and expansion of a 2-mile segment of the existing Eisenhower Avenue Shared Use Trail, including an underpass at Eisenhower Avenue.	VA	City of Alexandria
130	Pedestrian Improvements on Mount Vernon	Reed	Reed	Pedestrian improvements to high crash area along Mount Vernon Avenue.	VA	City of Alexandria
562	Safe Routes to School	Charles Barrett Elementa ry School	Charles Barrett Elementary School	Pedestrian and bicycle safety improvements at Charles Barrett Elementary School	VA	City of Alexandria
564	Bicycle Parking and Racks-on- Buses	various	various	Improve integration of bicycling and transit by improve bicycle commuter parking, and adding bicycle racks at all transit vehicles.	VA	City of Alexandria
849	City of Frederick Bike Lanes			City-wide bike lanes	MD	City of Frederick
197	Metropolitan Branch Trail	Union Station	Bates Road NE	Construct a 4 mile trail along the red line from Union Station to Bates Road NE	DC	DDOT
215	Bicycle Lanes			20 miles of bicycle lanes	DC	DDOT

	Ine District Department of Transportation (DDOT) and Arlington County have selected "Capital Bikeshare" as the name for the new regional bike sharing program. Capital Bikeshare will launch later this year with roughly 1100 bikes at 114 stations in the District and Arlington, and will be the largest of its kind in the US. Building on the success of DDOT's SmartBikeDC program, launched in 2008 and concentrated in the downtown DC area, Capital Bikeshare will now make it possible for residents and visitors to conveniently pick up a bike and traverse throughout all 8 wards in the city and Arlington. With 100 stations in DC and 14 in Arlington the bike share program will now become a true regional transportation system. Plans are already underway to expand the network further in Virginia as well as Maryland.		
Capital Bikeshare - 613 District of Columbia	The new system will be similar to the one the Public Rike System Company	DC	DDOT
	Alta Bicycle Share will operate the system. Alta Bicycle Share is a US-based company focused on management and operation of bicycle share systems globally. Its sister company, Alta Planning + Design, is the largest bicycle and pedestrian consulting company in the United States. Alta Bicycle Share is implementing or consulting on similar programs in Australia. Furone, China		

617	Capital Bikeshare Region-Wide			The proposed regional system would expand the DC and Arlington planned Capital Bikeshare system from 1,117 bikes to almost 3,600 bikes and would connect to the extensive transit and bicycle networks throughout the region. The planned DC and Arlington bike-sharing systems have already gone forward with a joint decision to use Montreal's Bixi system and have contracts that include opportunities for regional expansion. This joint planning effort strengthens our ability to formulate and implement a regional bike-sharing system.		DDOT
620	Great Streets - H Street NE Streetscape	3rd Street NE	14th Street NE	This is a Great Street Initiative Project Reconstruction of H St road surface with composite pavements new brick gutters and granite curbs adjacent to the sidewalks. New streetlights, traffic signals, and manholes. Safety improvements including bulb-outs.	DC	DDOT
803	L Street Cycle Track	New Hampshir e Avenue	12th Street NW	Separated cycle track.	DC	DDOT
386	Arlington Boulevard	Patrick Henry Drive		Intersection improvement, add ped heads, relocate ped heads, block existing crosswalks.	VA	Fairfax County
555	Pohick VRE Trail (Pohick Stream Valley Rail-Trail)	Burke Station VRE	Burke Village Shopping Center	One mile asphalt trail and 1 bridge in the Pohick Stream Valley connecting Burke Village Shopping Center and Burke Lake Road to the Burke Station VRE.	VA	Fairfax County Park Authority

149	Nebel Street extended	Randolph Road	Chapman Avenue	This project provides a 1,300-foot extension of Nebel Street from its existing terminus at Randolph Road to a terminus at the Target store site. The proposed roadway improvements include: a 4-lane closed section roadway with a typical cross section that includes four 12-foot travel lanes; a 5-foot concrete sidewalk adjacent to a 7-foot tree panel along the west side of the road; an 8-foot asphalt bike path adjacent to a 7-foot wide tree panel along the east side of the road, streetlighting and landscape trees provided on both sides of the roadway; improvements at the intersection of Nebel Street and Randolph Road; and modification of the existing traffic signal at the intersection of Chapman and Bou Avenues	MD	MCDOT
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817	Robey Road	Greencast le Road	Briggs Chaney Road	This project provides for design and reconstruction of Robey Road from the north end of the Greencastle Elementary School site to Greencastle Road (approximately 3,400 feet). The right-of-way will be 70 feet wide from the school site to Ballinger Drive and 60 feet wide from Ballinger Drive to Greencastle Road. The improved roadway will be a two-lane residential roadway with concrete curb and gutter. The roadway will be 36 feet wide from Briggs Chaney Road to Ballinger Drive and 26 feet wide from Ballinger Drive to Greencastle Road. An 8-foot wide bikeway will be constructed along the west side of Robey Road and a 5-foot wide concrete sidewalk will be constructed along the east side of the road. Approximately 620 feet of Greencastle Road, east of the Robey Road intersection, will be widened to provide a leftturn lane onto Robey Road. Appropriate landscaping and stormwater management facilities are included.	MD	MCDOT
825	Travilah Road	Darnesto wn Road	Dufief Mill Road	Road with side path and sidewalk	MD	MCDOT

828	Woodfield Road Extended	Main Street	Ridge Road	This project provides a 3,000-foot extension of Woodfield Road from 1,200 feet north of Main Street, (MD 108), to Ridge Road, (MD 27). The scope of work includes the design, land acquisition, and construction of a 1,450 foot segment of Ridge Road from 450 feet south of the existing Ridge Road / Faith Lane intersection to 300 feet north of the Ridge Road / Gue Road intersection. The roadway improvements include: extension of Woodfield Road as a 28-foot wide closed-section roadway with two 14-foot wide traffic lanes; provision of auxiliary leftturn lanes on Woodfield Road at Faith Lane and Ridge Road; realignment of Faith Lane to intersect Woodfield Road at a point 350 feet south of Ridge Road; construction of a separated 8-foot wide bikeway along the eastern side of Woodfield Road Extended from Main Street to Ridge Road; widening Ridge Road to provide two 12-foot wide travel lanes, two 4-foot wide paved shoulders, an auxiliary left turn lane at the proposed intersection with Woodfield Road; streetlighting; and landscaping. Woodfield Road Extended and Ridge Road improvements will be constructed within an 80-foot wide right-of-way.	MD	MCDOT
848	Black Hill Regional Park Trails			Since 2010, M-NCPPC Montgomery Parks has built just over 5 miles of new hard surface park trails, all within Black Hill Regional Park.	MD	M-NCPPC, Montgomery County
111	Anacostia River Trail	Bladensb urg Marina	Wash. D.C. line	The segment of the Anacostia River Trail has been completed by the M-NCPPC Department of Parks and Recreation from Bladensburg Waterfront Park to the vicinity of New York Avenue, where it will connect to the DC Riverwalk Project.	MD	M-NCPPC, Prince Georges County

850	Rhode Island Avenue Trolley Trail Ext. Phase I	Queensbu ry Road	US 1	Hyattsville, Riverdale Park	MD	M-NCPPC, Prince Georges County
852	WB&A Spur Trail				MD	M-NCPPC, Prince Georges County
634	Prince William Parkway Trail	Prince William Parkway	Signal Hill Road	Multi Use Path from NVTA 2030 Plan	VA	NVTA
839	Evarts Street Bike Lanes	I-495	Ruby Lockhart Boulevard	Designated bike lanes and continuous sidewalks were provided as part of the road construction for Woodmore Town Center. These bike lanes connect to longer bike lanes along Ruby Lockhart Boulevard.	MD	Prince Georges County
840	Ruby Lockhart Boulevard	Evarts Street	St. Joseph's Drive	Designated bike lanes, wide sidewalks, traffic calming, and decorative crosswalks were provided as part of the road construction for Woodmore Town Center.	MD	Prince Georges County
851	Black Branch Stream Valley Trail - Oak Creek Club			(Oak Creek Club development) – 1.74 miles (developer built)	MD	Prince Georges County
11	Main Street	Town of Hamilton (Improve ments)		Construct curb ramps, perform pavement striping, landscape, and erect gateway signage on Main Street in the Town of Hamilton. Pedestrian and Bicycle Facilities.	VA	VDOT
14	Walker Road Trail	Columbin e Street	Colvin Run Road	Construct a 4' natural surface path from Columbine Street to Colvin Run Road and a 6' stone dust path from the G.F. School to Beach Mill Road.	VA	VDOT
71	Woodrow Wilson Bridge Project	Md State Line	Telegraph Road	Bicycle Pedestrian Facility on the bridge connecting VA and MD bicycle networks. Pedestrian Improvements to Route 1 and Telegraph road interchanges. Pedestrian Bridge included in Telegraph Road Interchange	VA	VDOT

102	VA 234 Bike Trail Phase I	Prince William Parkway	Country Club Drive	Construct bike trail along Route 234	VA	VDOT
189	VA 193 - Georgetown Pike Trail	Innsbruck Road	River Bend Road	Construct a 4.5 mile trail from Innsbruck Road to River Bend Road and Applewood Lane to Seneca Road.	VA	VDOT
193	NoVi (Northern Vienna) Trail	Phase I		Engineering & design for Phase I of Northern Vienna Trail. Study being conducted by Fairfax County	VA	VDOT
226	Multiple Sidewalk Enhancements	Purcellvill e		Various Location (6)	VA	VDOT
248	Pedestrian/Bicycl e Plaza & Pathways	Town of Clifton	- Phase II	Pedestrian/Bicycle Plaza & Pathways - Phase II in Town of Clifton	VA	VDOT
254	PURCELLVILLE - BICYCLE ACCESS TO HIGH SCHOOL & W&O	Main Street	W&OD Trail	Access to Loudoun Valley High School	VA	VDOT
271	PACIFIC BOULEVARD (MPO PROJECT	AUTOWO RLD DRIVE (NORTHE RN TERMINU S	SEVERN WAY		VA	VDOT
305	US 29 Widening	WEST MERRILEE DRIVE	ROUTE I-495	US 29 widening	VA	VDOT
306	Bus 234 Add Signalized Crosswalks	All Major Intersecti ons	All Major Intersections	Add signalized crosswalks to all major intersections of Business Route 234 in Prince William County	VA	VDOT

307	Bus 234 Sidewalk/Ramps Improvments	Balls Ford Road	Godwin Drive	Spot inprovements to all intersections(curb ramps, crosswalks, etc.)	VA	VDOT
308	234 Off-Road Multi Use Trail	Lake Jackson Drive	PW Parkway		VA	VDOT
514	Glebe Road Bridge Replacement	500' south of Route 50	500' north of route 50	Replace bridge with new structure that will include shared use path and sidewalk	VA	VDOT
516	Gallows Road On Road Bicycle Facility	Lee hwy	Old Courthouse Road	retro fitting of bike lanes on existing pavement	VA	VDOT
518	Glebe Road Pedestrian Crossings	Fairfax Drive	North Carlin Springs Road		VA	VDOT
522	Old Bridge Road Sidewalk	Titania	Crickett	curb ramps, crosswalks, etc.	VA	VDOT
526	Route 7 Sidewalk	NORTH SIDE OF WEST MAIN STREET; NORTH 28TH STREET;	NORTH 33RD STREET		VA	VDOT
527	Route 50 Intersection Improvements @ Patrick Henry				VA	VDOT
528	Atlantic Blvd	Church Road (Rt. 625)	Magnolia Road (Rt. 1525)		VA	VDOT

548	I-495 HOT Lanes	Hemming Avenue	Old Dominion Road	High Ocupancy Toll Lanes with the reconstruction of several bridges. 10 bridge crossings with new or widened bike/ped facilities. One overpass with space for path and bike lanes underneath.	VA	VDOT
631	Herndon Downtown Elden Streetscape	Elden St / Center St intersecti on	Elden St / Monroe St intersection	The project consists of streetscape, sidewalk, and Washington and Old Dominion(W&OD)trail bike/ped enhancements, landscaping, traffic-calming, roadway median and turning lane improvements, intersection realignment and intermodal circulation improvements within downtown Herndon's heritage district. Streetscape improvements in the form of underground/relocated utilities, ADA accessible curbing, brick sidewalks and paver crosswalks, bike/ped signalization, improved drainage, landscaped planters, street trees, benches, bus shelter/bus stops, and heritage-street lighting/traffic signalization will greatly enhance the safety and physical environment of downtown. The purpose of this downtown revitalization project is to facilitate access, improve intermodal circulation and bike/pedestrian safety along the W&OD regional park trail, while retaining the historic and small town attributes within the downtown through surface transportation improvements as well as landscaping and streetscape enhancements.	VA	VDOT
768	Pacific Blvd 4 lane reconstr new alignment			reconstruction to 4 lanes with a 5' sidewalk and a 10' path	VA	VDOT
769	Pacific Blvd Loudoun 1036 widen to 4 lanes			Widen road to 4 lanes, add 5' sidewalk, add 10 trail	VA	VDOT
773	Rt. 95 Jones Point Reforestation - w/ trails	0.4 miles east of Rt.	0.8 miles east of Rt. 1	re-construction of park paths to and around ball fields, gardens, fishing pier, historic site and woods. Landscaping and beautification.	VA	VDOT

778 I-66 Corridor Multimodal study I-495	Theodore Roosevelt Bridge	A review of how to increase capacity in this corridor via bus on shoulders, expand HOV, improve adjacent bike volumes with physical improvements on Custis TRail or on trails feeding into the W&OD. Adding some connecting trails were considered.	VA	VDOT
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Appendix D

2013 Cordon Counts

Potomac River Bridges	Cordon DDOT Count Count Volumes Volumes		Other trails and streets in D.C.	Cordon Count Volumes	Count
14th Street (Inbound to D.C.)	592		Capital Crescent and C&O Canal Towpath	229	
14th Street (outbound from			·		
D.C.)	172		Rock Creek	130_	
Arlington Memorial (inbound					
to D.C.)	160		Connecticut Avenue, N.W.	197	
Arlington Memorial					
(outbound from D.C.)	64		14th Street, N.W.	274	
Key (Inbound to D.C.)	103	337	11th Street, N.W.	161	
			Eckington Place, N.E.		
Key (outbound from D.C.)	99	235	(Metropolitan Branch)	15_	222
			East Capitol Street	275	
			Anacostia Trail (M Street,		
			S.E.)	12	
Other trails and streets in			11th Street Bridge, S.E. (local		
Arlington County, Va.			span)	12	
Mount Vernon Trail	332				
Custis Trail	349				

Notes:

(1) Cordon Count Volumes taken any day between March and June 2013

(2) DDOT Count Volumes taken in late May or June 2013

(3) One day count at each location

Potomac River Bridges	Cordon Count Volumes	DDOT Count Volumes	Other trails and streets in D.C. Vo
14th Street (Inbound to D.C.) 14th Street (outbound from D.C.)	592 172		Capital Crescent and C&O Canal Towpath Rock Creek
Arlington Memorial (inbound to D.C.)	160		Connecticut Avenue, N.W.
Arlington Memorial (outbound from D.C.)	64		14th Street, N.W.
Key (Inbound to D.C.)	103	337	11th Street, N.W.
Key (outbound from D.C.)	99	235	Eckington Place, N.E. (Metropolitan Branch)
			East Capitol Street
Other trails and streets in Arlington County,			Anacostia Trail (M Street, S.E.)
Va.			11th Street Bridge, S.E. (local span)
Mount Vernon Trail	332		
Custis Trail	349		

Notes:

- (1) Cordon Count Volumes taken any day between March and June 2013
- (2) DDOT Count Volumes taken in late May or June 2013
- (3) One day count at each location

Appendix E Metrorail Origin Station by All Day Walk and Bike Mode of Access

	Bicycle (all	Walked (all
	day)	day)
	"	"
2013 WMATA Passenger Survey		
Capitol South	0.6%	95.0%
Federal Center SW	0.2%	94.4%
Judiciary Square	0.2%	
Waterfront-SEU	0.0%	
U Street/African-Amer Civil War Memorial/Cardozo	1.0%	•
Navy Yard	0.1%	•
Mt. Vernon Square 7th St-Convention Center	0.170	
Farragut North	0.3%	
Metro Center	0.3%	•
Court House	0.5%	•
Federal Triangle	0.0%	89.3%
Archives-Navy Memorial-Penn Quarter	0.1%	89.2%
Smithsonian	0.1%	
Gallery Place-Chinatown	0.2%	
Farragut West	0.1%	
Foggy Bottom-GWU	0.5%	•
Shaw-Howard University	0.2%	•
Virginia Square-GMU	0.4%	•
McPherson Square	0.6%	
Woodley Park-Zoo/Adams Morgan	1.5%	
New York Ave-Florida Ave-Gallaudet U	1.6%	
Cleveland Park	0.7%	
Dupont Circle	0.8%	•
Eastern Market	2.5%	
Van Ness-UDC	0.3%	
Clarendon	1.1%	
L'Enfant Plaza	0.3%	77.7%
Columbia Heights	1.6%	
Crystal City	0.7%	
Bethesda	1.3%	
Arlington Cemetery	0.0%	
Medical Center	1.6%	
Rosslyn	0.4%	
Friendship Heights	0.6%	
Stadium-Armory	0.0%	
Georgia Avenue-Petworth	0.3%	
Eisenhower Avenue	0.5%	
King Street	0.5%	
Ballston-MU	1.0%	67.5%
Ronald Reagan Washington National Airport	0.6%	66.6%
Grand Total	0.7%	62.2%
White Flint	1.8%	61.2%
Tenleytown-AU	0.7%	60.9%

Union Station	0.8%	60.0%
Silver Spring	0.5%	59.9%
Potomac Avenue	0.3%	59.6%
Braddock Road	3.2%	58.0%
Benning Road	0.0%	55.3%
Takoma	1.9%	55.3%
Pentagon City	0.6%	55.2%
Brookland-CUA	0.7%	53.1%
Twinbrook	2.3%	50.4%
Deanwood	0.0%	48.2%
Congress Heights	0.9%	43.1%
Forest Glen	2.2%	42.1%
Prince George's Plaza	2.3%	42.1%
West Hyattsville	1.5%	41.6%
Minnesota Avenue	0.0%	39.4%
East Falls Church	3.6%	39.3%
Rhode Island Ave-Brentwood	0.0%	38.2%
Pentagon	0.2%	37.5%
Suitland	0.0%	37.5%
Rockville	0.9%	35.4%
Grosvenor-Strathmore	0.8%	35.1%
Wheaton	0.9%	33.9%
Capitol Heights	0.0%	32.9%
Dunn Loring-Merrifield	2.6%	31.1%
Fort Totten	0.0%	29.3%
Morgan Boulevard	0.0%	24.9%
Huntington	0.2%	23.1%
Anacostia	0.0%	19.6%
College Park-U of MD	2.0%	19.0%
Cheverly	1.6%	18.2%
Naylor Road	0.5%	18.2%
Van Dorn Street	0.3%	14.4%
Glenmont	0.4%	12.9%
Southern Avenue	0.0%	12.9%
Vienna/Fairfax-GMU	0.8%	11.4%
Largo Town Center	0.0%	10.8%
Addison Road-Seat Pleasant	0.0%	9.7%
New Carrollton	0.2%	8.2%
Greenbelt	2.0%	7.7%
Branch Ave	0.3%	7.6%
West Falls Church-VT/UVA	0.7%	6.9%
Shady Grove	0.4%	6.2%
Landover	0.0%	5.8%
Franconia-Springfield	1.2%	5.7%

Appendix F

Links and Resources

ADC Regional Bicycle Map

www.adcmap.com

Alexandria Rideshare

www.alexride.org

BikeArlington

www.bikearlington.com

Arlington bicycle information.

BikeWashington

www.bikewashington.org

Bike trails and routes in the Washington region, clubs, and organized rides.

Capital Bikeshare

www.capitalbikeshare.com/

Regional self-service bicycle rental.

Coalition for Smarter Growth

www.smartergrowth.net

An advocacy group for transit-oriented development in the Washington region.

College Park Area Bicycle Coalition

www.cpabc.org

Advocacy group for bicycling in the College Park, MD area.

Fairfax Advocates for Better Bicycling

http://www.fabb-bikes.org/

Advocacy Group for bicycling in Fairfax County, VA. '

League of American Bicvclists

1612 K Street NW, Suite 800 Washington, D.C. 20006 (202) 822-1333 www.bikeleague.org LAB is a national cycling advocacy group founded in 1880.

National Center for Bicycling and Walking

www.bikewalk.org

A national advocacy group for walking and bicycling.

Metropolitan Washington Council of Governments

777 North Capitol Street NE, Suite 300 Washington, D.C. 20002 (202) 962-3200

www.mwcog.org

www.commuterconnections.org

Metropolitan planning organization. Offers ridematching and Guaranteed Ride Home services through its Commuter Connections program, publishes a Bike to Work Guide.

National Association of City Transportation Officials

www.nacto.org/

An association of big city transportation officials oriented towards "smart growth" principles.

National Complete Streets Coalition

www.completestreets.org/

Advocacy group for "complete streets", or provision of pedestrian and bicycle facilities as part of all transportation projects.

Pedestrian and Bicycle Information Center

www.bicyclinginfo.org www.walkinginfo.org

National clearinghouse for information on walking and bicycling.

Ride the City

www.ridethecity.com/dc

A bicycle route finding web site.

Safe Routes to School

www.saferoutesinfo.org

The Safe Routes to School programs enables community leaders, schools and parents across the United States to improve safety and encourage more children, including children with disabilities, to safely walk and bicycle to school.

United States Access Board

www.access-board.gov

A federal agency dedicated to design that is accessible to persons with disabilities.

Virginia Bicycling Federation

www.vabike.org

Advocacy group for Virginia bicycling.

WalkArlington

www.walkarlington.com

Arlington walking information.

Washington Area Bicyclist Association 2599 Ontario Rd. NW Washington, DC 20009 (202) 518-0524

www.waba.org

Advocacy group for cycling in the Washington region. Runs a pedestrian and bicycle safety education program.

Appendix G

Glossary of Terms

BIKE-ON-RAIL PERMIT Permit issued by the Washington Metropolitan Area Transit

Authority permitting transportation of bicycles on Metrorail

trains during night and weekend service periods. (no

longer required)

BICYCLE LANE (BIKE LANE) A portion of a roadway which has been

designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists. Consists of a 4'-6' lane in each direction, with bicycle traffic moving in

the same direction as motorized traffic.

BICYCLE PATH (BIKE PATH)

A bikeway physically separated from motorized

vehicular traffic by an open space or barrier and either within the highway right of way or within an independent

right of way.

BICYCLE PARKING An area dedicated and designed specifically for storing and

locking a bicycle. Includes bicycle racks and bicycle

lockers.

BICYCLE ROUTE (BIKE ROUTE) A segment of a system of bikeways designated

by the jurisdiction with appropriate directional and informational markers, with or without specific

bicycle route numbers.

BIKE CORRAL A bike corral transforms a standard parking lane or

curbside zone into bike parking, typically by placing bike racks in the space, and using with flexiwands and curb stops to discourage conflicts with automobiles. Often used

in areas with narrow and/or busy sidewalks.

BIKE SHARING Short-term bicycle rental available at a network of

unattended locations.

BIKE STATION A staffed, enclosed bicycle parking facility, usually located

at a transit center, which may offer such services as bicycle

repair, rental, lockers, and showers.

BIKEWAY Any road, path, or way which in some manner is

specifically designated as being open to bicycle travel, regardless or whether such facilities are designated for the exclusive use of bicycles or are to be shared with other

transportation modes.

BUFFERED BIKE LANE Buffered bike lanes are conventional bicycle lanes paired

with a designated buffer space separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking

lane.

COMPLETE STREETS Complete streets are designed and operated to enable safe

access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely

move along and across a complete street

CYCLE TRACK (Protected Bike Lane) A bicycle-only facility that provides physical separation within the right of way from vehicle travel lanes.

CLASS I, II or III BIKEWAY Terms sometimes used to describe different types of

bicycle facilities. Class I is a shared-use path, Class II a bicycle lane, and Class III a shared roadway. However, Since there is some disagreement on the exact meaning of these terms, the AASHTO terms (listed above) should be

used.

GREENWAY A linear park or recreation facility of limited width, located

along the length of an existing or former public utility

or railroad right-of-way, or along a stream bed.

HIKER-BIKER TRAIL A paved path designed for use by both pedestrians and

bicyclists, which is completely separated from vehicular

traffic.

METROPOLITAN A core area containing a substantial population

STATISTICAL AREA nucleus, together with adjacent communities having a high

degree of social and economic integration with that core. Metropolitan statistical areas comprise one or more entire counties. They are used by the United States Census

for the purpose of tabulating, enumerating and

publishing data.

RAILS-TO-TRAILS A national membership organization that works

CONSERVANCY to facilitate the acquisition of abandoned railroad lines

for use in creating bicycle and pedestrian trails and linear

parks.

RAIL-TRAIL A Shared-Use Path, either paved or unpaved, built within

the right-of-way of an existing or former railroad.

REGIONAL ACTIVITY CENTER A set of locations within the National Capital

Region Transportation Planning Board planning area identified by the Council of Government's Planning Director's Technical Advisory Committee as employment centers of regional significance. Five types of Regional Activity Center have been designated, with different employment and residential density criteria for each.

REGIONAL ACTIVITY CLUSTER An employment center adjacent to a Regional

Activity Center, with a lower density than a Regional

Acitivity Center

ROAD DIET A road diet is a technique whereby a road is reduced in

number of travel lanes and/or effective width in order to achieve systemic improvements. An example of a road diet would be the conversion of two travel lanes in each

direction to a 3-lane section with one travel lane in each direction, optional bicycle lanes, and a two-way turn lane

in the middle.

SHARED ROADWAY A roadway which is open to both bicycle and motor vehicle

travel. This may be an existing roadway, street with wide

curb lanes, or road with paved shoulders.

SHARED-USE PATH A bikeway, at least 8' in width, physically separated from

motorized vehicular traffic by an open space or barrier and

either within the highway right-of-way or within an independent right-of-way. Shared-Use Paths may also be

used by pedestrians, skaters, wheelchair users, joggers, and other non-motorized users. Also called a multi-use path.

SHARROW A shared-lane marking or sharrow is a street marking used

to indicate the recommended position and direction of

travel for the bicyclist.

SIDE-PATH A shared-used path built within the right-of-way of a non

limited-access highway.

SIDEWALK The portion of a street or highway right-of-way, at least 4'

in width, designed for preferential or exclusive use by

pedestrians.

SIGNED SHARED ROADWAY

A shared roadway that has been designated as a preferred route for bicycle use using warning,

directional, and informational signage.

TRAFFIC CALMING

Traffic calming is a way to design streets, using physical measures, to encourage people to drive more slowly.

TRAVELED WAY

The portion of a roadway for the movement of vehicles,

exclusive of shoulders.

UNIFORM VEHICLE CODE

The standards for traffic regulations recommended for adoption by state and local jurisdictions, as prepared by the National Committee on Uniform Traffic Laws and

Ordinances.

WASHINGTON AREA BICYCLIST ASSOCIATION

A regional membership organization devoted to improving bicycling opportunities and promoting bicycle usage in the metropolitan Washington area.

Appendix H

Glossary of Acronyms

AASHTO American Association of Highway Transportation Officials

ADA Americans with Disabilities Act
AFA Access for All Advisory Committee

CLRP Financially Constrained Long-Range Transportation Plan
CMAQ Congestion Mitigation and Air Quality Improvement Program

COG Metropolitan Washington Council of Governments
DDOT District of Columbia Department of Transportation

FHWA Federal Highway Administration FTA Federal Transit Administration

ISTEA Intermodal Surface Transportation Efficiency Act of 1991

MAP-21 Moving Ahead for Progress in the 21st Century Act

MDOT Maryland Department of Transportation MPO Metropolitan Planning Organization

MSA Metropolitan Statistical Area MTA Maryland Transit Administration

MUTCD Manual on Uniform Traffic Control Devices

NACTO National Association of City Transportation Officials

NCPC National Capital Planning Commission

NVTC Northern Virginia Transportation Commission

SAFETEA-LU Safe, Accountable, Flexible, Efficient Transportation Equity Act:

Legacy for Users

MDSHA Maryland State Highway Administration

SOV Single-Occupant Vehicle SRTS Safe Routes to School

TCSP Transportation and Community and System Preservation Pilot

Program

TEA-21 Transportation Equity Act for the 21st Century

TIP Transportation Improvement Program

TPB National Capital Region Transportation Planning Board

US DOT U.S. Department of Transportation
VDOT Virginia Department of Transportation

VMT Vehicle-Miles Traveled

WABA Washington Area Bicyclist Association

WMATA Washington Metropolitan Area Transit Authority

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