

Project Overview

Regional Context

The Washington metropolitan area encompasses the District of Columbia and the surrounding jurisdictions in Northern Virginia and Suburban Maryland. The region is home to more than 5 million residents and nearly 3.5 million jobs, making it the ninth largest metropolitan area in the nation, according to 2008 census population estimates¹. As the seat of the national government, the District of Columbia alone receives 22 million visitors annually. Transportation planning at the regional level is coordinated by the National Capital Region Transportation Planning Board (TPB). The TPB is composed of representatives of the transportation agencies of the State of Maryland, the Commonwealth of Virginia, and the District of Columbia, local governments, the Washington Metropolitan Area Transit Authority (WMATA), the Maryland and Virginia General Assemblies, and members from the Metropolitan Washington Airports Authority (MWAA) and federal agencies. Established in 1965, the TPB is the federally-designated Metropolitan Planning Organization (MPO) that directs the comprehensive regional transportation planning process under the authority of the Federal-Aid Highway Act of 1962, as amended.

Project Summary

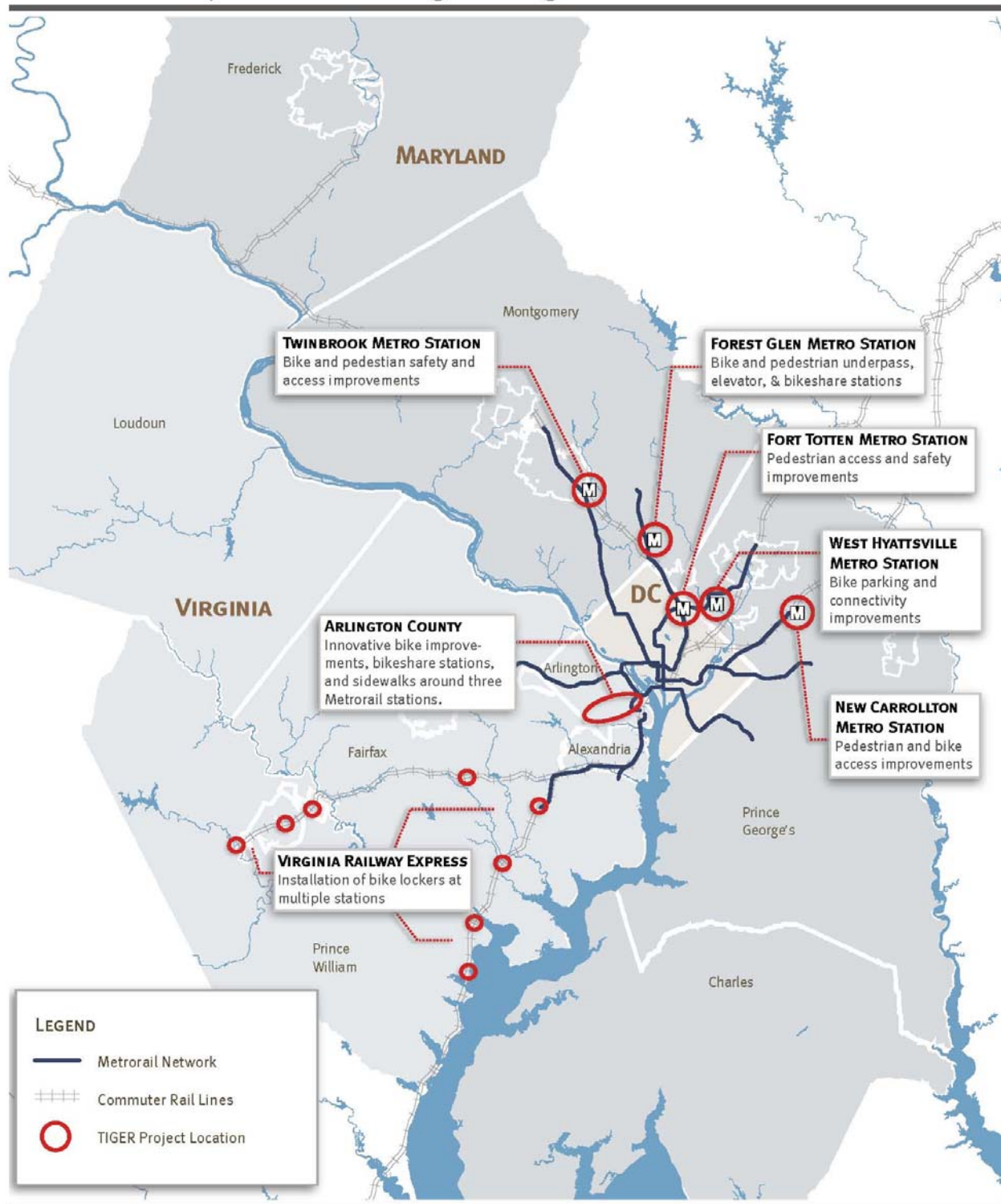
In response to the July 1 announcement of the FY 2011 TIGER Discretionary Grant Program notice of funding availability, the TPB has assembled a project application that consists of seven multimodal capital improvement components that will enhance non-motorized access to the region's rail system (see map on following page). The project focuses on pedestrian, bicycle, and streetscape improvements to 16 rail station areas that are well-served by transit and support housing and employment. These station area locations include both suburban activity centers and potential housing and job centers on the eastern side of the region. In many cases, these locations are reverse commute destinations. Together, the improvements in this application enhance the ability of existing infrastructure to positively impact the accessibility, safety, and economic opportunity of these untapped regional assets.

The TPB Vision, a policy document that outlines eight broad goals to guide the region's transportation investments in the 21st century, describes a region with an accessible and interconnected transportation system that enhances the quality of life, provides additional economic resilience, and supports a growing economy throughout the entire area. TPB's scenario planning to support implementation of the Vision has demonstrated that the region can realize significant benefits by increasing job and housing growth near rail stations. Through strategic access improvements to the existing transit infrastructure, demand pressures on the transportation system would be alleviated by using trains in reverse-commute directions that are currently operating under capacity, or by selling the same seat twice in peak commute directions (where one group of commuters alights at a mixed-use suburban location and another group boards). More broadly, promoting development near rail station areas would reduce distances between housing and employment, which would in turn reduce vehicle-miles traveled (VMT) and congestion.

Each component in the application supports multiple livability principles that enhance the effectiveness of the region's rail system by creating safer station areas for non-auto modes, by providing multimodal transportation options at station areas to reduce auto dependency, and by maximizing the efficiency of existing rail transportation infrastructure. The components address the safety of rail system users, add streetscaping and capacity improvements to the built environment, and construct basic pedestrian infrastructure for typically underserved areas of the region. Each contributes to the vitality of its rail

station area, and together the complete package represents an investment in transportation improvements that would otherwise remain unfunded.

COMPONENTS OF THE TPB APPLICATION PACKAGE For The Metropolitan Washington Region



Project Need and Regional Challenges

By increasing the safety and accessibility of regional rail stations, the TPB's application package highlights the need for coordinated implementation of a regional transportation system that recognizes all modes and facilities as part of a balanced approach to economic development. Innovative, sustainable improvements to the transportation network are increasingly needed as the existing surface transportation system continues to come under strain, economic inequity increasingly limits access and opportunity, and regional and global environmental problems worsen. The Washington region seeks to leverage federal funds to implement small-scale, high-impact multimodal transportation improvements that increase safety and enhance access to the regional transit network. The following is an overview of the key challenges this project package will collectively address across the region. Each of these topics is explored in greater detail in the summary of how the TPB's project package meets the TIGER selection criteria.

Balance growth and development across the region

The National Capital Region has many successful examples of mixed use, transit-oriented development. The region's robust economy is due in large part to the presence of the federal government, international community, and companies and organizations that do business with our government. The myriad pieces of these thriving developments have come together over time through a mix of local land use and funding decisions, developer contributions, and infrastructure improvements that were designed and funded on a regional level. Yet prosperity has not occurred equally throughout the region. There is significant disparity in job growth between the eastern and western portions of the region, what has become known as the "east/west divide." The TPB's Regional Mobility and Accessibility Scenario Study (at right) found that job growth in the western portion of the region increased by 20 percent between 1990 and 2000, while job growth in the eastern portion of the region increased by only one percent during the same time period, with the dividing line running roughly north-south through the core of the District of Columbia.

One way to address the east/west divide is to support future regional development initiatives and transportation options that encourage the development of locations well-served by transit, but currently underutilized for housing and employment. Small-scale improvements such as those proposed in TPB's TIGER 2011 package can serve as a catalyst for development around the region's rail stations with untapped potential. In many cases the proposed TIGER project completes a missing link between the station and job and housing destinations.

Maximize efficiency of existing transportation infrastructure

The National Capital Region has an extensive highway network and the second largest public transit system in the country. Congestion and crowding on the region's roadways and transit system is increasing and meeting the travel demands of a growing population

The Transportation Planning Board launched the **Regional Mobility and Accessibility Study** in 2001 to examine the impacts of alternative transportation and land use scenarios. In addition to identifying the east/west divide, the TPB scenario analysis identified land-use and transportation decisions that would alleviate pressure on the existing transportation infrastructure. These included moving jobs and housing closer together by providing more housing options near existing employment centers or diverting job growth to locations with a high concentration of residential development. The scenario analysis also showed that increasing the region's housing stock would decrease the number of longer distance commutes into the region. Finally, the study showed that concentrating job and housing growth in transit-oriented developments around the region's rail stations would maximize the utility of the existing transportation system.

and workforce brings difficult challenges. Congestion on the road network will continue to increase with an expected rise in VMT of 20 percent by 2030, impacting both private automobiles and bus transit. Over the next 20 years, transit work trips are forecast to increase by 35 percent as the region adds nearly 1.2 million people and almost 1 million jobs. Funding constraints for all modes translates into an inability to keep up with rapidly rising demand.

While the region continues to benefit from its world-class rail transit system, this system faces considerable capacity challenges. According to projections, Metrorail ridership during the morning peak will grow from approximately 250,000 to over 350,000 by 2040. This means that 100,000 new riders will need to access Metrorail stations by some means. This increase in ridership will create even more crowding on the Metrorail system on some of the more heavily traveled corridors and at the busiest stations. Since the ability of the transit system to expand its capacity is limited by funding constraints, more creative measures must be taken to most effectively capitalize on the capacity of the existing system by balancing regional growth and travel demand.

The area's highway and transit system will continue to play an important role in the region; however, coping with the increase in demand for travel in a time of diminishing fiscal resources will require thinking differently about the way we plan, fund, and build our future transportation system. The projects in the grant application will better integrate rail stations with surrounding communities. Integration will provide residents with viable housing and transportation options, including the possibility of taking transit and then traveling "the last mile" to a final destination by walking, biking, or riding a local circulator bus. The resulting system enhancements will support the land use decisions envisioned by the TPB's scenario analysis and use the transportation network more efficiently.

Fund projects that support complete communities

Although the National Capital Region has many successful examples of mixed use, transit-oriented development, some areas of the region have been more successful than others in bringing about change which results in sustainable, complete communities. TPB's application strives to build additional complete communities across the region by implementing projects that increase mobility options for all users of the transportation network, providing citizens with mode choices when considering daily trips.

The types of multimodal projects proposed in this application often slip through the cracks in the traditional federal modal funding programs. Projects that include multiple components across travel modes typically require creative funding options, and much of that funding is only available at the state and local levels. For example, there is no federal funding source for enhancements to existing rail stations. Similarly, projects that produce benefits such as safety improvements often compete for very small amounts of funding at the state level, even if the benefits show a likely reduction in auto-related deaths. WMATA, through its 2010 Metrorail Bicycle and Pedestrian Access Improvements Study, has identified the need for access improvements around the agency's station areas. These improvements depend upon investments in pedestrian and bicycle infrastructure by local jurisdictions. However, funding for such improvements is scarce and must compete with other needs.

At a time when local funding is scarce, the TPB TIGER project demonstrates how federal funding can be used to leverage limited local resources and provide for enhancements to the safety and options for all travelers. Each of the components in the TPB's application package enhance non-motorized opportunities around station areas, providing greater transportation flexibility for residents and workers to move throughout the region.

Proposed Project

The TPB has partnered with five jurisdictions and Virginia Railway Express (VRE) to develop a package of seven components that, together, enhance the region's interconnected, multimodal transportation system and, sustainably and affordably, provide better access to 16 rail stations in the region. The goal of each is to improve access to a rail station, in a manner appropriate for each station area. Each project is the result of a comprehensive planning process. Some components were initiated by community members or planners at the local level. Several projects are the products of regional studies, including WMATA's "Metrorail Bicycle & Pedestrian Access Improvements Study,"² completed in October 2010, and the TPB's Transportation/Land-Use Connections (TLC) Technical Assistance Program. The enhancements to the West Hyattsville Metrorail station are identified as a case study in WMATA's access study.

Table 1: Project Component Details

	ID	Project Component	Location	FY 2011 TIGER Grant Request	Description
D C M A R Y L A N D	1	Fort Totten / 1st Place-Galloway Road Access Improvements	District of Columbia	\$3,336,840	Rebuild the two streets serving the Fort Totten Metrorail Station, improving accessibility and safety for pedestrians at this metro transfer station.
	2	Forest Glen Metrorail Access Project	Montgomery County	\$14,080,000	Construct a grade-separated pedestrian/bicyclist crossing at Georgia Avenue (MD 97), safely linking Forest Glen Metrorail Station to Holy Cross Hospital; establish ten bikeshare stations.
	3	Pedestrian Safety Measures for the New Carrollton Metrorail Station	Prince George's County	\$682,736	Construct sidewalk and crossing improvements, including signal timing changes around the New Carrollton Metro Station, making it more suitable for transit oriented development.
	4	Twinbrook Metrorail Station: Pedestrian Safety Improvements	City of Rockville	\$401,272	Construct a variety of bicycle and pedestrian safety and access improvements to the Twinbrook Metro Station.
	5	West Hyattsville Metrorail Station Access Improvements	Prince George's County	\$542,750	Improve pedestrian facilities that connect into the West Hyattsville Station and add a full-service bicycle station.
V I R G I N I A	6	Arlington Army Navy Drive Multimodal Access Improvements	Arlington County	\$4,965,983	Reconstruct Army Navy Drive, providing enhanced pedestrian facilities and an innovative cycle track for bicycles near three Metrorail stations. Add ten bikeshare stations.
	7	Bicycle Lockers at VRE Stations	Virginia Railway Express (VRE) Stations	\$226,880	The project will add bicycle lockers to VRE stations in Fairfax and Prince William Counties, and the Cities of Manassas and Manassas Park.
Total TIGER Request				\$24,236,461	
Local Match (22 %)				\$6,822,328	
Total Project Cost				\$31,058,789	

The products developed through the TPB's TLC Program served as the inspiration for this regional TIGER grant application concept. Many of the planning efforts completed under the TLC Program recommend capital improvements, such as pedestrian facilities or multimodal concepts for intersections or streets that further the ability of all modes to function well in a dense, multimodal area and help activity centers work well as vibrant, mixed-use places. Jurisdictions often struggle to identify funding to implement multimodal TLC projects even though these types of projects greatly enhance active transportation and sustainable communities. The improvements identified for funding around the **New Carrollton** and **Twinbrook** Metrorail station are the results of TLC studies.

The TPB's application package will, in the improved areas, facilitate a transportation system that recognizes all modes and facilitates a balanced approach to economic development. The components in this application will allow businesses to better integrate with surrounding communities and will provide employees with viable housing and transportation options, including the possibility to take transit and then travel "the last mile" on foot, by bike or by local circulator. The components all focus on the common goal of providing complementary, non-motorized transportation infrastructure that will encourage the increased development of housing and job centers in locations well-served by transit.

District of Columbia

1. Fort Totten / 1st Place-Galloway Road Access Improvements

The component will redesign 1st Place NE and Galloway Street NE in the District of Columbia to improve circulation and make the infrastructure around the Fort Totten Metrorail station safe and accessible for all modes. The District Department of Transportation (DDOT) initiated this project to improve access and circulation for the confluence of pedestrians, bicyclists, buses, and vehicles at the Fort Totten Metrorail station. The final study report³ recommends pedestrian improvements that include building missing sidewalk linkages, expanding some sidewalks to accommodate bicyclists, relocating crosswalks to safe locations, adding secure bike parking, and improving lighting. There are several significant changes coming to the area, including a planned intersection reconfiguration at Riggs Road NE and South Dakota Avenue NE, as well as several major real estate developments in various stages of planning and construction in the immediate vicinity that will significantly increase residential and commercial densities. These and other developments underscore the need to provide safe and efficient multimodal traffic circulation in the rail station area.

FORT TOTTEN/ 1st Place - Galloway Road Access Improvements

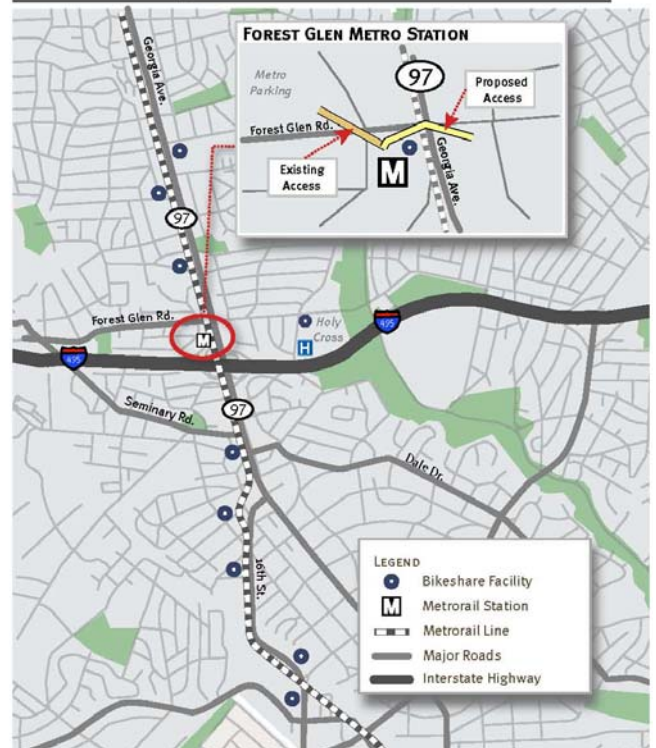


FOREST GLEN METRORAIL Access Project

State of Maryland

2. Forest Glen Metrorail Access Project

The project will construct a grade-separated pedestrian / cyclist crossing at the intersection of Georgia Avenue (MD 97) and Forest Glen Road in Montgomery County, Maryland. The crossing will create a safer linkage from the Forest Glen Metrorail station to Holy Cross Hospital. In order to increase access for users of all abilities, an elevator will connect the street level directly to the Metrorail station mezzanine. Finally, the project will establish Capital Bikeshare stations at the Forest Glen Metrorail station, Holy Cross Hospital and the surrounding area. The intersection of Georgia Avenue and Forest Glen Road is one of the most heavily used intersections located adjacent to a Metrorail station in the National Capital Region, with over 63,000 vehicles entering the intersection between the hours of 6:00 a.m. and 7:00 p.m. The intersection presents challenges for pedestrians and cyclists to safely cross Georgia Avenue. The community has been lobbying several years for a grade-separated crossing that would eliminate conflicts with automobiles and significantly improve access to the Metrorail station⁴. The effort is coordinated with local development and the Maryland State Highway Administration's MD 97/Montgomery Hills study, and would support further reverse commuting via Metrorail.



3. Pedestrian Safety Measures for the New Carrollton Metrorail Station

The sidewalk and crossing improvements that are part of this component will greatly enhance pedestrian and bicycle access in the New Carrollton Metrorail station area in Prince George's County, Maryland. The improvements will provide adequate infrastructure to support transit oriented development (TOD). New Carrollton is the top TOD priority for Prince George's County. Served by both the Maryland Area Regional Commuter (MARC) train and Amtrak in addition to Metrorail and buses, the New Carrollton station area is currently the County's only full-service intermodal transportation center. The improvements will provide the region with an excellent opportunity to transform the area into a premier high-intensity and livable urban center and regional transit-oriented destination, featuring a walkable and transit friendly environment. Additional funds are necessary to complete, expand, and enhance the somewhat fragmented pedestrian and bicycle facilities completed as part of separate development applications. The multimodal improvements implemented through this effort will provide for vital, accessible connections to a vibrant transit oriented development that engages all sectors. The component includes a subset of pedestrian safety measures recommended in a 2010 TLC Study⁵.

PEDESTRIAN SAFETY MEASURES for the New Carrollton Metrorail Station



4. Twinbrook Metrorail Station: Pedestrian Safety Improvements

The component will construct safety improvements along specific pedestrian corridors within a one half mile radius of the Twinbrook Metrorail station in the City of Rockville, Maryland. The improvements include refurbished high-visibility crosswalks, median extensions, curb extensions, and other related enhancements at approximately 15 intersections within the project area. These improvements were generated from a 2011 TLC Study⁶ that provided recommendations for improving the pedestrian walkways leading to the Twinbrook station. Private-sector redevelopment around the Twinbrook Metrorail station, a State of Maryland-designated TOD area, is adding more residential, retail, and office units. One such development, Twinbrook Station, has been designated a Smart Growth project by the Washington Smart Growth Alliance, received the International Charter Award for Excellence from the Congress for the New Urbanism, and was the first project in the Washington, DC, area to be awarded Stage 2 Leadership in Energy and Environmental Design (LEED) for Neighborhood Development Gold-level certification for its plan. The improvements in this component will provide better access to these new developments.

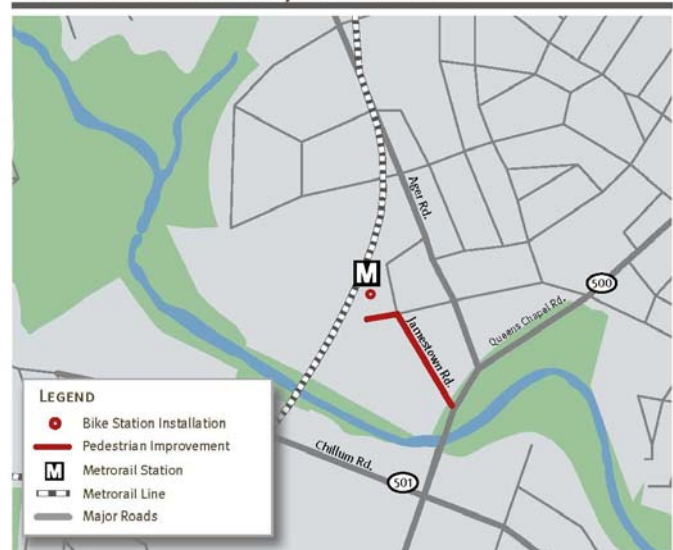
TWINBROOK METRORAIL STATION: Pedestrian Safety Improvements



5. West Hyattsville Metrorail Station Access Improvements

Bicycle and pedestrian improvements will remove a significant barrier to accessibility around the West Hyattsville Metrorail station in Prince George's County, Maryland. The bicycle and pedestrian components were developed from the WMATA "Metrorail Bicycle & Pedestrian Access Improvements Study."⁷ Sidewalks will be constructed along Jamestown Road to improve access to the station, providing direct access to the station for several apartment complexes and residential communities. The component will help provide connectivity surrounding the West Hyattsville Metrorail Station, increasing mobility and active transportation options for underserved residents living around the station, thus increasing the ability for people to access employment opportunities around the region. Another improvement included in this component is to create a full service bicycle station at the Metrorail station.

WEST HYATTSVILLE METRORAIL Station Access Improvements



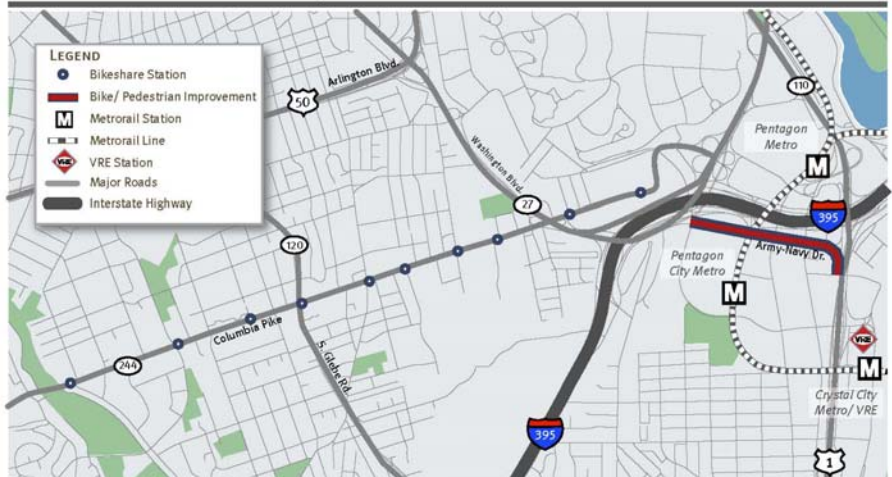
Commonwealth of Virginia

6. Arlington Army Navy Drive Multimodal Access Improvements

In this component, 3,300 feet of Army Navy Drive in Arlington County, Virginia, is reconfigured to provide a wider, safer sidewalk, a physically-separated two-way cycle track, and safer street cross section that will support a future streetcar. Collectively, the capital improvements will enhance multimodal access to three major activity centers. The component is located within one-half mile of three Metrorail stations, Pentagon, Pentagon City, and Crystal City, and within one-half mile of the Crystal City VRE station. The component grows out of Arlington's Master Transportation Plan process, and also

fully supports and connects to improvements underway as part of the Federal Highway Administration's *14th Street Bridge Corridor Environmental Impact Statement*, which aims to improve conditions for pedestrian and bicycle access to river crossings as part of a long list of mitigation efforts to reduce the environmental effects of transportation in the region. Ten new Capital Bikeshare stations will be added along Columbia Pike, strengthening bicycle connections to the west end of the project. One part of this project will be to construct the region's first separated two-way cycle track, a facility that is common in other parts of the world, but the first purpose-built cycle track both in Metropolitan Washington and the Commonwealth of Virginia.

ARLINGTON ARMY-NAVY DRIVE Multimodal Access Improvements



7. Bicycle Lockers at Virginia Railway Express (VRE) Stations

The component will add bicycle lockers to eight VRE commuter rail stations in Fairfax and Prince William Counties, and the Cities of Manassas and Manassas Park. This will improve multimodal access opportunities to VRE by providing additional bicycle facilities at eight VRE stations, introducing 35 bicycle lockers with the capacity for 70 bicycles to the system. The Franconia-Springfield station is co-located with Metrorail and several stations are served by local bus routes. VRE works closely with member jurisdictions to provide station amenities (e.g., sidewalks/trails, bicycle facilities, kiss-and-ride, station parking) that give riders a variety of transportation choices for accessing VRE service. Prince William County, Manassas, and Manassas Park are outer jurisdictions of the National Capital Region and are rarely included in discussions of transit access and multimodal transportation. The prospect of

improving access to commuter rail stations provides a unique opportunity to not only facilitate bicycle access to the stations, but also encourage behavioral shifts towards active transportation.

BICYCLE LOCKERS At Virginia Railway Express (VRE) Stations



Project Summary

TPB's proposal has been developed to support the regional goal of creating sustainable, multimodal linkages between existing and planned employment opportunities and housing. Each project in the TPB's application package complements this goal by providing pedestrian, bicycle, and other non-motorized connections at rail station areas, tapping into an extensive regional asset. The TPB has strong relationships with each project partner and will streamline management of the components to ensure prompt implementation of the improvements.

This project will serve as a regional and national example for how to infuse rail station areas with the capacity to not only entice employment growth but also serve existing jobs and housing with better access and greater mode choice. The components demonstrate key safety, livability, and sustainability principles at very small, moderate, and large scales and provide a set of templates for other areas struggling with the challenges of balancing regional housing and employment and maximizing capacity of their existing transportation infrastructure.

More detailed information on each project may be found in Appendix 1.

Project Parties

This project application is the result of many months of regional collaboration and cooperation among local, state, and transit partners who have multimodal project concepts that do not naturally fall into existing funding structures. Upon reviewing the TPB FY 2011 TIGER application concept, project partners came forward with individual projects that each met the TPB's application criteria in unique and innovative ways. Together, the projects represent the diversity of the region in form, application, and design. All partners and potential future partners have registered their support for this regional project, which is documented in numerous letters of support. Please see Appendix 2, Letters of Support from Project Owners, and Appendix 3, Letters of Support from Other Partners. On July 20, 2011, the TPB endorsed the TPB TIGER project application concept described in the "Project Overview" section of this application. Underpinning these letters and endorsement are TPB Resolution R3-2012 and an action to endorse the application package that was unanimously approved on July 21, 2011 and October 19, 2011, respectively. All project parties are identified with each component in Table 2, Project Cost Information.

Lead Applicant

As the MPO for the Washington Metropolitan Area, the TPB is an eligible applicant for this grant. The Metropolitan Washington Council of Governments (COG), which is a non-profit organization selected by the TPB to be its administrative agent, will be the lead applicant for this grant, and approved support and administration for this grant on October 12, 2011 through Resolution R50-2011. Since 2007, COG has administered the Federal Transit Administration's (FTA) Job Access and Reverse Commute (JARC) and New Freedom transit programs for the TPB when it became the FTA-designated recipient for grants under these programs. COG is also currently administering the region's TIGER I grant award. COG will administer the grant program proposed in this application in a similar manner on behalf of TPB.

Project Parties

As lead applicant, COG is joined by the project sponsors, which are composed of local governments and transit agencies located and operating in the Washington metropolitan region.

The District of Columbia

District of Columbia Department of Transportation

The State of Maryland

Montgomery County

Prince George's County

City of Rockville

The Commonwealth of Virginia

Arlington County

Virginia Railway Express

Project owners will be the recipients of grant funds and will be responsible for administering these funds and implementing the projects in accordance with the grant provisions. Project owners have registered their support for the TPB application. They understand the obligation this role confers upon them, and will cooperate at all levels in carrying out the activities to be supported by the FY 2011 TIGER Discretionary Grant. Table 2 identifies project owners for each of the project components.

Grant Administration

COG will be the lead applicant and responsible for managing the grant on behalf of TPB to ensure that the entire project is delivered as scheduled. To accomplish this, COG will execute a grant agreement with the Cognizant Modal Administration. To manage and integrate the project components into an effective system and deliver the entire project as timely and effectively as possible, COG will issue a request for qualifications (RFQ) for a management team promptly upon notice that the project grant will be awarded. Within 90 days, COG will hire a team of qualified consultants with appropriate staff and skills to coordinate, manage, and administer the implementation and integration of the project components, as well as to prepare all required documentation on the project grant implementation, project benefits, and financial reports. General project management expenses are included in the total project cost. It is anticipated that each public agency denoted as project owners above will execute specific grant agreements as first-tier sub-awardees in accordance with the regulations of the Cognizant Modal Administration.

Grant Funds and Sources/Uses of Project Funds

This application includes a series of multimodal transportation improvements that would collectively enhance access to the regional rail system. Each component provides unique pedestrian, bicycle, and/or streetscape enhancements to a rail station area and may stand alone from the rest of the application; however, the full benefits provided by the project package work together to improve the regional infrastructure and connect multiple modes of transportation.

Table 2 provides a listing of all components that collectively form the proposed project. The table includes the financial information including the amount of grant funding requested, total project costs, percentage of project costs that would be paid for with FY 2011 TIGER Discretionary Grant funds for

each component, match sources, and percentage shares for each component of the total project. The total FY 2011 TIGER request for the project is \$24,236,461, which is 78 percent of the total project cost of \$31,058,789. This project is located in two states (Virginia and Maryland) and the District of Columbia, with percentage shares of the total project at 21 percent, 65 percent, and 14 percent respectively. The project is comprised of components in nine local jurisdictions, each of which supported the application with at least a 20 percent funding match. Match sources are mostly from local capital budgets, but also come from local transportation demand management funds. Match commitments have been documented in support letters from project sponsors, which are provided in Appendix 2.

Table 2: Project Cost Information

ID	Project Component	Location	Project Parties	Total Project Cost	FY 2011 TIGER Grant Request	Percent TIGER	Match Source	Percent of Total Request
1	Fort Totten / 1st Place-Galloway Road Access Improvements	District of Columbia	District Department of Transportation (DDOT)	\$4,171,050	\$3,336,840	80%	Local funding	14%
District of Columbia Component Subtotal				\$4,171,050	\$3,336,840	80%		14%
2	Forest Glen Metrorail Access Project	Montgomery County	Montgomery County	\$17,600,000	\$14,080,000	80%	Local funding	58%
3	Pedestrian Safety Measures for the New Carrollton Metrorail Station	Prince George's County	Prince George's County	\$953,420	\$682,736	72%	Local funding	3%
4	Twinbrook Metrorail Station: Pedestrian Safety Improvements	City of Rockville	Rockville, Maryland Department of Transportation (MDOT)	\$501,590	\$401,272	80%	Local funding	2%
5	West Hyattsville Metrorail Station Access Improvements	Prince George's County	Prince George's County	\$710,250	\$542,750	76%	Local funding	2%
Maryland Component Subtotal				\$19,765,260	\$15,706,758	79%		65%
6	Arlington Army Navy Drive Multimodal Access Improvements	Arlington County	Arlington County	\$6,838,879	\$4,965,983	73%	Local bond funding	20%
7	Bicycle Lockers at VRE Stations	Fairfax County, Manassas, Manassas Park, Prince William County	Virginia Railway Express (VRE), Fairfax County, Manassas, Manassas Park, Prince William County	\$283,600	\$226,880	80%	Local funding	1%
Virginia Component Subtotal				\$7,122,479	\$5,192,863	73%		21%
PROJECT TOTAL				\$31,058,789	\$24,236,461	78%		

Selection Criteria

This application is a result of regional cooperation and reflects region-wide support. All 21 jurisdictions in the National Capital Region support the TPB's application concept of enhancing non-motorized access to the region's rail system through investments in our existing infrastructure. These jurisdictions have a history of working together towards a prosperous and livable future. Through the TPB's planning process, regional leaders have developed policy principles, land use and transportation scenarios, and most recently voluntary regional agreements to achieve regional goals and targets. Currently, the TPB is embarking on a regional priority planning exercise that will yield a list of regional priorities that would have a high impact on the region's transportation infrastructure.

The partnerships and components in the TPB's application package demonstrate that, together, focused enhancements to the region's interconnected, multimodal transportation system provide better access to the region's existing transportation infrastructure. As shown below, the TPB's small strategic investments will not only provide a step toward broader long-term outcomes, but also long-term benefits.

Primary Selection Criteria I: Long-Term Outcomes

The region's population in 2010 was 5.3 million and it is forecast to increase by 30 percent to 6.9 million by 2040. The region contained 3.3 million jobs in 2010 and it is forecast to add another 1 million jobs by 2040, a 39 percent increase.

The current transportation system is severely overburdened and can barely accommodate current demand, let alone a 30 percent population increase over the next 30 years. According to the Texas Transportation Institute's 2011 Urban Mobility Report⁸, the National Capital Region ranks first in the country in annual delay per peak auto commuter. The report also reveals that 84 percent of peak VMT are in congested conditions.

Significant capacity expansion to the region's transportation infrastructure is unrealistic under the current financial forecast. Therefore, it is imperative that strategic, cost-effective solutions be implemented to ease the burden on the system. The seven components included in this project each enhance access to the region's rail infrastructure through a variety of small-scale, value-added measures. Each improvement will provide users of the region's rail system with better overall access to jobs and housing in the region.

State of Good Repair

The goal of the TPB's application package is to rehabilitate or reconstruct bicycle and pedestrian infrastructure that has deteriorated and negatively impacts non-auto accessibility to each of the rail station areas. This project will increase the efficiency of the transportation network and increase mobility of residents and workers who use these stations.

Reduce operating and maintenance costs

The repair and replacement of sidewalk infrastructure at the **Fort Totten** Metrorail station will reduce current upkeep costs for dilapidated and deficient infrastructure. Adding pedestrian infrastructure around the **West Hyattsville** Metrorail station will provide better access for users of the rail system who currently drive to the station from the surrounding neighborhoods. The reduced reliance on the road network will enhance the longevity of that system.

The projects will enhance the ability of residents who live within one mile of the stations to walk to the stations by creating safer, more efficient non-auto access. The grade-separated crossing at the **Forest Glen** Metrorail station will provide better non-motorized access to the Metrorail station for residents in the area. Of the drivers who park at the **Forest Glen** and **Fort Totten** Metrorail stations, over one-third live within a one mile radius of the station, according to a current WMATA survey on parking trends at the region's rail stations. The figure for the **West Hyattsville** Metrorail station is even greater; roughly one-half of those who drive and park at the station live within one mile of the station.

Enhance existing transportation infrastructure

Several projects will enhance portions of roadway by adhering to “complete streets” principles and create corridors that will improve use of the roadways for all modes (**Arlington, Fort Totten, New Carrollton, Twinbrook, West Hyattsville**). These improvements will complement the existing road infrastructure with high-quality accommodations for pedestrians, bicyclists, transit users, and persons with disabilities. Through these complete streets improvements, each project component will serve to improve access to the region's rail stations, thus more effectively utilizing the extensive rail network in the National Capital Region.

The 20 Capital Bikeshare stations (**Arlington** and **Forest Glen**) proposed in this package will have relatively little detrimental impact on existing streets. Bike sharing will relieve pressure on many existing transportation systems and promote the most efficient use of the region's assets in terms of person throughput. First, new bicycle trips will replace short auto trips, reducing VMT. Second, they will replace short transit trips, relieving pressure on congested transit lines. Third, they will increase access to transit, enabling longer transit trips, many of which are likely to be shifted from private automobile.

Economic Competitiveness

The National Capital Region has many successful examples of mixed use, transit-oriented development. As identified in the section on regional challenges, this successful development has not occurred evenly throughout the region. This application provides for multimodal enhancements that will enable station areas throughout the region to attract mixed-use development that is accessible for residents and workers. The strategic capital improvements in this application will support a balanced economy through accessible and efficient transportation infrastructure.

Improving the efficiency of the transportation system

Small, strategic improvements to the region's non-motorized transportation infrastructure can have a positive impact on the road network and potentially reduce the anticipated usage of the road system, thus improving the quality and functionality of the region's multimodal transportation system. Between 2010 and 2020, roads in the National Capital Region will be used more heavily, with VMT increasing by 22 percent. The number of new lane miles created is only expected to increase by 11 percent, leading to an increase of 38 percent in lane miles of congestion for the morning rush hour period. Capital improvements that provide for alternatives to automobile use allow for greater user flexibility and improved performance of the multimodal transportation system.

Currently, 30 percent of transit users drive and park at Metrorail stations in the morning peak, many alone, some with others. Given the cost of structured parking and the desire for WMATA to use land at its stations for joint development, there is a need to think strategically about how customers will access the system in the future. As mentioned above, a great many automobile trip to the **Forest Glen, Fort Totten**, and **West Hyattsville** stations could be converted to walk or bike trips. The reduction of short

auto trips to Metrorail stations will reduce congestion around the stations. Building on the findings from the *Metrorail Bicycle and Pedestrian Access Improvements Study*, WMATA’s current *Bicycle and Pedestrian Capital Improvement Project Summary* will identify the unmet bike and pedestrian access needs at all 86 Metrorail stations. It will create a comprehensive list of projects to improve the safety, capacity, and convenience of bike and pedestrian facilities at or adjacent to Metrorail stations, much like those projects included in this application to improve access to the **West Hyattsville** station, a site included in the former study.

Address the east/west divide and jobs/housing imbalance

Several of the components will provide bicycle and pedestrian capital improvements around rail station areas that are currently underutilized for both jobs and housing and located in the eastern portion of the region. This east/west divide has caused several trends to develop. First, there is an imbalance of employment distribution related to a relatively balanced housing distribution across the region. This creates a peak period travel pattern where there is a general trend to commute west during the morning peak and the opposite trend in traffic moving east during the afternoon period. Second, the eastern regional jurisdictions suffer economically because of this trend, causing friction at the regional and state levels due to the competition to attract high-quality employers. Third, housing costs have increased disproportionately in the western portion of the region; people want to live where they work to reduce commute time, but those locations are simply unaffordable for many workers in the region.

The goal of the TIGER application is to provide strategically placed infrastructure in locations ripe for economic development and traditionally underserved. These improvements will serve to provide infrastructure and connections around rail station areas that may serve to attract developers and businesses to underutilized rail stations. By balancing economic activity more evenly across the region, demands on the road and transit network related to the east/west divide should be alleviated.

West Hyattsville is located in Prince George’s County, in the eastern portion of the region. The improvements around the **West Hyattsville** Metrorail station will provide access to the non-motorized transportation network for traditionally underserved populations, while providing better infrastructure for potential employment. The improvements proposed surrounding the **New**

Carrollton Metrorail station will provide access for residents to the Metrorail and MARC commuter rail, as well as access for employees using these modes to the burgeoning employment center around the New Carrollton station. The **Fort Totten** Metrorail station is situated in an area of the District that is underserved by high-quality multimodal transit options. The improvements will provide better access to the station for the surrounding community, as well as better access from the station to jobs in the area, which would provide for a reverse commute or the opportunity to “sell the same seat twice.”

(U.S. Census: 1/2 mile radius) ⁹	Fort Totten	New Carrollton	West Hyattsville
Population	9,429	1,374	7,233
Median Income as a Percent of AMI	49 %	48 %	40 %
Percent Minority	93 %	91 %	80 %

Increase multimodal access to jobs

In addition to the east/west divide, the National Capital Region also exhibits traditional commuting congestion of workers traveling from outer areas to reach jobs in the central core. This is due in large part to the presence and location of the federal government and complementary businesses. This dynamic is an asset to the region in that it provides for stable employment; however, it also creates

gridlock during the AM and PM peak periods. By improving rail station access at strategic stations, workers who live near these stations may choose alternative modes to access the station if they typically use rail to commute, or may choose to switch to rail commuting altogether, alleviating some congestion on the road network. Conversely, workers who are employed near these stations may choose to commute by rail if they can rely on safe, efficient walkways from transit to work.

The area around the **Twinbrook** Metrorail station is experiencing growth and development, positioning it as an attractive reverse commute destination for employment. The improvements proposed for this area will improve pedestrian connections within one-half mile of the Metrorail station. While **Arlington** has a national reputation for leveraging the rail system successfully, the Pentagon City area will soon lose 20,000 jobs due to the Base Realignment and Closure (BRAC) actions taken by the Department of

Defense. This area is well-served by transit on two of the rail system's less congested Metrorail lines (Blue and Yellow). The reconfiguration of Army Navy Drive into a complete street supports other efforts the county is undertaking to revitalize this area and attract new employers to a transit-rich, multimodal environment, creating a more efficient local transportation network to serve residents and workers.

(U.S. Census: 1/2 mile radius) ¹⁰	Arlington (Pentagon City)	Twinbrook
Employment	16,546	20,796
Housing Units	13,002	2,613

Congestion savings across all modes

Each of these improvements will facilitate the use of multimodal transportation options and enhance the non-motorized transportation network. These projects will lead to reduced motorized vehicle congestion for the region, saving all users time and money.

The grade-separated pedestrian and cyclist crossing of Georgia Avenue will create an additional access point to the **Forest Glen** Metrorail station, improving access to Holy Cross Hospital and saving pedestrians time by creating a streamlined pathway to points east of Georgia Avenue. Montgomery County has studied possible changes to the signal timing to allow more time for pedestrians to cross these roads, however, this would result in greater delays in automobile traffic on the already highly congested roadway. This improvement will also facilitate automobile throughput on Georgia Avenue, which has one of the highest traffic volumes in the State of Maryland for an arterial roadway. The intersection of Forest Glen Road and Georgia Avenue was designated as Montgomery County's most congested intersection during peak hours by the Maryland National Capital Park and Planning Commission¹¹. The cycle track planned for Army Navy Drive in **Arlington** will provide high-quality bicycle access to the Pentagon, Pentagon City, and Crystal City areas (and their respective Metrorail stations). This improvement, coupled with the bikeshare stations along adjacent Columbia Pike, will provide time savings for bicyclists on an efficient facility.

Retailers benefit from increased pedestrian and bicycle traffic

Walking and bicycling can increase exposure to storefronts and retail businesses in main street shopping destinations. A study in Toronto, Ontario found that people who biked and walked to a main commercial area of the city spent more money in the area per month than people who drove there to shop¹². Tourists from around the globe visit the National Capital Region each year. Increasing accessibility to multiple modes of transportation not only provides more options for tourists to experience the region without impact to the road network, but also benefits the local economy by creating opportunities for tourists to make their way beyond the immediate station environment and explore and spend money in

local businesses. Adding pedestrian facilities around the Pentagon City Metrorail station in **Arlington** and the **Twinbrook** station, and bikeshare facilities in **Arlington** and around the **Forest Glen** station, will provide users with more opportunity to see and take advantage of retail locations.

Livability

One of the goals of many jurisdictions in the National Capital Region is to create neighborhoods where residents can live, work, and play. The goal of the TPB's application package is to foster complete communities across the region, linked by a multimodal transportation network.

Enhance the regional transportation network

The 20 bikeshare stations (**Arlington** and **Forest Glen**) proposed in this package will add capacity to the Capital Bikeshare network in the Washington Region. According to Capital Bikeshare, the bikeshare system welcomed its one millionth trip on its first anniversary¹³. Users of the bike-sharing system will operate their bicycles on existing roadways and paths, utilizing the existing infrastructure and network of bicycle facilities and streets, as well as the new cycle track proposed on Army Navy Drive. The ability of commuters to stow bicycles in bike lockers at **VRE Stations** at the beginning of their journey to work will potentially attract these commuters to use the bikeshare system upon reaching the core of the region.

Capital Bikeshare: Capital Bikeshare is the multijurisdictional bicycle sharing network in the National Capital Region, with stations located in Arlington County and the District of Columbia. As of October 2011, the Capital Bikeshare system consists of 110 stations and roughly 1,100 bicycles. Capital Bikeshare averages about 4,000 trips per day.

Create Complete Communities

Jurisdictions in the region often struggle with the goal of creating complete communities when faced with the task of converting auto-oriented, single-use environments into multimodal, mixed-use communities. Small, strategically located capital improvements on public property can help to encourage developers to build and employers to locate in these communities. By focusing these improvements around underutilized rail stations, the jurisdictions can truly create a multimodal environment where residents and workers can live, work and play without having to rely on an automobile. Several of the projects provide multimodal infrastructure in locations where residents are typically underserved or have few high-quality options for travel. Some locations in the eastern part of the region struggle with attracting employment opportunities, leaving low-income residents with long commutes to jobs in the western portion of the region. Creating options for residents and workers allows them the flexibility to determine the most cost-effective and time efficient mode of transportation.

	Walk Score ¹⁴
Arlington (Pentagon City)	78
Forest Glen	49
Fort Totten	43
New Carrollton	57
Twinbrook	71
West Hyattsville	51

The **New Carrollton** Metrorail station is an intermodal hub located in Prince George's County in the eastern portion of the region. New Carrollton is served by Amtrak, MARC commuter rail, Metrorail, and bus services, however pedestrian and bicycle access to the station is both difficult and dangerous. The County has named the station as its number one transit-oriented development priority. The improvements funded through this grant would help provide access to the station for existing residential and employment facilities, as well as complement the development already underway around the station. The bike lockers installed at **VRE stations** will serve to provide for high-quality facilities for bicycles in a traditionally auto-oriented environment.

Improve transportation options for millions of residents in need

The region suffers from a current lack of housing and transportation affordability. According to the Center for Neighborhood Technology's online Housing and Transportation Affordability Index, virtually the entire region is marked by housing and transportation costs that are more than 45 percent of area median income¹⁵. This need for affordable options is also highlighted by the dependency of the region's residents upon non-automobile travel modes. Around 12 percent of the residents of the Baltimore-Washington region are without an automobile, and in the District this number jumps to 37 percent. Creating better active transportation connections around rail stations in the National Capital Region will provide more options and connectivity for persons not owning an automobile.

Environmental Sustainability

Each improvement in this package enhances non-motorized access to rail stations in the National Capital Region. These projects will provide current and future residents with infrastructure that allows them to move about the region without relying on an automobile.

Reduce fuel use and air pollution

The net impact of these improvements will reduce dependency on single-occupant automobiles by enhancing non-auto access to transit, making jobs and housing more accessible through non-motorized modes. This will give motorists the option to use an alternative mode to make a commute previously completed in an automobile. By taking motorists off the roads, congestion will be reduced for those who must rely on an automobile for moving about the region, creating a more efficient transportation system. The reduction of single-occupant vehicles will also have positive effects on other environmental resources. For example, less VMT means less polluted runoff in the region's waterways and groundwater. As a result of the grade-separated pedestrian crossing at the **Forest Glen** Metrorail station, motorists on Georgia Avenue will experience less congestion at the Forest Glen Road intersection. The cars will not stop as long or frequently, reducing emissions resulting from idling.

Improve service without building resource-intensive new infrastructure

A major environmental benefit of the TPB's project package is that some elements seek to improve service and increase transit capacity without building extensive infrastructure. This eliminates the need to take more land for travel lanes or build and/or operate new transit lines to extend the current reach of transit. By investing in small-scale, strategic multimodal improvements, the region can capitalize on the existing transportation network by providing better access to the rail system. Each project contributes to this goal: the **Arlington** and **Forest Glen** projects add bikeshare facilities to a regional network; the **West Hyattsville** and **VRE Stations** projects add bicycles amenities to rail stations; **Fort Totten**, **New Carrollton**, and **Twinbrook** enhance pedestrian connections to rail stations.

Safety

The improvements proposed in the TPB's application package enhance safety for all modes in the National Capital Region. In some cases this means removing barriers for certain modes to achieve access, such as creating sidewalks where none exist and providing bicycle infrastructure to highlight the presence of bicycles in the roadway. In other cases, this means keeping modes separated to reduce conflicts in highly congested areas and save lives, including separate facilities for bicycles and grade-separated crossings to enhance non-motorized connections.

Accommodate all modes safely

The goal of complete streets is to provide for transportation infrastructure that accommodates all modes safely and efficiently. Several of the projects highlight the commitment to create transportation facilities that accommodate all modes, with equivalent attention to the needs of each mode. Access to the **West Hyattsville, New Carrollton, and Fort Totten** Metrorail stations is significantly impeded by the lack of any sidewalk infrastructure along several corridors. By connecting the pedestrian infrastructure, access to transit will be enhanced for those currently using informal paths and may also encourage use of the transit system by persons deterred by the current lack of safe passage. The reconfiguration of Army Navy Drive in **Arlington** will provide for an environment that accounts for the safety of all modes with complete streets enhancements to the roadway, providing safer access for pedestrian and bicyclists. According to Arlington county Traffic Counts from 2005, over 22,000 pedestrians traverse the intersection at Army Navy Drive at Hayes Street each weekday and almost 19,000 pedestrians use the same intersection on each weekend day. Army Navy Drive will also include a dedicated cycle track to expedite the throughput of bicyclists in an area used extensively by all modes. This will provide bicyclists with a safe, efficient, parallel route to motorists.

Reduce automobile and non-motorized modal conflict

The **Forest Glen** grade-separated crossing will reduce the significant number, rate and consequences of the crashes, injuries and fatalities of pedestrians and drivers at the intersection of heavily traveled Georgia Avenue and Forest Glen Road. There is currently no significant pedestrian refuge in the middle of the road where people can wait for the next signal phase. According to the BCA, the grade-separated improvement will prevent at least one crash-related death and sixteen vehicle-pedestrian crashes, making access to the station safer for patrons and employees of Holy Cross Hospital and the community. Additionally, the Forest Glen Metrorail Station will be more accessible to users of mobility devices, providing a safe passage to the Holy Cross Hospital for users who might otherwise seek another mode of transportation.

Primary Selection Criteria II: Job Creation & Near-Term Economic Activity

Investment of grant funds in the project and its components will result in economic benefits to the region and nation, including both jobs and increases in economic activity. Economic activity itself will generate induced jobs, which are not jobs that directly result from the infused spending; rather, they result from the increases in economic activity that result from these overall increases.

A factor of 1 new job per \$92,000 of government spending was used to estimate the number of new jobs. Of this, 64 percent of the new jobs were direct and indirect jobs, while 36 percent was induced jobs. This is based on the May 2009 memorandum, Estimates of Job Creation from the American Recovery and Reinvestment Act of 2009, issued by The Executive Office of the President, Council of Economic Advisors. The total number of new jobs estimated to occur as a result of implementation of the entire project is 337 (Appendix 4). Of these, 216 are direct/indirect jobs, and 121 are induced jobs. These jobs result exclusively from the capital investment in the proposed projects. In addition to these jobs, some components will yield long-term jobs required to either operate the program or facilities, as well as jobs that may result from increased economic activity prompted by the components.

Secondary Selection Criteria I: Innovation

The projects included in the application package will introduce several innovative transportation techniques to the National Capital Region. Innovations include a two-way cycle track and extensive bicycle treatments to traditionally auto-oriented locations.

Dedicated, two-way cycle track

Part of the TPB's project package includes building the region's first separated two-way cycle track in **Arlington**. This type of facility is common in other parts of the world, especially in northern Europe, and this would be the first purpose-built cycle track in the Metropolitan Washington, DC area, and the first in the Commonwealth of Virginia. By narrowing the wide existing street cross section of Army Navy Drive, space will be created for greatly improved conditions for pedestrians along an improved sidewalk, and a new alignment will be created for a dedicated bicycle facility. This will be done without negatively affecting motor vehicle operations, and while assuring a good fit for the anticipated fixed-rail streetcar line in the corridor. The anticipated cycle track facility proposed for Army Navy Drive is difficult to implement under existing modal funding in part because it is costly to build in prime urban settings, and in part because there are few precedents in this country for this type of bicycle accommodation. Together with international best practices as embodied in reference standards such as the Dutch *Design Manual for Bicycle Traffic*, the County is confident it can build a safe, convenient, and exemplary urban bicycle facility.

Enhanced Bicycle Facilities

Several components in the TPB's application provide bicycle facilities in areas that are heavily auto-dependent. The addition of bike lockers to eight **VRE Stations** in Fairfax and Prince William counties and the cities of Manassas and Manassas Park will provide users with high-quality bicycle facilities in suburban locations around commuter rail, creating incentive for VRE customers to commute to the rail station by bicycle. Additionally, the application includes the addition of bikeshare facilities around the **Forest Glen** Metrorail station, providing an alternative to the automobile for this auto-dependent area.

The bike parking facility at the **West Hyattsville** Metrorail station will be located adjacent to station entrance and will have access to the local bike network, including a trail system. Given the station's proximity to the regional trail network, West Hyattsville has one of the highest rates of bike access in the entire Metrorail system. During the morning peak, 2.4 percent of the station's riders arrive on bicycle, compared to the system wide average of 0.7 percent. In a recent census of bike parking, 73 bikes were parked at the station. Overtime, WMATA expects bike demand to grow at this station and plans to provide enough bicycle parking to accommodate over 200 bikes by 2020.

Secondary Selection Criteria II: Partnership

The TPB has partnered with five jurisdictions and Virginia Railway Express (VRE) to develop a project package of seven components that, together, enhance the region's interconnected, multimodal transportation system and, sustainably and affordably, provide better access to rail stations in the region. The project components represent a diversity of project needs and environment scales that exist throughout the region. The project reaches 16 rail stations and adds 20 bikeshare stations to a regional system, creating more intermodal connections throughout the region. While small in scale compared to the overall need for these types of multimodal capital improvements, this application package provides a framework around which jurisdictions can build momentum for multimodal projects that are difficult to fund, and a template for discrete improvements that can be completed as precious resources become available. The project's access improvements will allow users to reach more of the region without using an automobile. Improvements such as bike-sharing contribute to an existing, vibrant system that is continuously being expanded and improved. The goal of each component is to improve access to a rail station, as appropriate for each station area. Each component is the result of a comprehensive planning process.

TPB staff developed this project proposal over four months of regional coordination, cooperation, planning and consensus building. Staff consistently met with state and jurisdictional agencies to refine the proposal and discuss the merits of the individual projects. Decision-makers from throughout the region have stated that this application concept is integral to creating livable communities and ensuring the transportation infrastructure is used to its capacity.

Additionally, several of the components of the project were developed through public processes that engaged many stakeholders. The **Forest Glen** Metro Access Project was developed through a collaborative process and has the unanimous support of the surrounding communities, businesses, and Holy Cross Hospital. The **New Carrollton** Metrorail station improvements and the **Twinbrook** Metrorail station improvements were each the result of a regional planning grant received by Prince George's County and the City of Rockville under the TPB's TLC program, a process which included significant stakeholder input. The improvements recommended around the **Fort Totten** Metrorail station were developed through a comprehensive public process¹⁶.

Benefit-Cost Analysis

The benefits and costs of the multimodal accessibility project were evaluated and are presented in this section. The following table provides a summary of this analysis, which shows that the benefits of the proposal outweigh the costs over the 20 year performance period (50 years for Forest Glen). At a 3 percent discount rate, the benefit-cost ratio of the project is 1.89, with a 11.71 percent rate of return. The analysis summary is followed by a description of benefits not quantified in the analysis and a description of the methodology and limitations of the data available. The benefit-cost analysis, including a full description of input data, methodologies and data limitations are included in Appendix 5, Benefit-Cost Analysis Model and Methodology, available for download from <http://www.mwcog.org/transportation/TIGER2011>.

('000s of \$, 3% Discount Rate for Costs and Benefits)		Fort Totten / 1st Place- Galloway Road Access Improvements	Forest Glen Metrorail Access Project	Pedestrian Safety Measures for the New Carrollton Metro Station	Twinbrook Metro Station: Pedestrian Safety Improvements	West Hyattsville Metrorail Station Access Improvements	Arlington Army Navy Drive Multimodal Access Improvements	Bicycle Lockers at VRE Stations
Costs		\$7,295	\$22,615	\$1,194	\$1,209	\$1,169	\$18,295	\$736
Capital		\$3,865	\$16,003	\$819	\$473	\$671	\$6,479	\$267
Operating		\$0	\$1,221	\$0	\$0	\$0	\$0	\$68
Construction Impacts		\$82	\$539	\$143	\$33	\$0	\$526	\$0
Accident		\$3,348	\$4,852	\$232	\$703	\$498	\$11,290	\$401
Benefits		\$15,389	\$23,006	\$3,226	\$4,126	\$4,714	\$40,262	\$2,225
Net Travel Time Savings		\$162	\$1,959	\$154	\$427	\$1,277	(\$4,318)	(\$155)
Net Travel Cost Savings		\$4,581	\$4,271	\$650	\$1,844	\$1,078	\$10,720	\$897
Increased Access		\$121	\$3,351	\$14	\$74	\$182	\$6,347	\$41
Congestions Reduction		\$889	\$3,984	\$1,094	\$388	\$63	\$2,259	\$139
Environmental		\$1,107	\$790	\$158	\$441	\$261	\$1,928	\$538
Health Benefits		\$0	\$11	\$0	\$0	\$1	\$27	\$1
Accident Reduction		\$8,529	\$8,640	\$1,156	\$952	\$1,852	\$23,299	\$764
Net Present Value		\$8,094	\$19,578	\$2,032	\$2,917	\$3,545	\$21,967	\$1,489
Rate of Return		19.68%	4.21%	18.35%	35.02%	35.62%	21.72%	24.25%
Benefit-Cost Ratio		2.11	1.45	2.70	3.41	4.03	2.20	3.02

Table 3: Benefit Cost Analysis—3 Percent Discount Rate
Additional, Unquantified Benefits

There are several qualitative benefits of the proposal that were not captured in the BCA. Many of these benefits are discussed throughout the primary and secondary criteria discussions; however, a few are noted here.

The procurement of twenty Capital Bikeshare stations (*Arlington and Forest Glen*) further extends the system throughout the region. While the stations to be added by this project are a relatively small extension of the system, there will be further network effects as users have greater access to the system across the region, increasing its visibility and utility. The spread of bicycle infrastructure, including bike sharing, bike lanes, bike lockers, and complementary accessibility improvements will act as a marketing tool to attract more people to consider a bicycle for a utilitarian trip.

Improvements in station infrastructure, lighting, and quality of service appurtenances are anticipated to improve personal security and safety for rail travelers, improving the attractiveness of utilizing transit. Theft and property vandalism are an issue at rail stations; improved lighting and appurtenances will deter such minor crimes. Improved sidewalks and lighting will also reduce safety hazards such as slips and falls. Sufficient data is lacking to make a quantitative assessment of these security and safety benefits, aside from the increases in transit use anticipated.

Project Summary:
Current, 3 Percent and 7 Percent Discounts

Current Dollars (2011)	
Rate of Return	15.06 %
Benefit/Cost Ratio	2.28
3 Percent Discount Rate	
Rate of Return	11.71 %
Benefit/Cost Ratio	1.89
7 Percent Discount Rate	
Rate of Return	7.54 %
Benefit/Cost Ratio	1.50

Benefits to System Users	2020 (Year 9)	2035 (Year 24)	Total (2012-2035)
Pedestrian Trips	6,082,117	7,019,597	140,867,120
Bicycle Trips	175,495	273,618	4,420,422
Bikeshare Trips	290,620	337,401	6,678,709
Mobility Device Trips	3,957	4,001	77,273
New Trips (all modes)	205,822	235,955	4,678,107
Travel Impacts	2020 (Year 9)	2035 (Year 24)	Total (2012-2035)
Rail Transit Trips	380,473	438,628	8,682,895
Bus Transit Trips	-80,441	-91,036	-1,846,819
Auto Vehicle Trips	-237,523	-275,665	-5,439,804
Auto VMT	-1,507,333	-1,853,019	-35,196,095

Table 4: Benefit Cost Analysis Summary

Finally, economic development benefits from the increased productivity of proximate businesses and residences with persons making use of the project components will take place. Typically such a change is quantified by estimating a modest increase in property value (approximately one percent) within a quarter mile around rail stations.

However, recent fluctuations in property value, particularly for the several parcels that are currently under-developed (*New Carrollton, Fort Totten*) or are experiencing significant transition (*Arlington*), make use of the current values unrealistic in projections of actual or future value.

Input data and methodological standards used

The foundation of the analysis is based around several basic assumptions regarding users and mode shifts. Current and forecast user data was developed from Metrorail and regional travel demand models. Mode shares were calculated from the surveys conducted of Metrorail users and VRE users, and

forecast based on station typology changes and typical bicycle infrastructure use rates. Major assumptions regarding accident rates, mode shares, and trip characteristics, such as average trip lengths, were taken from the COG Household Travel Survey (HTS) 2007/2008.

The major costs in the benefit-cost analysis model are capital costs, construction impacts, travel time costs, and increased accidents. Capital costs include final design and engineering, utility relocation, and project construction. Construction of projects across active roadways has a temporary negative impact on road users. Travel time costs increase for many users switching mode, as travel times associated with walking or biking to a rail station and then making use of transit are typically longer than driving times. The increase in travel time costs is offset by the larger increase in travel cost savings due to reduced automobile and fuel use. Accident costs reflect the possible increase in accidents from adding more cyclists to the road, both from bicycle accessibility improvements and the bikesharing stations installed.

The major benefits in the benefit-cost analysis model are user travel cost savings, increased accessibility, reduced automobile use, congestion reduction, emissions reduction, improved public health, and accident reduction. Benefits apply to existing users, and new users are expected to use the system, both from mode shifts and as new trips not previously taken. User travel cost savings are a determination of the change in the direct user fees paid by travelers based on mode shifts, which for this project are shifts to pedestrian and bicycle trips from automobile, bus transit, and personal bike (for bikeshare). Increased access benefits were determined for trips that previously were not possible or worth the time or cost by calculating the consumer surplus between the user and time travel costs of the mode used versus automobile use. Accident reductions were determined based on the extent of new grade or barrier separation provided for bicyclists and pedestrians, along with a factor for improved street crossings.

Benefits were also assumed from reducing VMT, such as congestion reduction, emissions reductions, and accident reduction. VMT reductions were assumed to come from trips shifted from auto to transit, bicycle, and pedestrian. Lastly, benefits were assumed from increasing the number of people meeting the CDC's recommended daily physical activity, defraying public health care costs.

Data Limitations

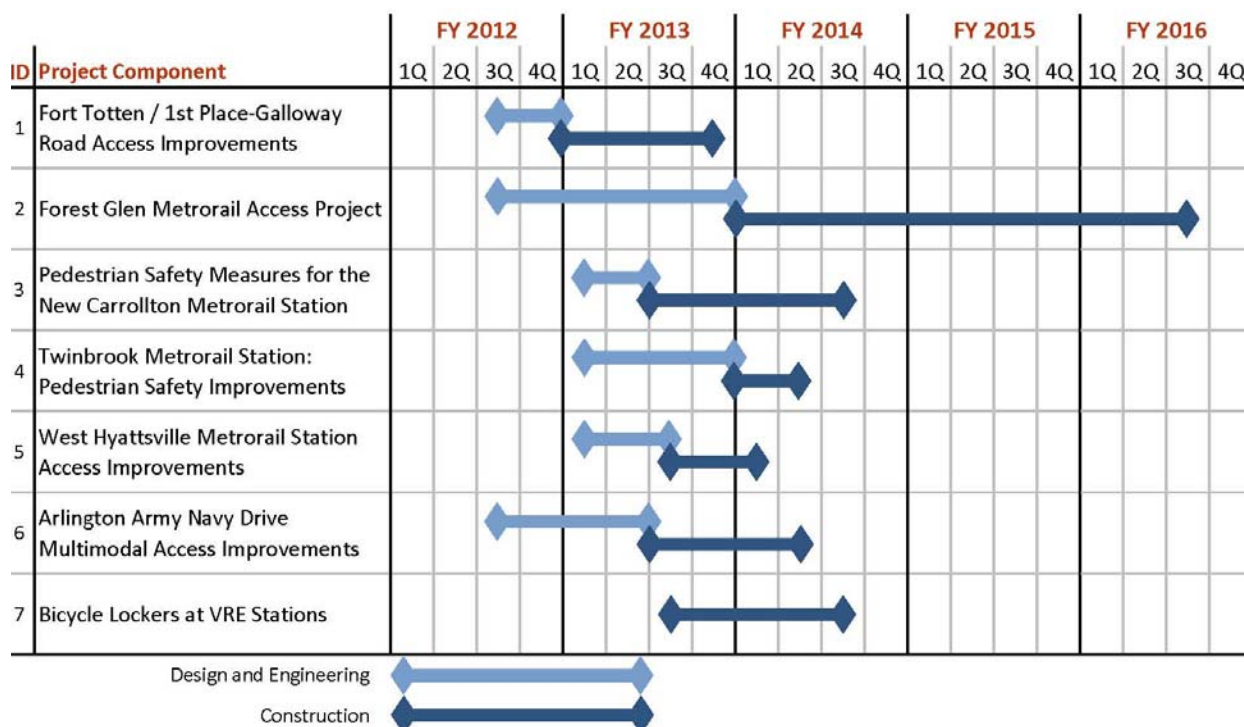
The primary limitations of the data are the lack of specificity and the need to average different assumptions into one regionally representative figure. Improvements in safety are based on general practice; however actual improvements in safety will depend on unique characteristics at each location as well as user perceptions and actions.

Project Readiness and NEPA

Each of the components in the TPB's application package requires final design and engineering prior to construction readiness. Most of the components will complete final design and engineering by the end of FY 2012. Construction will be completed for five of the components by the end of FY 2014.

Construction of the most complex element, the grade-separated crossing of Georgia Avenue at the Forest Glen Metrorail Station, will be completed by the end of FY 2016. A detailed project schedule may be found in Appendix 4.

Table 5: Project Schedule



National Environmental Policy Act Requirement

Components of the proposed project may be subject to the provisions of the National Environmental Policy Act of 1969, as amended (hereafter NEPA). A feasibility report for the Forest Glen Metrorail Station Access Project is currently underway. Potential impacts to community, property, and natural, cultural and socio-economic resources are anticipated to be minor and it is expected that a Categorical Exclusion (CE) will be completed and approved by the Spring of 2012. The project to install bike lockers at VRE stations qualifies as a CE under 23 CFR §771.117, c.3, and does not require any further NEPA approvals by FTA. For all other components in the proposed project, NEPA analysis has not been completed, but it is anticipated that they will meet the criteria standards for a CE. These projects do not entail construction or other surface disturbing activities or they are confined to existing rights-of-way. For all project components, the appropriate level of NEPA analysis will be completed in time for project implementation and completion, in accordance with the project schedule provided in the previous section.

Environmentally-Related Federal, State and Local Actions

As part of project implementation, all project applicants and owners will comply with all applicable Federal, State, and local permitting requirements. Permits required for both the construction and operation of these proposed projects will be obtained. As is the case with all capital improvement projects implemented by any of the parties identified in this application, all applicable Federal, State, and local permits will be identified and obtained in accordance with standard construction management procedures carried by the applicants. All coordination necessary has begun or will be undertaken, such as coordination with WMATA on capital improvements at Metrorail stations.

Federal Wage Rate Certification

As the signatory to this application, the Metropolitan Washington Council of Governments certifies it will, in its role as administrative agent for the TPB and lead applicant for this TIGER grant application comply with all wage rate requirements and other applicable provisions of the United States Code, Subchapter IV of Chapter 31 of Title 40.

Material Changes to the Pre-Application

Since submission of the pre-application on October 3, the application cost has been reduced. The total project cost is now \$31,058,789, rather than that which was included in the pre-application (\$37,770,890). The local match is now \$6,822,328 (versus \$8,522,748) and the total federal funding request is \$24,236,461 (versus \$29,248,142).

Endnotes

¹ U.S. Bureau of the Census, Metropolitan and Micropolitan Statistical Area Estimates: April 1, 2000 to July 1, 2008, accessed from <http://www.census.gov/popest/metro/CBSA-est2008-annual.html>, accessed August 20, 2009.

² Washington Metropolitan Area Transit Authority, Metrorail Bicycle & Pedestrian Access Improvements Study, October 2010: http://planitmetro.com/wp-content/uploads/2010/12/Metrorail-Bicycle-Pedestrian-Access-Improvements-Study-_Final.pdf.

³ District Department of Transportation, 1st Place and Galloway St, NE Transportation Access Study and Improvement Plan Final Report & Conceptual Design, August 2011: <http://tooledesign.com/forttotten/project.html>

⁴ Crossing Georgia MD-97: Why are Pedestrians at Risk? <http://www.crossinggeorgia.org/>

⁵ MWCOC/Prince George's County, New Carrollton Interim Pedestrian Safety Improvements, June 2010: <http://www.mwcog.org/transportation/activities/tlc/pdf/NewCarrolltonPedSafety.pdf>

⁶ MWCOC/City of Rockville, Safer Walkways to Transit, Final Report and Conceptual Plan. May 2011: <http://www.mwcog.org/transportation/activities/tlc/pdf/Rockville-TOD.pdf>

⁷ WMATA, Metrorail Bicycle & Pedestrian Access Improvements Study.

⁸ Texas Transportation Institute, 2011 Urban Mobility Report, September 27, 2011: <http://mobility.tamu.edu/ums/>.

⁹ Data captured from the MWCOC Cooperative Forecast and the 2005-2009 American Community Survey at the Census Tract level.

¹⁰ Data captured from the MWCOC Cooperative Forecast and the 2005-2009 American Community Survey at the Census Tract level.

¹¹ Washington Post, "Stuck at a Crossroads is Par for the Course", Thursday June 1, 2006

¹² Clean Air Partnership, "Bike Lanes, On-Street Parking and Business: A study of Bloor Street in Toronto's Annex Neighborhood," February 2009: <http://www.cleanairpartnership.org/pdf/bike-lanes-parking.pdf>

¹³ Capital Bikeshare, Capital Bikeshare Hit One Million Rides on First Anniversary, Press Release, September 20, 2011: <http://capitalbikeshare.com/news/?p=1002>

¹⁴ Data was captured using the WMATA station address from www.walkscore.com.

¹⁵ CNT Housing and Transportation Affordability Index http://htaindex.cnt.org/mapping_tool.php?region=Washington--Baltimore,%20DC--MD--VA--WV

¹⁶ DDOT, 1st Place and Galloway St, NE Transportation Access Study and Improvement Plan Final Report & Conceptual Design.