



# **Metrorail Station Investment Strategy**

## **Summary Report**

**Washington Metropolitan Area Transit Authority**  
**Office of Planning**

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## TABLE OF CONTENTS

<b>Executive Summary.....</b>	<b>4</b>
<b>Introduction.....</b>	<b>9</b>
<b>Project Inventory and Grouping .....</b>	<b>10</b>
<b>Metro’s Goals and Prioritization Criteria.....</b>	<b>12</b>
<b>Prioritization Criteria Analysis .....</b>	<b>14</b>
Safety (Bicyclist/Pedestrian Crash Incidents) .....	15
Ridership Impacts .....	16
Walkshed Coverage .....	19
Proximity to Station Entrances.....	21
Population and Employment Density .....	22
Path to Services .....	25
Low-Income Populations .....	26
Effectiveness of Changing Mode Access.....	27
Ease of Implementation .....	28
MetroAccess Trips .....	29
Station Parking Usage.....	30
Walk Score.....	31
<b>Prioritization Scoring Results.....</b>	<b>32</b>
<b>Jurisdiction Outreach.....</b>	<b>33</b>
<b>Return on Investment.....</b>	<b>35</b>
<b>Priority Project Details by Jurisdiction .....</b>	<b>38</b>
Arlington County .....	38
City of Alexandria .....	54
District of Columbia .....	57
Fairfax County.....	84
Montgomery County .....	98
Prince George’s County .....	106



## LIST OF FIGURES

Figure 1: Grouped Projects and Project Components at Fort Totten Metrolink Station .....	11
Figure 2: Safety Analysis Results.....	15
Figure 3: Walkshed Changes Resulting from a Proposed Project at Naylor Road .....	16
Figure 4: Ridership Impacts Analysis Results .....	18
Figure 5: Percentage of Project in the 1/2 Mile Buffer and out of the Walkshed at Largo Town Center.....	19
Figure 6: Walkshed Coverage Analysis Results .....	20
Figure 7: Projects with Strong Proximity to Station Entrances.....	21
Figure 8: 2015 Population and Employment Analysis Results.....	24
Figure 9: Population and Employment Growth Analysis Results.....	24
Figure 10: Community Facility Analysis Results .....	25
Figure 11: Low-Income Population Analysis Results.....	26
Figure 12: Mode Access Analysis Results.....	27
Figure 13: Cost Estimate Analysis Results.....	28
Figure 14: MetroAccess Analysis Results .....	29
Figure 15: Station Parking Analysis Results .....	30
Figure 16: Walk Score Analysis Results.....	31
Figure 17: Prioritization Scores .....	32
Figure 18: Interactive Website for Jurisdiction Outreach.....	33

## LIST OF TABLES

Table 1: Total Number of Projects Identified in Metro and Local Jurisdiction Plans .....	5
Table 2: Initial Priority Projects for Each Jurisdiction by Project Type.....	6
Table 3: Summary of Project Status Updates from Metro Compact Jurisdictions .....	7
Table 4: Metro's Strategic Goals and Bicycle/Pedestrian Project Criteria .....	12
Table 5: Criteria Tiering and Weighting .....	13
Table 6: Summary of Project Status Updates from Metro Compact Jurisdictions .....	34
Table 7: Types of Projects with Potential Further Action in Metro Compact Jurisdictions .....	34
Table 8: Summary of Return on Investment, Pedestrian Projects.....	35
Table 9: Injury Reduction, Bicycle Treatments.....	36



### EXECUTIVE SUMMARY

Over the past ten years, Metro's Planning office has been working to improve pedestrian and bicycle access to its stations through a variety of efforts, recognizing that non-motorized access modes offer an inexpensive and simple way for riders to access Metrorail stations. Approximately one-third of riders come to Metrorail stations on foot – the highest of all access modes; however, that varies from station to station, and, not surprisingly, stations that are better connected to the walk network have higher shares of walkers to/from those stations. On the other hand, the percentage of riders who access stations on bike is only about one percent systemwide, though this too varies by station, and stations that have great trail connections and comfortable bike access see higher rates. In 2011, Metro's Board established a goal to triple bicycle access to stations by 2020 and quintuple it by 2030. Projects identified in this study will help Metro reach that goal.

A more recent effort to offer a more quantifiable argument in favor of improving the pedestrian environment around stations has involved research into the relationship between walk ridership and the built environment around each station. Metro staff have developed a methodology to calculate the number of riders that surrounding households and employment centers generate for the system. Research findings show that on average, for every ten households connected to the walkshed, Metro sees about seven weekday trips. Additionally, improving the built environment allows more ADA paratransit customers to use the fixed-route service. By shifting some of these relatively expensive trips (about \$50.00 for Metro to provide) to the fixed-route service, Metro and its jurisdictional partners can achieve significant cost savings.

To demonstrate the cost-effectiveness of these relatively minor infrastructure improvements, staff calculated a return on investment for some of these projects by monetizing certain data used to prioritize pedestrian projects highlighted in this study and netting out project costs. As one might expect, a relatively small investment pays dividends in the long run. For a sample of 62 projects, staff calculated a net return on investment upwards of \$11 M over a 30 year life span of these projects. With respect to bicycle projects, the focus is on safety and costs associated with bicycle crash injuries. Analysis of crash data gathered from the three state departments of motor vehicles shows that implementing 140 of the identified bicycle projects would help avoid 84 bike crashes per year in the area around our stations. By applying nationally recognized cost data associated with bicycle injuries, these crashes cost the region \$11 M. While the cost avoided may not be directly attributable to a local jurisdiction, it is a cost nonetheless. More importantly, these improvements will make bicycle travel to our stations much safer for our riders.

Generally speaking, improving the walking and bicycling network in the area around each station falls within the purview of Metro's jurisdictional partners - the state and local agencies who own, plan, design and construct the roads, sidewalks and pathways that surround each station. However, jurisdictions should find these projects of interest as they can improve the cost-effectiveness and safety of their major investment in the Metrorail system and the stations in their jurisdictions by attracting more ridership and ultimately reducing the subsidy they pay annually to run the system. Improving station access for walkers and cyclists not only makes Metro more attractive to those who currently live and work within walking and biking distance from each station, but helps promote ridership from new growth as it comes on line near Metro stations. Together, by better connecting both existing and future land uses, relatively small investments can have lasting financial benefits for Metro, its funders, and the region.

#### *Study Approach*

The Metrorail Station Investment Strategy (MSIS) project builds off a recent Metropolitan Washington Council of Governments (MWCOC) Transportation System and Community Preservation study. The MWCOC study reviewed dozens of existing planning studies, identifying recommendations for new or improved sidewalks, crosswalks, shared-use paths, bike parking, bike lanes, wayfinding signage and other access improvements at 24 Metrorail stations.





MSIS picked up where MWCOG's study left off. After consulting with jurisdictional staff, the project team identified and reviewed all the relevant planning documents for the remaining 67 stations in the system. This process yielded a total of 4,500 bike and pedestrian access projects systemwide.

Staff from Metro's Offices of Planning, Parking, and Real Estate met to review this preliminary list and identify completed projects. Approximately 300 projects were removed from the list as they were already completed, yielding a total of 4,217 active projects. **Table 1** summarizes the results.

**Table 1: Total Number of Projects Identified in Metro and Local Jurisdiction Plans**

	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
Arlington County	68	26	86	55	235	\$44 M
City of Alexandria	43	86	147	7	283	\$21 M
District of Columbia	355	305	350	84	1,094	\$166 M
Fairfax County	182	258	327	54	821	\$115 M
Montgomery County	188	152	214	53	607	\$110 M
Prince George's County	374	393	307	103	1,177	\$314 M
TOTAL	1,210	1,220	1,431	356	4,217	\$770 M

### *Project Prioritization*

Given the significant number of projects identified - in some cases more than 1,000 for a given jurisdiction, staff developed a series of 12 criteria to create a way to prioritize projects. These criteria were designed to evaluate each project relative to a number of potential benefits, including ridership potential, safety, and quality of life. Projects were evaluated based on their ability to:

- Improve bicyclist/pedestrian safety ;
- Generate new ridership through walkshed augmentation;
- Increase walkshed coverage;
- Change walk access mode;
- Improve connections to social services;
- Improve access for low-income populations;
- Reduce station parking usage;
- Improve access to locations with high paratransit activity.



Project utility and feasibility were measured through these additional criteria:

- Location relative to high levels of population and employment density;
- Walkscore/ density of commercial activity near project;
- Proximity to a given station entrance
- Ease of project implementation

All 4,217 projects were scored. Staff then listed each project in rank order by jurisdiction to identify the top 50 to 100 projects for further review. **Table 2** summarizes the results.

**Table 2: Initial Priority Projects for Each Jurisdiction by Project Type**

	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
Arlington County	6	2	28	14	50	\$6.4 M
City of Alexandria	0	0	101	1	102	\$0.6 M
District of Columbia	13	14	45	0	72	\$3.5 M
Fairfax County	16	9	23	2	50	\$7.5 M
Montgomery County	1	13	55	1	70	\$1.4 M
Prince George's County	27	2	21	0	50	\$14.0 M
TOTAL	63	40	273	18	394	\$33.5 M

## *Jurisdictional Outreach*

The project team then met with local jurisdictional staff to “ground truth” the resulting priority project lists. Based on input from jurisdictional staff, the number of priority projects was further reduced to account for projects that require no additional action. These included projects that have already been completed or that have already been funded and should be built soon - such as the sidewalks on Leesburg Pike under Chain Bridge Road in Fairfax County. Projects no longer under consideration were also removed from the lists. For example, some jurisdictions said they were moving away from sharrows in favor of other bicycle infrastructure. To help aid jurisdictional staff in locating each project on their list, the project team developed an interactive map. This online database allows users to zoom in on project locations, filter projects by station and by type, and displays some of the underlying data used in the prioritization process (such as the number of households served by the project or crashes located near the project).

**Table 3: Summary of Project Status Updates from Metro Compact Jurisdictions**

	Potential Further Action				No Further Action Required				Total, All Projects
	Designed, not funded	Needs more study	Partial Funding	Total	Funded/ Programmed	Completed	No Longer Under Consideration	Total	
Arlington County	17	9	14	40	1	2	7	10	50
City of Alexandria	0	1	0	1	8	67	26	101	102
District of Columbia	0	61	0	61	0	9	2	11	72
Fairfax County	0	24	2	26	3	9	12	24	50
Montgomery County	0	49	0	49	1	3	17	21	70
Prince George's County	5	18	0	23	1	17	9	27	50

## Return on Investment

Staff developed a methodology to calculate the potential return on investment for these high priority projects. This analysis took two tracks: one for pedestrian projects (sidewalks, trails, intersections), another for bike projects (sharrows, cycle tracks and bike lanes).

The analysis of pedestrian projects utilized a traditional ROI method, monetizing the potential fare revenue gained and ADA paratransit cost avoided by building these projects less the cost of construction and a standard 3% annual discount rate. The result, for a relatively modest amount, \$13 M, Metro and its funders would see a net return (or reduction in operating subsidy) of \$11 M over the useful life span of these projects (\$24 M in benefit less \$13 M in cost).

	Total Project Cost	Number of Projects	Monetized Benefit	Net Return on Investment
<b>All Projects</b>	<b>\$12,775,203</b>	<b>62</b>	<b>\$24,202,801</b>	<b>\$11,427,598</b>

Since data are not available on the relationship between Metrorail ridership and bike treatments, the focus of the analysis for the bike projects was safety. Using the results of a study<sup>1</sup> on bike injury rates that compares streets with and without certain bike treatments, staff calculated the potential number of bicyclist crashes that could be avoided by constructing the given set of projects. All told, 382 crashes occurred in an average year (2011 to 2014) around 141 bike projects identified in the MSIS Study. If these identified bicycle treatments are constructed, staff estimates that 84 crashes could be avoided. At

<sup>1</sup> Kay Teschke et al, *Route Infrastructure and the Risk of Injuries to Bicyclists: A Case-Crossover Study*, *American Journal of Public Health*, December 2012.



an average injury cost<sup>2</sup> of \$129,400 this roughly translates into \$11 M annually for these projects. Though not completely borne by a jurisdiction, it is a cost to the rider and entities that would be impacted by the recovery of the injured party.

### *Station Atlas and Next Steps*

Starting on page 38, the “Atlas” shows the 394 projects at each station in the Metrorail system, sorted by jurisdiction. By implementing these projects, Metro’s jurisdictional partners can improve access to transit and quality of life in the region, while improving the Authority’s financial position in the process.

To date, the wheels are already in motion. The District of Columbia recently received a grant from MWCOC’s Transportation and Land Use Connections (TLC) program to advance pedestrian projects into design and implementation at three stations. The District’s study will use the projects identified in MSIS as its base set of projects. Second, MWCOC has convened a working group to develop an inventory of unfunded transportation projects that are not included in the Constrained Long Range Plan (CLRP). The findings from this study will help inform non-motorized projects at key regional activity centers that include Metro stations. Finally, Metro’s Office of ADA Programs and Metro’s Office of Information Technology are nearing completion of a study that builds off the station walkshed profiles to include an analysis of ADA accessibility specifically. The goal of the study is to help reduce further demand for Metro Access and to improve overall mobility for disabled individuals through identifying gaps in ADA accessibility in each station area.

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<sup>2</sup> USDOT, *TIGER Benefit-Cost Analysis Resource Guide*, March 27, 2015 updated edition, Section 3: Converting Available Accident Data into Abbreviated Injury Scale Data.



### INTRODUCTION

Improving bicycle and pedestrian access to Metrorail stations helps stabilize rail ridership and reduce growth in public subsidy to Metro. In late 2014, as Metro's Planning office began to study the relationship between ridership and station walk access, staff developed *walksheds* for each Metrorail station, identifying the actual walkable area relative to a ½ mile "as the crow flies" distance using network analysis in GIS. With help from researchers at the University of Maryland, staff has been able to calculate the number of riders walking to Metro that can be expected when jobs and housing are connected the walkshed. The exact numbers vary by station, but, on average, for every ten households connected to the station, Metro sees about seven weekday Metrorail trips. In other words, improving walk access has a direct link to increasing farebox receipts. As farebox revenue increases, the amount of subsidy required from Metro's compact members declines.

The same is likely true for projects that improve bicycle access to Metro, with projects that either extend the reach of bicycle access or that create a more comfortable cycling environment increasing the probability that riders will bike to their Metro station. At this time, Metro has not developed a method to quantify these likely gains, but does plan to investigate the development of such a methodology.

In addition to ridership, there are number of other benefits that accrue to Metro and the region by improving the walkability and bikeability of Metro's station areas. New bike lanes, new crosswalks, and countdown timers at intersections help keep bicyclists and pedestrians safe as they walk and ride near Metrorail stations. New sidewalks and curb ramps help make the station area more accessible for the disabled community, which, in turn, can help lead to less demand for Metro's paratransit service and improve Metro's financial stability. Bike and pedestrian improvements better connect stations to schools, hospitals, social service providers and other community-based organizations.

This report is organized in the order that the tasks were completed in the effort to identify projects with the most positive potential impact on bicycle and pedestrian safety and access. These tasks and following sections were structured as follows:

- **Project Inventory and Grouping:** Collecting projects from local and Metro plans in and grouping them into packages of improvements for analysis.
- **Metro's Goals and Prioritization Criteria:** Developing criteria that align with Metro's goals and prioritize projects that most closely address the goals.
- **Prioritization Criteria Analysis:** Analyzing and scoring projects based on the criteria.
- **Prioritization Scoring Results:** Identifying projects with the most positive potential impact on bicycle and pedestrian safety and access.
- **Jurisdiction Outreach:** Reviewing the results of the analysis with local jurisdiction staff and collecting status updates on identified priority projects.
- **Priority Project Details by Jurisdiction:** Summarizing the results of prioritization and jurisdiction outreach at the jurisdiction and station area level.





### PROJECT INVENTORY AND GROUPING

The Metrorail Station Investment Strategy (MSIS) project builds off of the recent Metropolitan Washington Council of Governments (MWCOC) Transportation System and Community Preservation study, which established the process by which projects would be identified. The MWCOC study reviewed dozens of existing planning studies and extracted recommendations for new or improved sidewalks, crosswalks, shared-use paths, bike parking, bike lanes, wayfinding signage and other access improvements at 24 Metrorail stations. There are 91 stations in the Metrorail system – leaving 67 to be addressed in MSIS.

After consulting with jurisdictional staff, the project team identified and reviewed all the relevant planning documents at the remaining 67 stations in the system. These included:

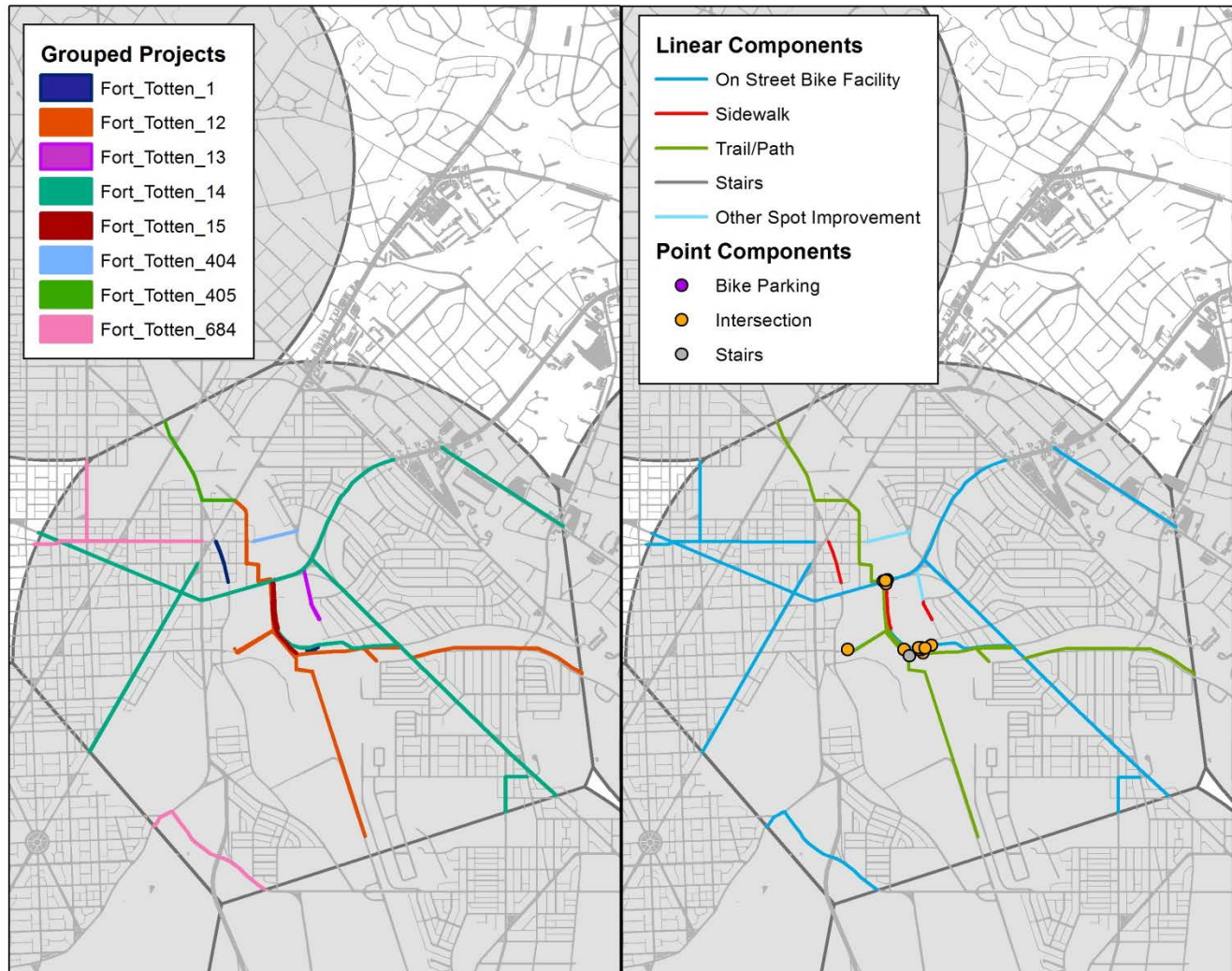
- *Metrorail Bicycle and Pedestrian CIP Station Inventory* (2011);
- WMATA's *MDOT TOD Investment Matrix* (2014);
- *Metrorail Bicycle and Pedestrian Access Improvements Study* (2010);
- *Metro Bicycle Wayfinding Framework Study* (2013);
- *Metro Pedestrian and Bicycle Lighting Assessment* (2013);
- WMATA station area access studies for various stations in the Metrorail system;
- Current joint development plans for station areas;
- MWCOC's *Transportation, Community and System Preservation* project (2014);
- MWCOC's *Transportation and Land Use Connections* projects for various station areas in the Metrorail System;
- MWCOC's *Regional Bike and Pedestrian Improvements Database*;
- Local area sector plans and small area plans;
- Local bike and pedestrian plans; and
- Pedestrian and bicycle components of local roadway projects planned near Metrorail stations.

Identified projects were mapped and assigned to specific station areas. Projects that continued outside of the station area (within one mile of a Metrorail station for bicycle projects and ½ mile for pedestrian projects) or crossed multiple station areas were clipped to ensure that only the segments that would likely affect bicycle and pedestrian access to a given Metrorail station would be assessed. Where similar projects were located in the same area in multiple plans, only the project described by the most recent plan was included.

A total of 4,461 unique project components in the 91 Metrorail station areas were identified and mapped. Of these, 244 were later determined to have been completed, leaving a total of 4,217 project components to evaluate. To make the scoring more manageable, these 4,200+ projects were then combined into larger grouped projects that associated related components. For example, a local plan might identify the need for a new crosswalk, but this project component might also be part of a larger project that includes a new crossing signal, new curb ramps, and a new median. On its own, a stand-alone project component might not provide much benefit. However, when taken together, they may provide a meaningful addition to the transportation network.

**Figure 1** shows grouped projects at Fort Totten Metrorail station as an example of how project components are combined into grouped projects. Grouping resulted in 971 projects to evaluate using the prioritization criteria described in the next section.

Figure 1: Grouped Projects and Project Components at Fort Totten Metrorail Station



## METRO'S GOALS AND PRIORITIZATION CRITERIA

In order to determine the benefits of a given project relative to others, staff developed twelve prioritization criteria. The criteria focused on many of the themes discussed in the Executive Summary; ridership, safety, improving Metro's financial stability, and better connecting Metro to schools, hospitals and community-based organizations. **Table 4** shows the relationship between the criteria and Metro's Strategic Goals.

**Table 4: Metro's Strategic Goals and Bicycle/Pedestrian Project Criteria**

Strategic Goal	Bicycle/Pedestrian Priorities	Criteria
Build and maintain a premier safety culture and system	Safety	Proximity to bicycle/pedestrian crashes
Improve regional mobility and connect communities	Ridership	Increases ridership
		Increases walkshed coverage
		Changes in access mode
		Proximity to population and employment density
		Walk Score
	Equity	Improves path to services
Ensure financial stability and invest in our people and assets	Financial Stability	Improves access for low-income populations
		Station Parking Usage
Meet or exceed customer expectations by consistently delivering quality service	Effectiveness	Proximity to MetroAccess trip ends
		Proximity to station entrances
		Ease of implementation

Both Metro and jurisdictional staff identified increasing ridership and improving safety as the highest priorities related to improving station access. Criteria addressing ridership impacts and evaluating bicycle and pedestrian crash incidents proximate to projects were developed to directly address these priorities. Additional criteria were developed to address other benefits to Metro and the region, including: improving public safety; reducing demand for ADA paratransit; increasing connectivity between social service providers and the rail network; and a more efficient use of public resources overall.



To account for higher priority criteria, the project team developed weights for each criteria based on the level of importance a criterion was believed to have in addressing Metro's goals and its expected impact on promoting bicycle and pedestrian travel in Metrorail station areas. The criteria were organized into four tiers of importance through discussions between Metro and Metropolitan Washington Council of Governments (MWCOC) staff. Organization of criteria tiers and their effect on weighted scores are shown in **Table 5**. Descriptions of analysis methodology for each criterion can be found in the following sections.

**Table 5: Criteria Tiering and Weighting**

Criteria	Tier	Weight
Bicyclist/Pedestrian Crash Incidents	<b>1</b>	<b>4</b>
Ridership Impacts		
Walkshed Coverage	<b>2</b>	<b>3</b>
Proximity to Station Entrances		
Population and Employment Density		
Path to Services		
Access for Low-Income Populations		
Improves Access for Low-Income Populations		
Effectiveness of Changing Mode Access		
Ease of Implementation	<b>3</b>	<b>2</b>
MetroAccess Trips		
Station Parking Usage	<b>4</b>	<b>1</b>
Walk Score		



### PRIORITIZATION CRITERIA ANALYSIS

Grouped projects were analyzed to determine their performance under each of the prioritization criteria. Following this analysis, grouped projects were given a score for each criterion on a scale of 0 to 5. Breakpoints for criteria scores were generally determined by natural breaks in the analysis results of all grouped projects for a specific criterion. Criteria weights were then applied to criteria scores and summed to create an overall score for the project. Prioritization scores for grouped projects were compared to determine Metro's priorities at a jurisdiction-wide level and within each station area. Maps displaying the top priority projects at each station were refined through jurisdiction feedback and can be found in the **Priority Project Details by Jurisdiction** section of this report.



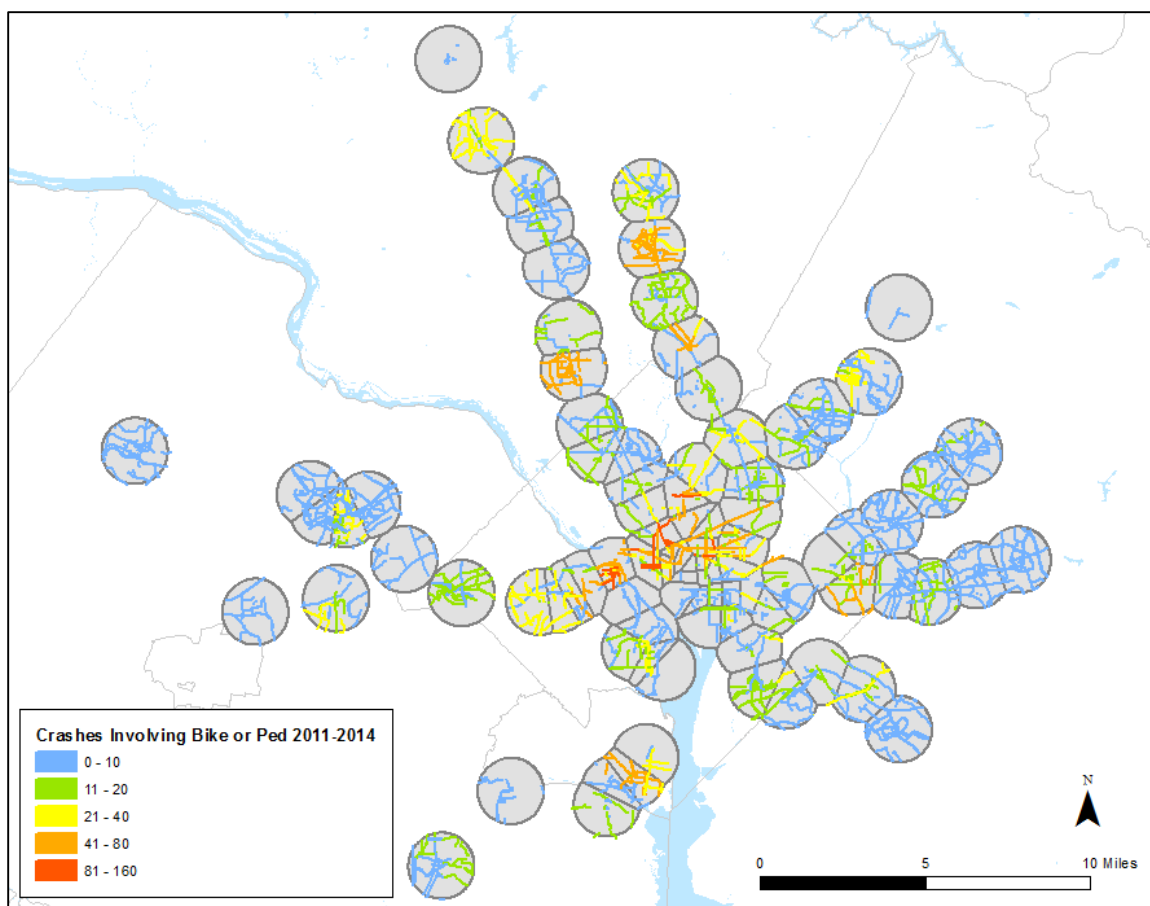
## SAFETY (BICYCLIST/PEDESTRIAN CRASH INCIDENTS)

As noted earlier, the project team determined that safety should be a key criterion in evaluating the relative priority of a given project. Staff collected three years (2011-2014) of crash data for incidents involving pedestrians and bicyclists from the District Department of Transportation and Virginia and Maryland Departments of Motor Vehicles to determine the locations of unsafe areas within ½ mile of Metrorail stations.

To determine which improvements could have the most impact on improving safety conditions for bicyclists and pedestrians, this indicator counted and summed the number of crash incidents within 500 feet of each grouped project. Grouped projects with more crash incidents received a higher score, on a scale from 0 to 5.

**Figure 2** shows the number of crash incidents in the vicinity of each grouped project.

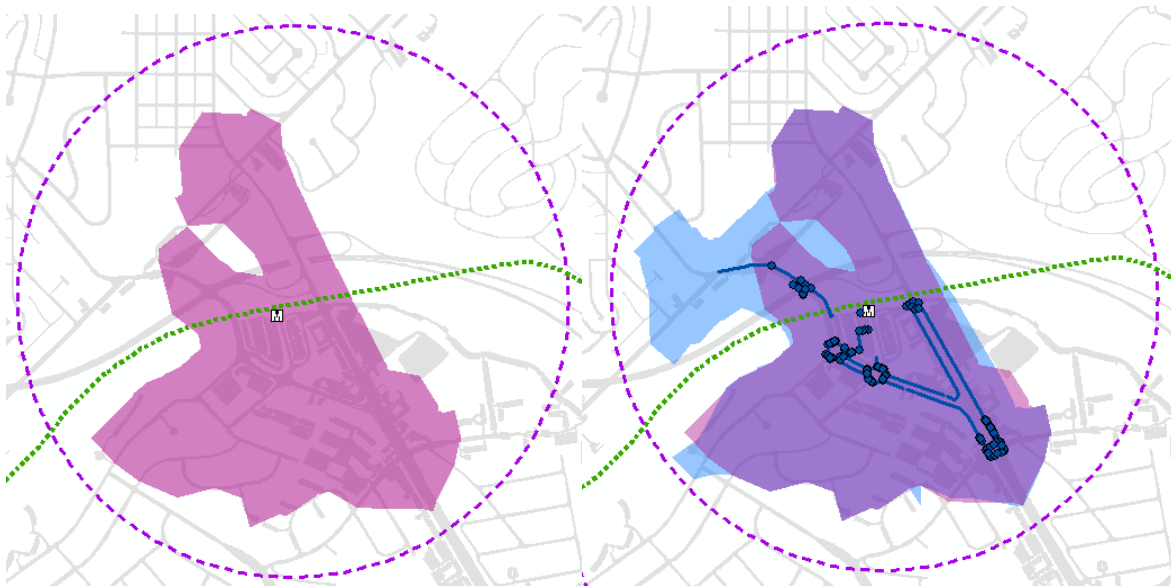
**Figure 2: Safety Analysis Results**



## RIDERSHIP IMPACTS

How well-connected a station is to the jobs and housing in its station area can be directly correlated with the number of riders that will walk to a station for their travel needs. Including new housing and jobs in the walkshed will result in more ridership and greater fare revenue – as will expanding a walkshed to capture currently unconnected households and jobs. To understand the level of connectivity that exists in each station area, Metro staff use ArcGIS Network Analyst extension to calculate the true walkability of a station area. Typical planning exercises use a ½ mile ‘crow flies’ buffer around a station to evaluate accessibility, but in truth, many areas within that ‘buffer’ are not always walkable. A more refined approach is to calculate a ½ mile walk around the station from each entrance along the pedestrian network. **Figure 3** below demonstrates change in the walkshed as a proposed project is added to the pedestrian network in the Naylor Road station area, with the existing walkshed shown on the left in pink and the changes to the walkshed with the addition of the proposed project shown on the right in blue.

**Figure 3: Walkshed Changes Resulting from a Proposed Project at Naylor Road**



Changes to the walkshed and ridership impacts from grouped projects were calculated for projects at fifteen stations. Due to the resource demands required for the walkshed analysis, staff identified the top 15 stations where the relative potential for increased ridership is the highest. These are the stations where a significant amount of the area located ½ mile from the station entrance was not currently covered by the walk shed. To identify impacts of walkshed coverage at all stations, a less intensive analysis was completed for new pedestrian infrastructure projects, detailed under the broader criterion of Walkshed Coverage. However, this analysis did not include ridership estimation. The fifteen stations where the ridership impacts analysis was conducted, in rank order from smallest to largest walk shed coverage, included:

- Landover
- Southern Avenue
- Van Dorn Street
- Cheverly
- Naylor Road
- Morgan Boulevard
- McLean
- Fort Totten
- Suitland
- West Falls Church-VT/UVA



- Franconia-Springfield
- West Hyattsville
- Shady Grove
- Greensboro
- Rhode Island Ave-Brentwood

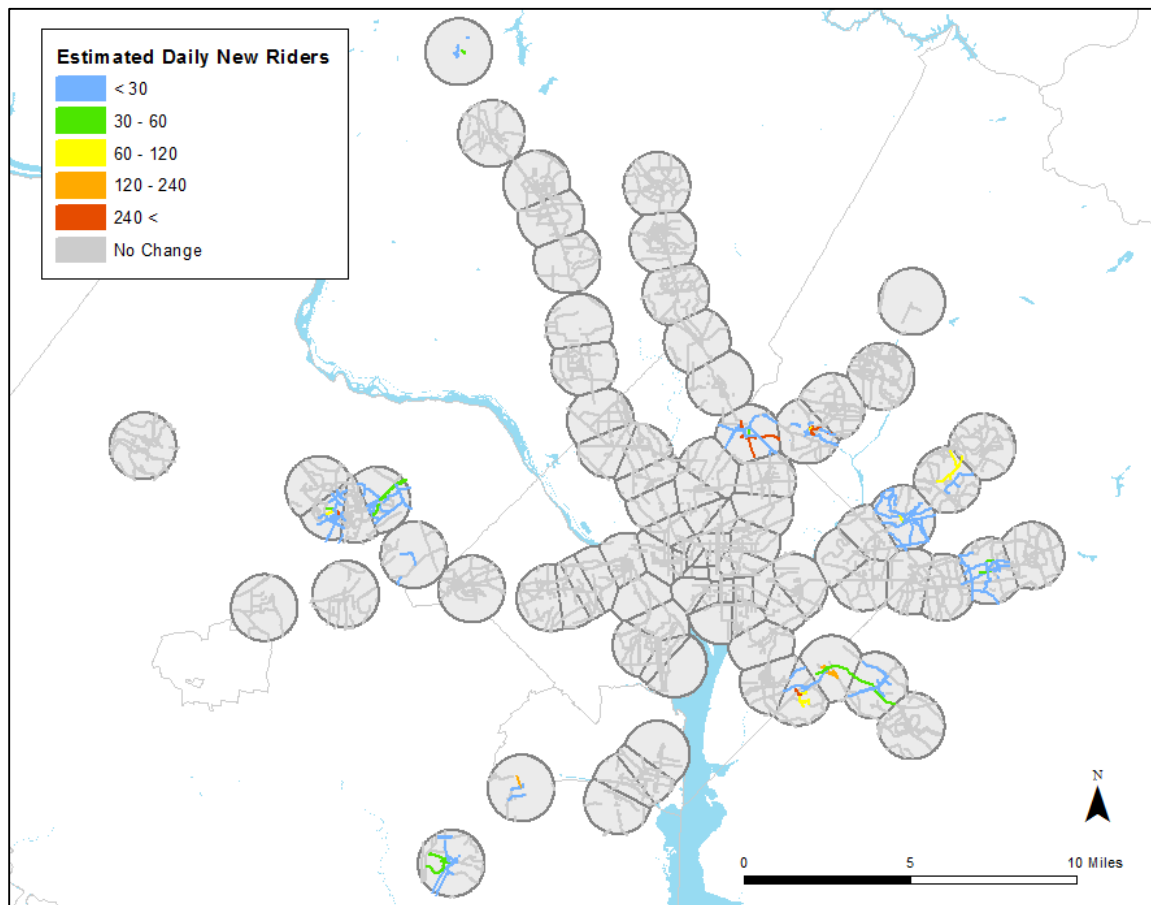
Two stations with small walkshed areas were not included due their function less as neighborhood stations that draw riders from the surrounding community and more as regional destinations, Ronald Reagan Washington National Airport and Arlington Cemetery. Due to current joint development plans around the station, projects in Greenbelt station area were also not included.

Projects analyzed for walkshed and ridership impacts featured new pedestrian infrastructure that either created new links in the network or removed barriers along existing links. For each grouped project, manually-input network links were adjusted and a new walkshed was developed. To determine the ridership impact of the new walkshed, the number of households and jobs in the area of the new walkshed was determined and compared to the existing walkshed. The percentage of area that overlaps with a 2010 census blockgroup was used to estimate the number of households within a walkshed, while individual point records of employer locations and the number of employees at locations within the walkshed, as provided by ESRI Business Analyst data, were used to calculate the number of “9-to-5” jobs, night and weekend jobs, educational/institutional jobs, and total jobs in the walkshed.

The differences in the number of households and jobs between the existing walkshed and a walkshed resulting from a proposed project were inserted into a model developed by Metro and the University of Maryland, which used statistical analysis to determine daily ridership impacts and potential additional fare revenue. For the proposed project at Naylor Road shown in **Figure 3**, the 250 households included in the new walkshed would generate about 140 weekday trips according to the model. Annually, this translates to about 42,000 trips and \$113,000 in revenue.

Projects that resulted in walksheds where a greater number of new daily riders would be expected received a higher score, on a scale from 0 to 5. Grouped projects in station areas other than the fifteen in this analysis received a score of 0, as they were not evaluated under this criterion. **Figure 4** shows the number of expected new daily riders for each tested grouped project. In addition to the expected new ridership identified by this analysis, projects at all stations can be expected to have impacts on existing and potential new ridership, through a variety of factors, such as walkability and development. Where possible, these factors that impact ridership have been quantified and evaluated using additional criteria described in the following sections.

Figure 4: Ridership Impacts Analysis Results



## WALKSHED COVERAGE

Projects with the potential to improve walkshed coverage could increase the number of households and jobs that have pedestrian access to Metrorail stations. Unlike the analysis for ridership impacts, which determined the impact of grouped projects on the shape and size of the walkshed at a limited number of stations, all grouped projects at all stations were analyzed for the amount of the project that potentially would have an impact on walkshed coverage.

To determine which grouped projects had the largest segments that could impact walkshed coverage, project components that had the potential to expand the walkshed were isolated. These project components included new pedestrian infrastructure, such as new sidewalks and trails. This exercise compared the length of a project that is within  $\frac{1}{2}$  mile of station entrances but not within the existing walkshed to the overall length of the component's grouped project, which was represented as a percentage of the grouped project's length. **Figure 5** provides an example of how this percentage is calculated for a proposed project in the Largo Town Center station area. Group projects with a larger percentage of length that was within  $\frac{1}{2}$  mile of the station, outside of the existing walkshed, and comprised of components that could expand the walkshed were considered to be potentially more impactful in expanding walkshed coverage and received a higher score, on a scale of 0 to 5. **Figure 6** shows the percentages of grouped projects that were located within  $\frac{1}{2}$  mile of a Metrorail station, but were outside of the existing walkshed.

**Figure 5: Percentage of Project in the 1/2 Mile Buffer and out of the Walkshed at Largo Town Center**

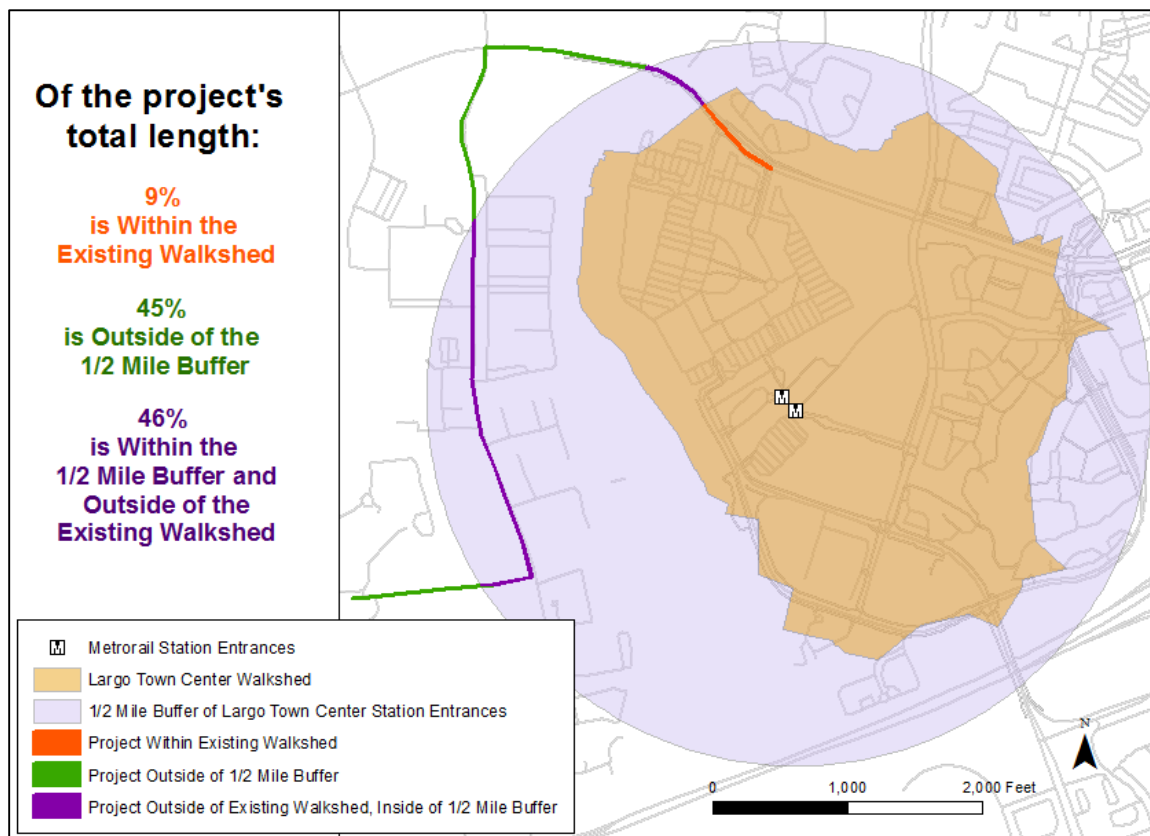
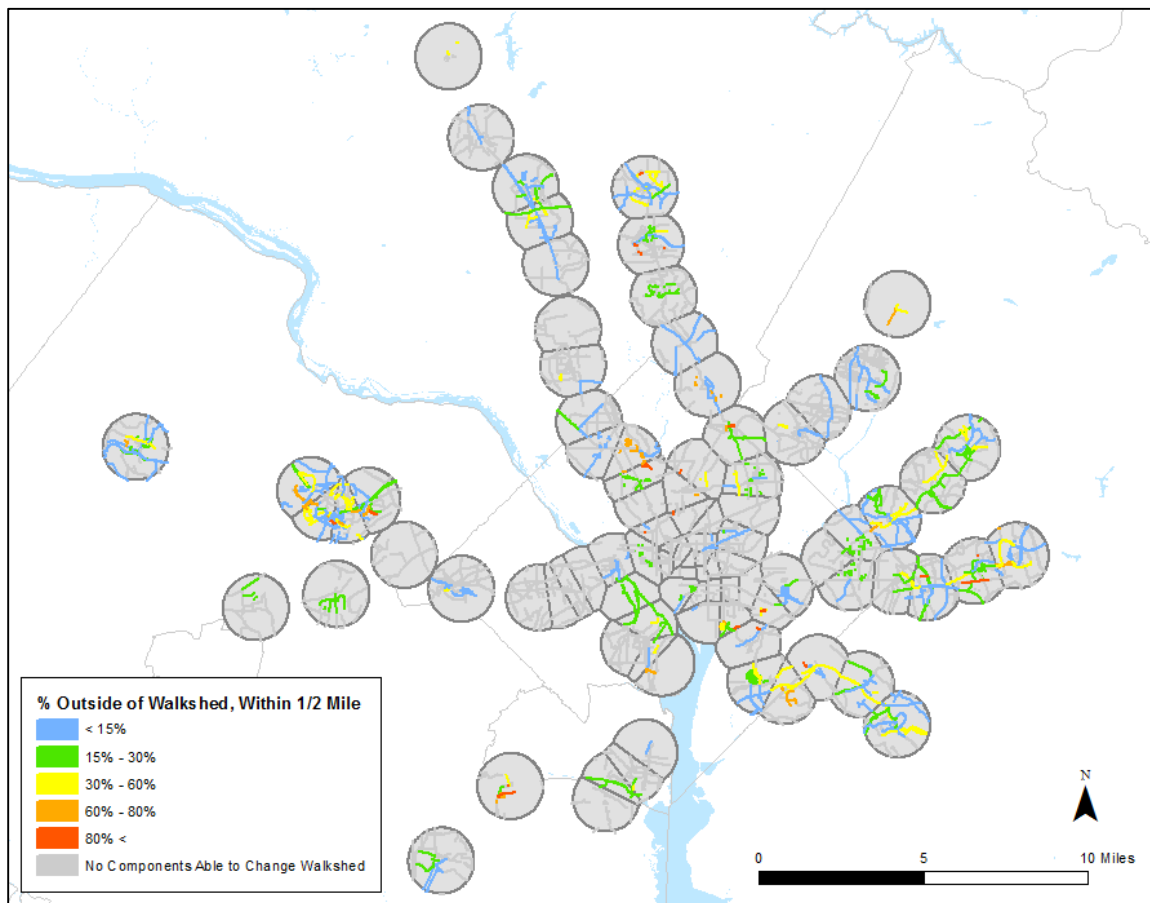




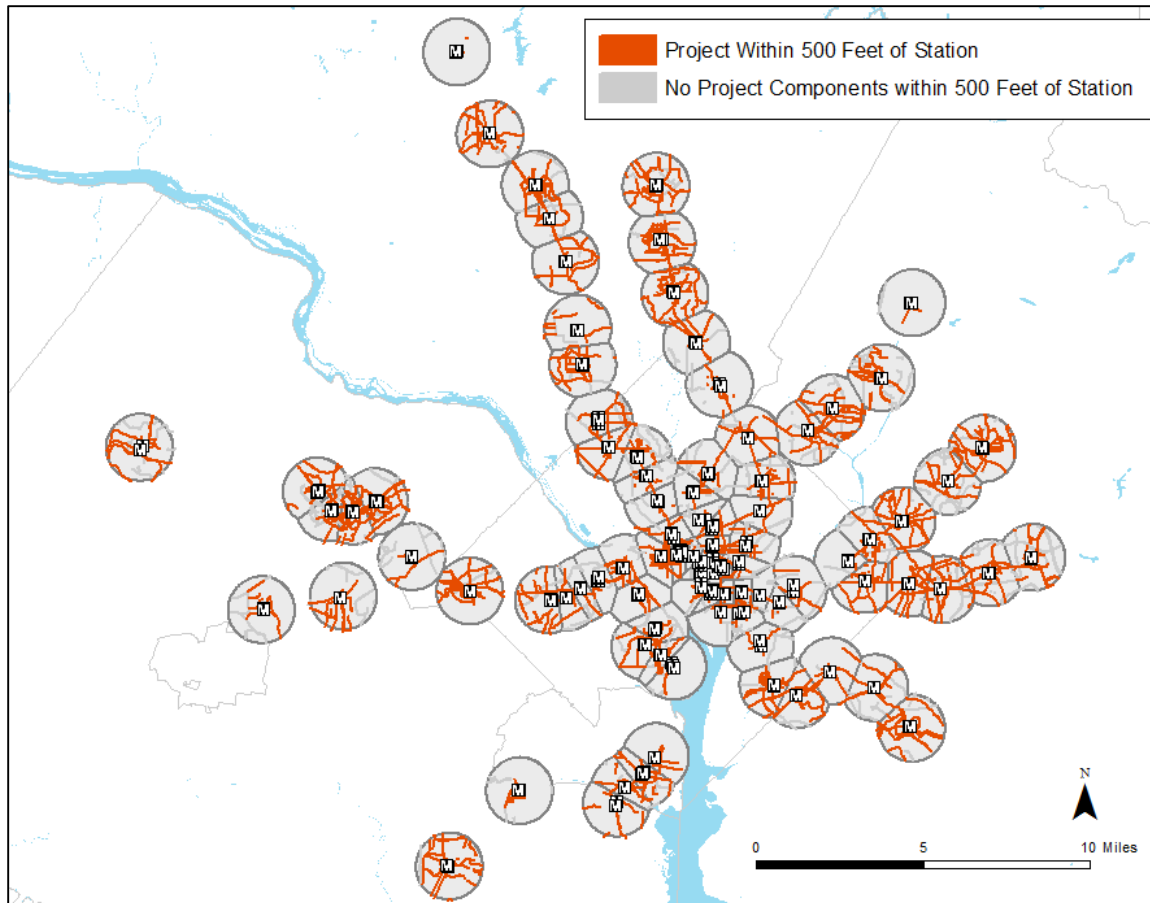
Figure 6: Walkshed Coverage Analysis Results



## PROXIMITY TO STATION ENTRANCES

Projects closest to Metrorail stations would likely reach greater numbers of riders connecting to Metrorail stations from the surrounding community, as they will generally converge at points near the station entrances. Grouped projects with any portion that was located within 500 feet of a Metrorail station, measured as-the-crow-flies, were categorized as having strong proximity to station entrances. Grouped projects that had strong proximity to station entrances were given a score of 5, while projects that did not have strong proximity were given score of 0. **Figure 7** highlights the locations of grouped projects with strong proximity to station entrances.

**Figure 7: Projects with Strong Proximity to Station Entrances**





### POPULATION AND EMPLOYMENT DENSITY

One of the easiest ways to ensure that new pedestrian and bicycle facilities will be used is to construct them in communities where people live and work. In addition to improving the pedestrian and bicycle environments within communities, building projects where people live and work also provides useful connections to Metrorail, which will have a positive impact on system ridership without requiring automobiles for the “last mile.” Population and employment figures from MWCOC’s Land Use Forecast Round 8.3 were used to determine where people are living and working currently, as well as where they will be in the year 2040.

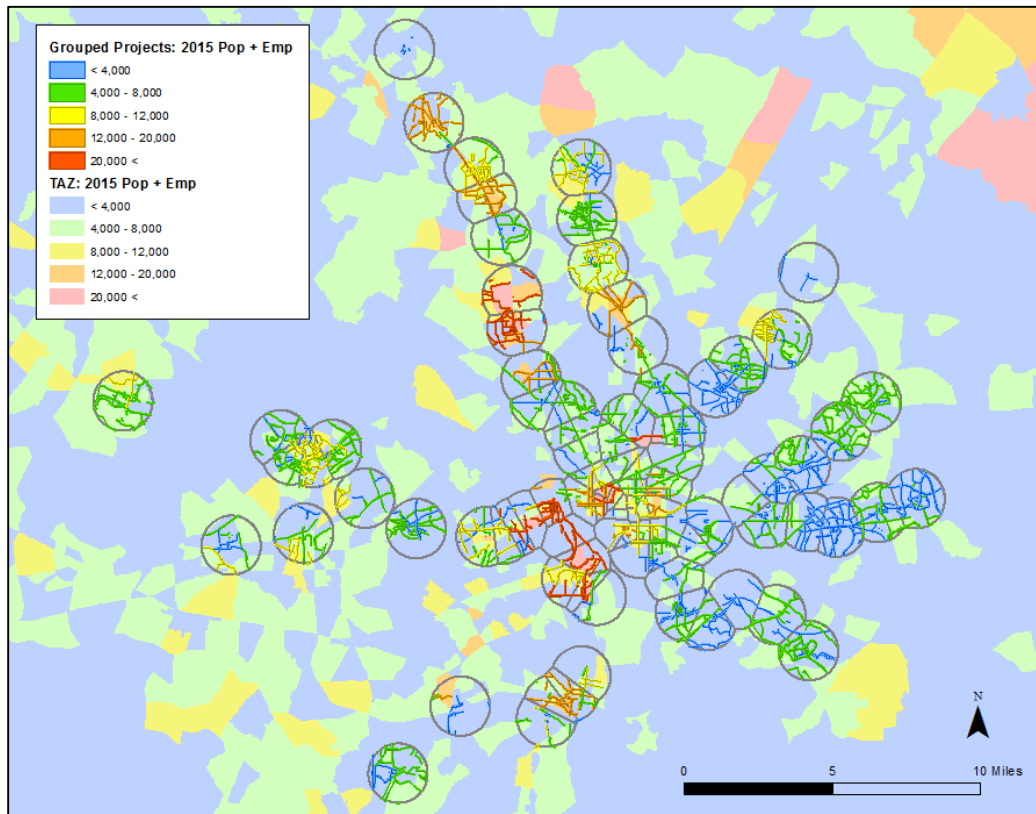
To determine which projects would connect the largest population and employment areas, grouped projects were ranked by the sum of current population and employment in the transportation analysis zone (TAZ) where a grouped project is located. Grouped projects that were located across multiple TAZs were ranked according to TAZ with the highest sum of current population and employment. Grouped projects in TAZs with more population and employment received a higher score, on a scale from 1 to 5. Grouped project scores for current population and employment were given a weight of 2.



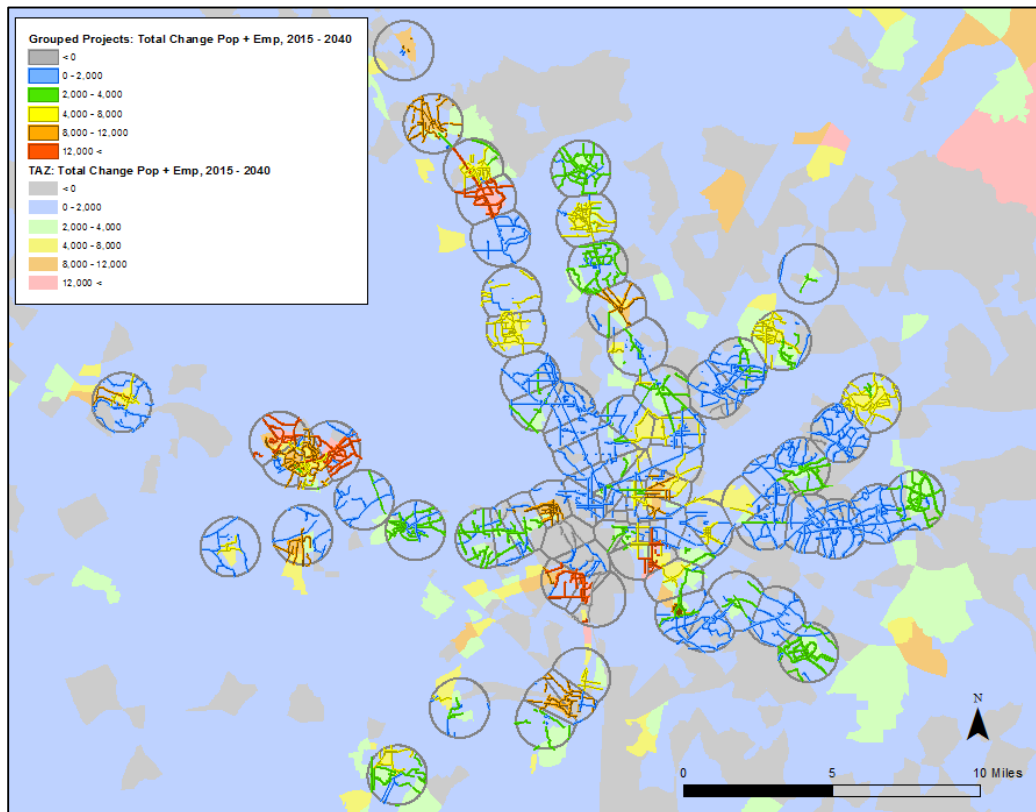
**Figure 8** shows the current amounts of population and employment that would have access to each grouped project.

To anticipate shifts in population and employment over the next 25 years, grouped projects were ranked by the amount of growth in population and employment in the TAZ where a grouped project is located between 2015 and 2040. Similar to the analysis of current population and employment, grouped projects that were located across multiple TAZs were ranked according to TAZ with the highest amount of growth in population and employment between 2015 and 2040. Grouped projects in TAZs with the largest growth in population and employment between 2015 and 2040 received a higher score, on a scale from 0 to 5. **Figure 9** shows where population and employment growth should occur and which grouped projects would provide pedestrian and bicycle access to the new employees and residents.

**Figure 8: 2015 Population and Employment Analysis Results**



**Figure 9: Population and Employment Growth Analysis Results**



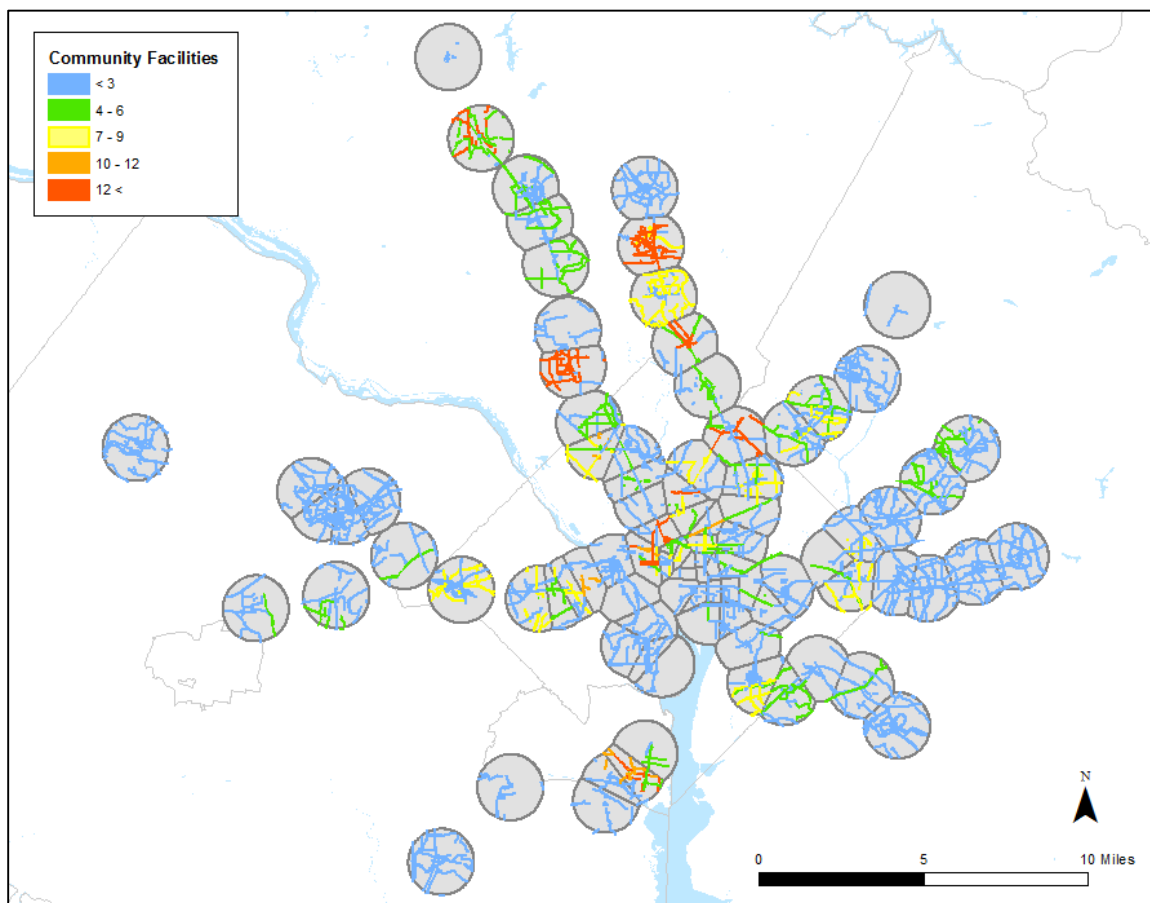


## PATH TO SERVICES

Along with developing a bicycle and pedestrian network that connects places where people live and work, enhancing access to vital community resources can promote walking and biking trips. Locations of vital community facilities were established using Navteq shapefiles for hospitals, educational institutions, grocery stores, and libraries, as well as with Metro-developed data on community-based organizations.

To determine which grouped projects would enhance access to community facilities, the number of community facilities that were located within 500 feet of each project was counted. Grouped projects proximate to the greatest number of community facilities received a higher score, on a scale of 1 to 5. **Figure 10** shows the amount of community facilities found near each grouped project.

**Figure 10: Community Facility Analysis Results**

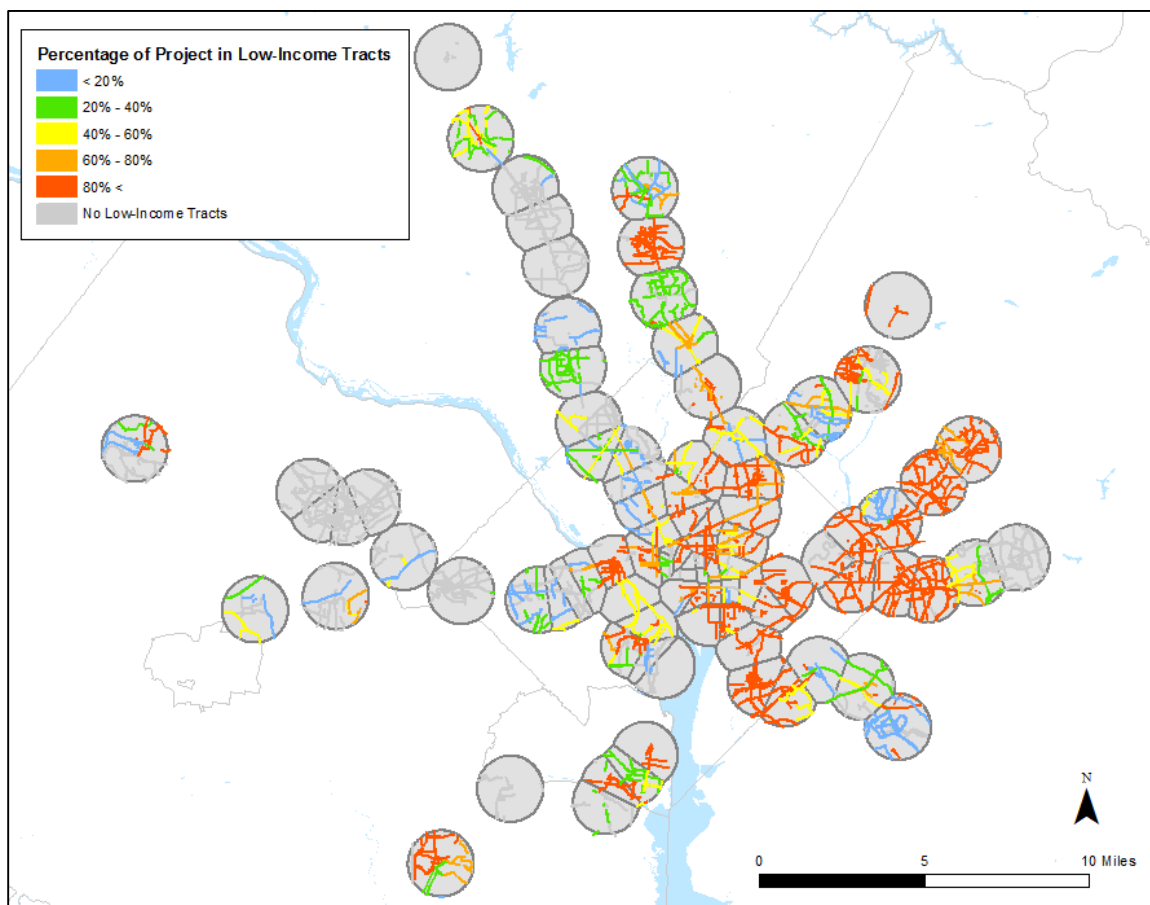


## LOW-INCOME POPULATIONS

To ensure equity in the distribution of new pedestrian and bicycle projects, projects were mapped relative to areas with significant low-income populations, per Census data. In addition to promoting equitable distribution, developing bicycle and pedestrian networks in areas where low-income populations are located also provides enhanced mobility to areas where populations are less likely to own an automobile and are more reliant on walking, bicycling, and transit for their transportation needs. Low-income populations were identified by comparing percentages of low-income households in census tracts to the systemwide average, using data from the 2010 Census.

Grouped projects that could enhance bicycle and pedestrian mobility for low-income populations were identified by determining the percentage of a grouped project's length that falls within a census tract that has a higher percentage of low-income residents than the systemwide average. Grouped projects with a higher percentage of their length within a census tract with a significant low-income population were given a higher score, on a scale of 0 to 5. **Figure 11** shows the percentage of each grouped project that falls within a census tract with a significant low-income population.

**Figure 11: Low-Income Population Analysis Results**

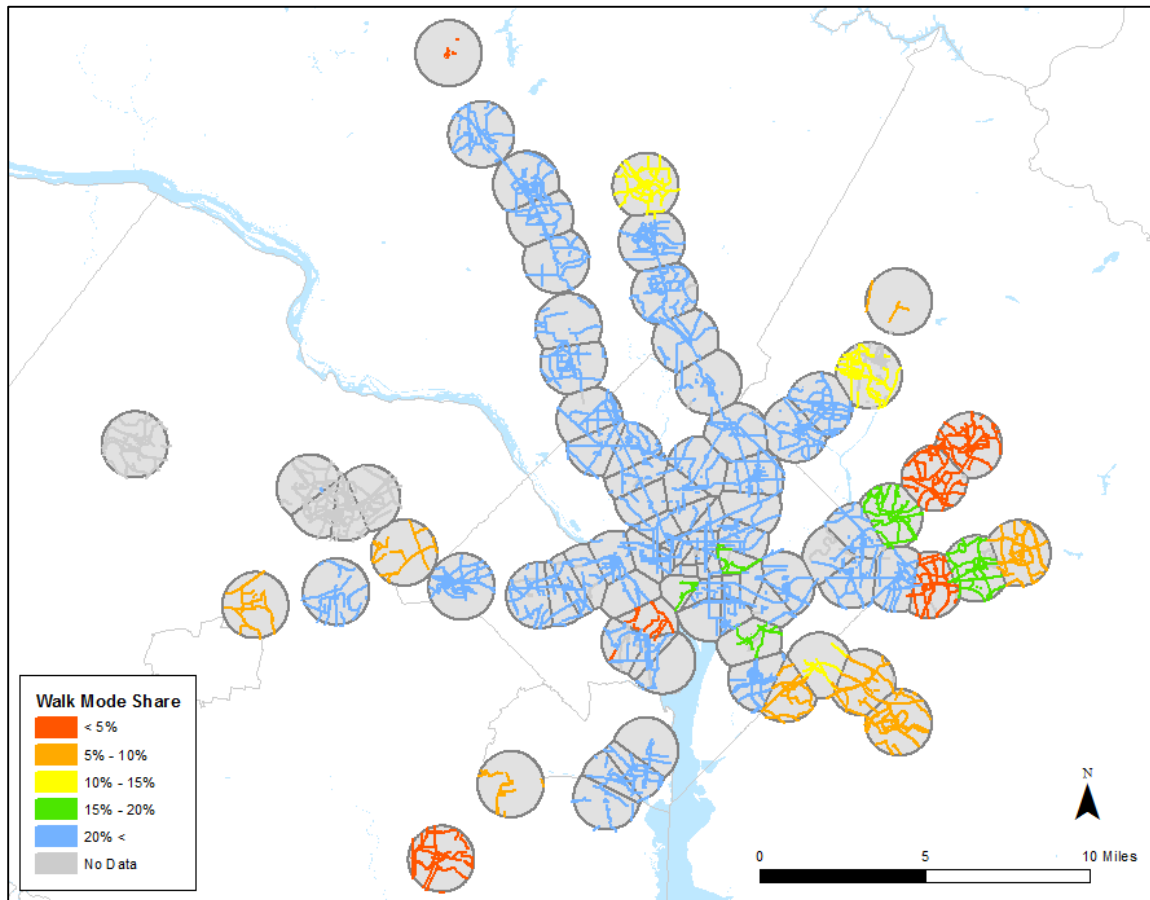


## EFFECTIVENESS OF CHANGING MODE ACCESS

Grouped projects at Metrolink stations accessed by a smaller percentage of pedestrians than other modes of transportation have the potential to convert more customers to walking and biking. Metrolink surveyed its rail customers in 2012 to find out how riders were reaching Metrolink stations.

The percentage of surveyed customers in the station area that are accessing the station by walking was assigned to each grouped project. Projects with a lower percentage of walking share were assigned a higher score, on a scale of 0 to 5. **Figure 12** shows the percentage of surveyed customers who walk to Metrolink stations for grouped projects in each station area.

**Figure 12: Mode Access Analysis Results**



## EASE OF IMPLEMENTATION

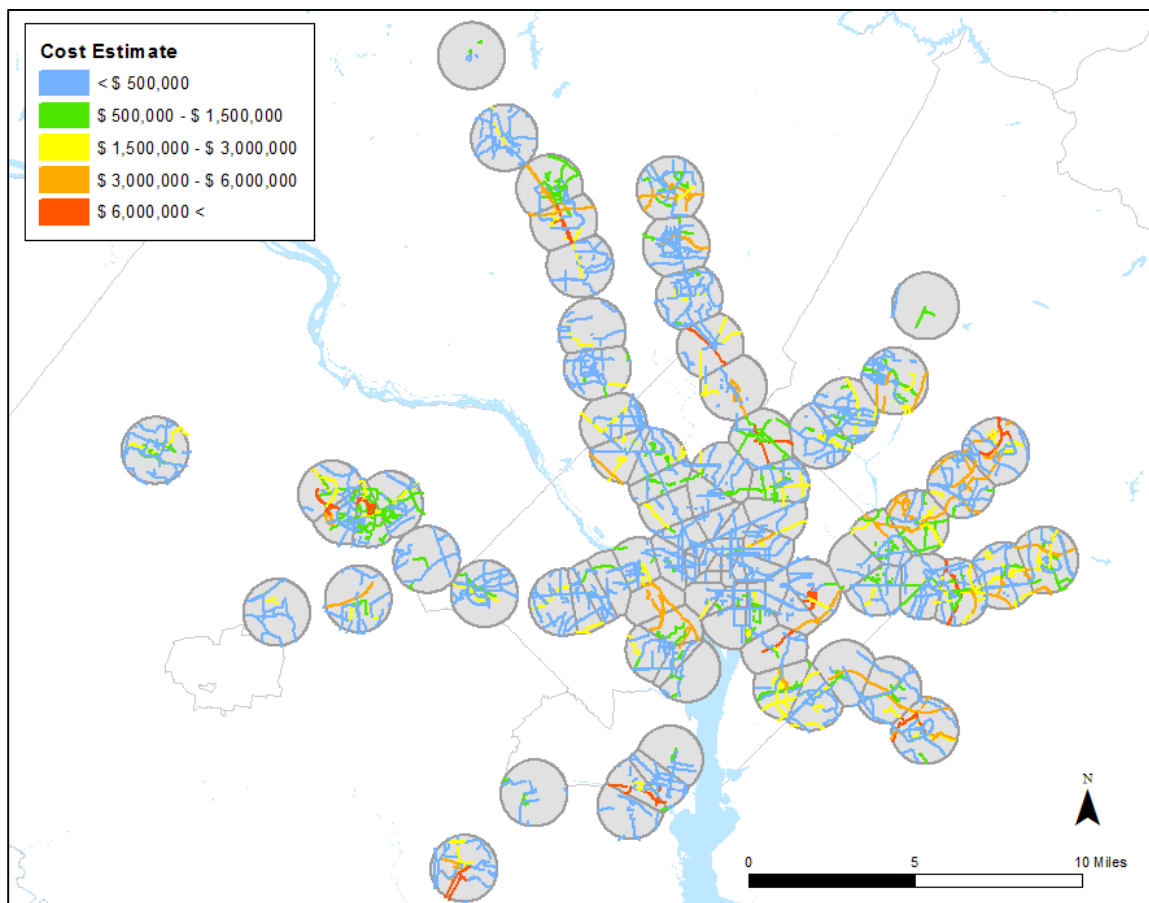
The benefits of new pedestrian and bicycle infrastructure should be viewed within the context of the costs involved with their construction. Ease of project implementation may depend on availability of right-of-way, political realities within a jurisdiction, and engineering concerns, which will likely differ on a case-by-case basis. Construction cost, which may not address all of these implementation issues, does provide a quantifiable basis for comparing projects.

To compare project costs, unit costs were developed for each project type. For linear project components, unit costs were developed on a per linear foot basis and applied to the length of the project component. For spot improvements, unit costs were developed on a per unit basis. Costs for grouped projects are the combined cost of all of a grouped project's components.

In some cases, such as where a developer is expected to build a new street or a new bridge will be built, only the cost of the new pedestrian and bicycle infrastructure (such as the new sidewalk) is included in the project component cost. This is to ensure that the costs required for the roadway are not included in the comparison between projects.

Grouped projects with a lower construction cost were assigned a higher score for ease of implementation, on a scale from 0 to 5. **Figure 13** shows the estimated construction costs for each grouped project.

**Figure 13: Cost Estimate Analysis Results**

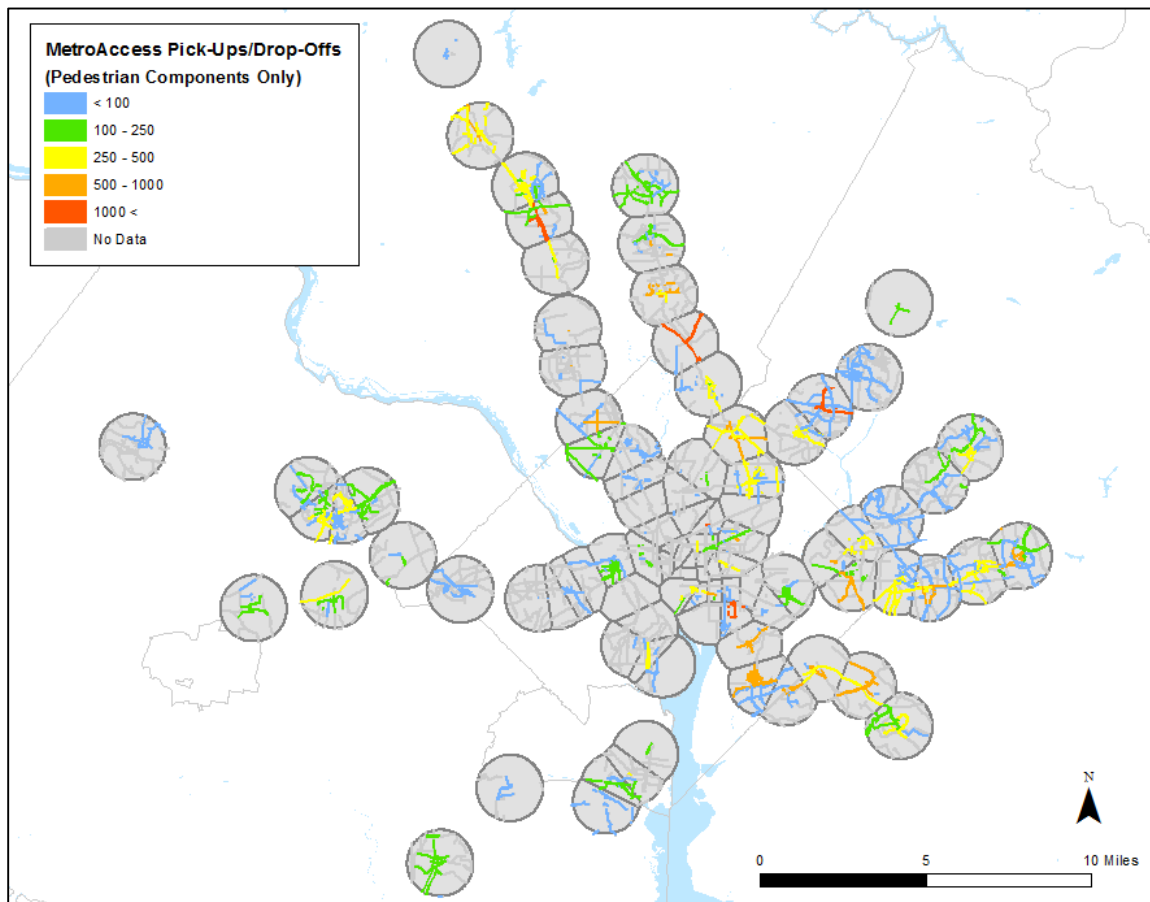


## METROACCESS TRIPS

MetroAccess trips are the most operationally expensive trips that Metro provides. However, due to a lack of accessible options, many MetroAccess customers do not have choices to take trips by other transit means. Given ADA-accessible pedestrian facilities, some MetroAccess customers may be able to take trips by Metrorail or Metrobus, rather than requiring door-to-door service.

To determine which grouped projects could allow more choice to current MetroAccess customers, Metro analyzed origin and destination data from September 2015 for conditionally-eligible MetroAccess customers and the distances of these origins and destinations from pedestrian-serving project components. Grouped projects with more conditionally-eligible MetroAccess trip origins and destinations within 500 feet of pedestrian-serving project components received a higher score, on a scale from 0 to 5. **Figure 14** shows the number of conditionally-eligible MetroAccess trips within 500 feet of pedestrian project components for each grouped project.

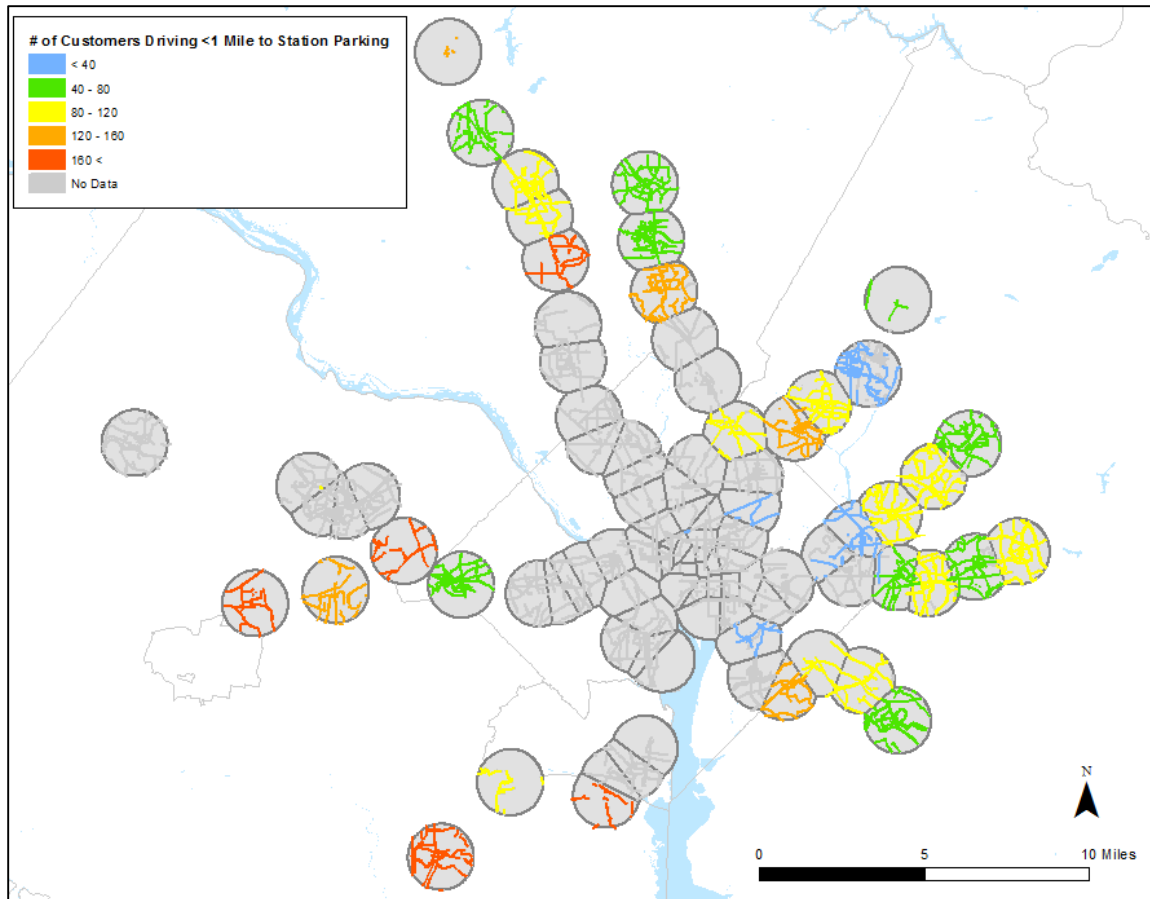
**Figure 14: MetroAccess Analysis Results**



## STATION PARKING USAGE

In order to access Metro, some customers drive a considerable distance to their home station. However, according to Metro's 2012 Rail Passenger Survey and SmarTrip data, many customers drive less than one mile. Many of these customers may elect to walk or bike if improvements were made to the bike and pedestrian network between their home and the station, freeing up these parking spaces for other customers. Grouped projects in station areas with higher numbers of Park-and-Ride customers who are traveling less than a mile received a higher score, on a scale from 0 to 5. **Figure 15** shows the number of customers traveling less than a mile to station parking in the station area of each grouped project.

**Figure 15: Station Parking Analysis Results**

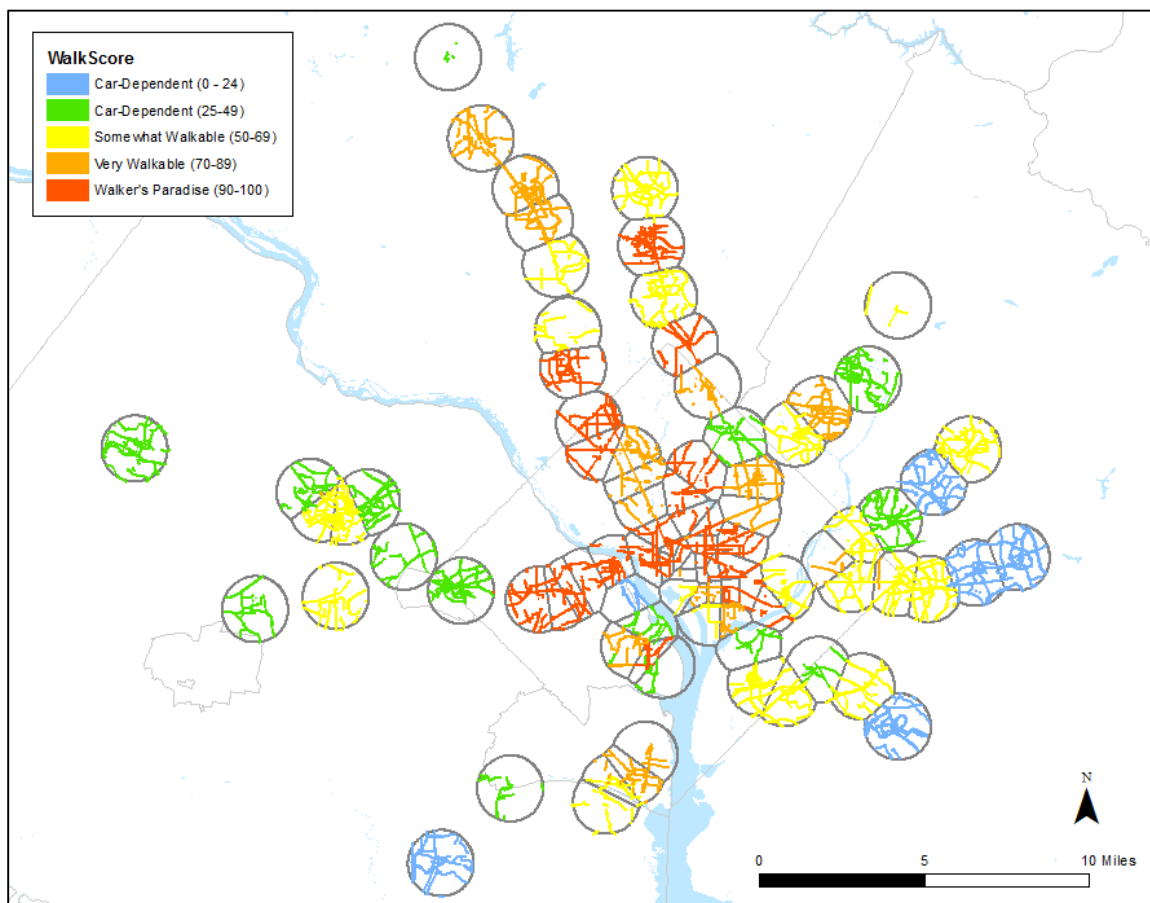


## WALK SCORE

Walk Score, a data tool from [walkscore.com](https://www.walkscore.com), provides an encapsulating score that describes the walkability of an address, evaluating metrics such as block length and intersection density, as well as population density and availability of amenities like shopping, restaurants, and parks. Walk Score has previously been used in planning efforts by the District Department of Transportation to identify opportunities for pedestrian-friendly and transit-oriented development.

Walk Scores for Metrolink stations were used as a general assessment of walkability and mix of land uses in a station area. Grouped projects were assigned the Walk Score of the station area. Grouped projects in station areas with a higher Walkscore were assigned a higher score, on a scale of 1 to 5 and breakpoints for Walk Scores were based on those used by [walkscore.com](https://www.walkscore.com). **Figure 16** shows the Walk Scores assigned to each grouped project.

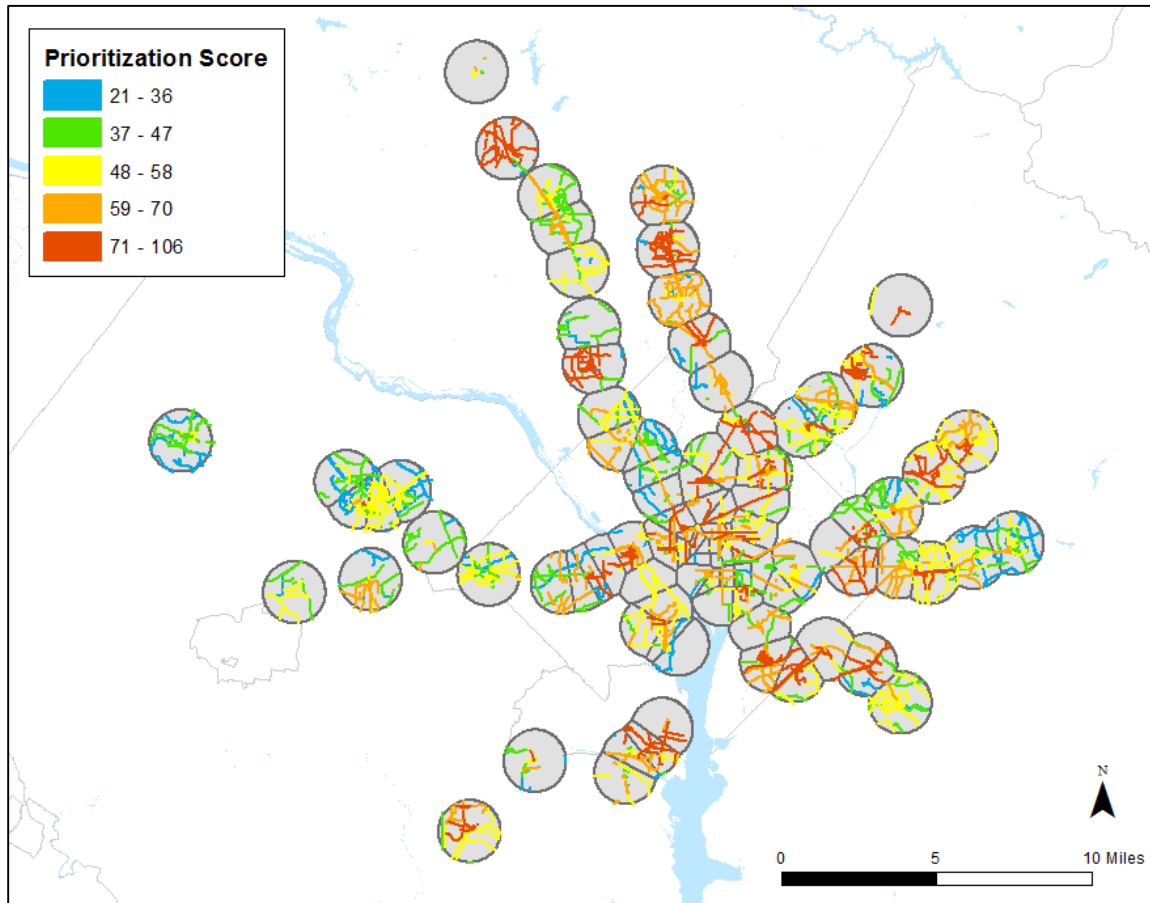
**Figure 16: Walk Score Analysis Results**



## PRIORITIZATION SCORING RESULTS

After scoring grouped projects on individual criteria, score weights were applied to each criteria and weighted criteria scores were summed together to create prioritization scores for the projects. **Figure 17** shows the prioritization scores for all grouped projects.

**Figure 17: Prioritization Scores**



All 4,200+ projects were scored. Staff then listed each project in rank order by jurisdiction to identify the top 50 to 100 projects for further review. The maps of the Metro priority projects in each jurisdiction were refined through jurisdiction feedback and are presented in the **Priority Project Details by Jurisdiction** section.

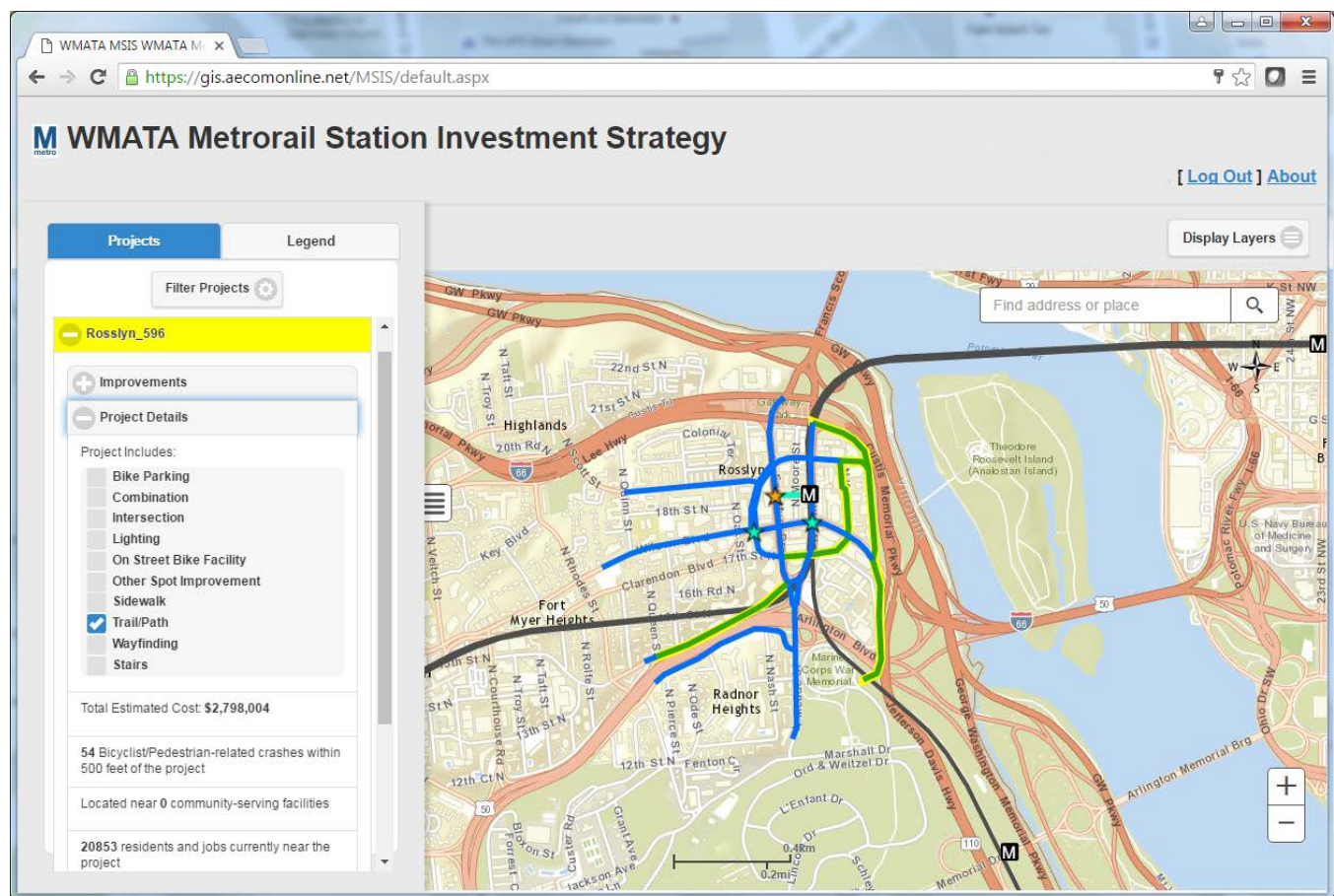


## JURISDICTION OUTREACH

Metro sought jurisdictional feedback on the initially identified priority projects to determine the status of their project components. Metro met with planning and transportation officials from the Compact jurisdictions to review the methodology of the prioritization process and solicit input on the initial results. Feedback from jurisdiction officials included updates on project funding, design, construction, and completion, as well as identification of project components no longer under consideration.

Several tools were developed to provide jurisdiction officials with a range of options for submitting feedback on the identified priority projects. Paper and digital maps, paired with spreadsheets with details on individual project components were provided and could be submitted to Metro via email, along with any additional questions or comments. Additionally, an interactive map was developed, which allowed users to zoom in to project locations, filter projects by station, jurisdiction, and project component type, view non-priority projects, and submit status updates and comments. **Figure 18** shows a screenshot of the interactive website.

**Figure 18: Interactive Website for Jurisdiction Outreach**



Jurisdictional staff identified a number of potential barriers to project implementation. For example, a given project may span between right of way administered by a number of public and private entities, including a County DOT, State DOT, homeowners' association, parks department or others groups. A project may also be competing with funding with other important programs, such as Safe Routes to Schools. With this in mind, staff have attempted to narrow down the list to the projects that provide the most benefit (through the prioritization process) and pull out projects that are no longer active (through the outreach with the jurisdictional staff).



## Metrorail Station Investment Strategy

Table 6 shows the number of project components reviewed by each jurisdiction and the nature of the status update. **Table 7** shows the project types for components that were identified by jurisdictions as needing additional action.

**Table 6: Summary of Project Status Updates from Metro Compact Jurisdictions**

	Potential Further Action				No Further Action Required				Total, All Projects
	Designed, not funded	Needs more study	Partial Funding	Total	Funded/Programed	Completed	No Longer Under Consideration	Total	
Arlington County	17	9	14	40	1	2	7	10	50
City of Alexandria	0	1	0	1	8	67	26	101	102
District of Columbia	0	61	0	61	0	9	2	11	72
Fairfax County	0	24	2	26	3	9	12	24	50
Montgomery County	0	49	0	49	1	3	17	21	70
Prince George's County	5	18	0	23	1	17	9	27	50

**Table 7: Types of Projects with Potential Further Action in Metro Compact Jurisdictions**

	Active Projects						
	Sidewalk/Trail	Intersection	On Street Bike	Other	Total	Cost	Quantified Annual Ridership <sup>1</sup>
Arlington County	6	1	20	13	40	\$ 6,273,624	N/A
City of Alexandria	0	0	0	1	1	\$ 201,708	55,000
District of Columbia	12	4	45	0	61	\$ 3,471,083	73,200
Fairfax County	9	2	14	1	26	\$ 5,782,450	31,500
Montgomery County	1	5	42	1	49	\$ 1,274,809	N/A
Prince George's County	20	0	3	0	23	\$ 13,569,852	125,400

## RETURN ON INVESTMENT

Oftentimes, small or inexpensive project investments can provide a ‘big bang for the buck,’ but the ability to calculate that benefit can be elusive. To offer a sound methodology that can be used to ‘sell’ these projects, the project team evaluated the metrics used in the study for their ability to be turned into dollars and calculate a return on investment (ROI).

## PEDESTRIAN IMPROVEMENTS

For pedestrian projects, the methodology focused on two quantifiable metrics: ridership revenue from newly connected jobs and households, and savings associated with avoided MetroAccess trips. Projects included in the calculation are those priority projects that grow a station’s walk shed or projects that “fill in the gaps” for ADA customers. These include sidewalks, trails and, where applicable, intersection improvements and new streets that provide new links to the station from the surrounding community. A total of 62 projects from the list of 394 high priority improvements made it into the ROI calculation.

To conduct the analysis, staff assigned the quantified ridership data and ADA paratransit trip counts collected during the prioritization process to each of the 62 remaining projects. These two values were then monetized for the length of the project life, with a standard 3% discount rate applied per year. For ridership, the monetization involved calculating the average fare collected for each new rider over the course of a given year. This value was then multiplied for a 30 year useful life of the infrastructure. With respect to return on investment associated with paratransit trips, staff used the results of the paratransit trip analysis to calculate the number of MetroAccess trips starting or ending near these projects over the course of a given year and conservatively assumed a 20% reduction in this demand. In other words, 80% of these trips would continue to use MetroAccess while 20% of trips would shift to Metrolink. The annual cost savings of this reduction in demand was then multiplied by 30 to calculate the life-cycle benefit.

**Table 8: Summary of Return on Investment, Pedestrian Projects**

	Total Project Cost	Number of Projects	Monetized Benefit	Net Return on Investment
<b>All Projects</b>	<b>\$12,775,203</b>	<b>62</b>	<b>\$24,202,801</b>	<b>\$11,427,598</b>

Table 8 shows the results. In total, these 62 projects cost \$13 M to construct. In terms of rail revenue and ADA trip cost avoided, they provide a benefit of \$24 M over a 30 year life cycle. This leads to a net return on investment of over \$11 M. On a project by project level, most have a positive return on investment. Out of the 62, 54 had a positive return on investment.

## BICYCLE TREATMENTS

As noted earlier in the document, only walk ridership can be quantified using Metro's Land Use Ridership Model. To date, no such model has been developed for bike ridership. With this in mind, staff focused instead on safety when evaluating the cost-effectiveness of bike projects. In total, 382 crashes occurred per year on average (from 2011 to 2014) within the buffer around of 141 sharrows, cycle tracks and bike lane projects selected for analysis.

Using bicycle crash data analyzed in a recent study in the American Journal of Public Health<sup>3</sup>, staff estimated a separate rate of injury avoidance for three types of bicycle treatments: bike lanes, cycle tracks and sharrows. The results were then applied to each project to see the effect of its construction on avoiding injuries to bicyclists.

**Table 9: Injury Reduction, Bicycle Treatments**

	Cost	Number of Projects	Annual Crashes	Avoided Injuries
<b>All Projects</b>	<b>\$4,005,616</b>	<b>141</b>	<b>382</b>	<b>84</b>

As shown in the table above, when constructed together, staff estimates that these bicycle treatments would reduce 84 bicyclist crashes on area roadways per year, at a cost of approximately \$4 M. Using the method established for "non-fatal accidents, injury status unknown" developed in USDOT's TIGER application process, staff was able to estimate an average cost<sup>4</sup> of these 84 crashes per year. At \$129,400 per incident, this roughly translates into \$11 M. Though not completely borne by a jurisdiction, it is a cost to the rider and others in the region that is mitigated by investing in these projects.

<sup>3</sup> Kay Teschke et al, *Route Infrastructure and the Risk of Injuries to Bicyclists: A Case-Crossover Study*, *American Journal of Public Health*, December 2012.

<sup>4</sup> USDOT, *TIGER Benefit-Cost Analysis Resource Guide*, March 27, 2015 updated edition, Section 3: *Converting Available Accident Data into Abbreviated Injury Scale Data*.



The next section of this document provides an “atlas,” map and reference materials for remaining active, high-priority projects. The atlas contains three sections: a summary of each jurisdiction’s projects, a map showing the location of each project at a given station, and a “scorecard,” a detailed break-down of each remaining project’s prioritization score. The scorecard includes in the number of crashes, the quantifiable ridership<sup>5</sup> impacts of the project (if applicable), the number of community facilities served by the project, and a number of other useful indicators for each project. Metro and jurisdictional staff discussed a number of ways that the projects included in the atlas can advanced. These include everything from local CIPs, livability studies, local highway projects and corridor studies to MWCOC long-range planning process, Transportation Alternatives Program funding, and other grants.

In addition to the atlas, a geodatabase with all 4,200+ project records has been provided upon request to jurisdictional staff. This information allows staff to focus specifically on any number of criteria, such as projects in a specific corridor, projects of a certain type (lighting vs. sidewalks vs. bike lanes), population, safety, equity or any of the other prioritization criteria.

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<sup>5</sup> As discussed in the Executive Summary and Ridership Impacts section of the document, the potential ridership impacts were quantified for a select number of projects, those that increased the size of the walkshed at the 15 stations with the lowest walkshed coverage. This is not to say that other projects would, if implemented, not contribute to a given station’s ridership. However, the scorecard only shows the results of the analyzed projects at these 15 stations.

## PRIORITY PROJECT DETAILS BY JURISDICTION

This section provides details for projects identified as Metro priorities in each jurisdiction. A summary of priority project status and type is provided for each jurisdiction. For each station area, a map of priority projects and a summary of project types that require further action are provided. A criteria scorecard for each priority project is included and features scores for all elements of the project, including elements that no longer require additional action.

### ARLINGTON COUNTY

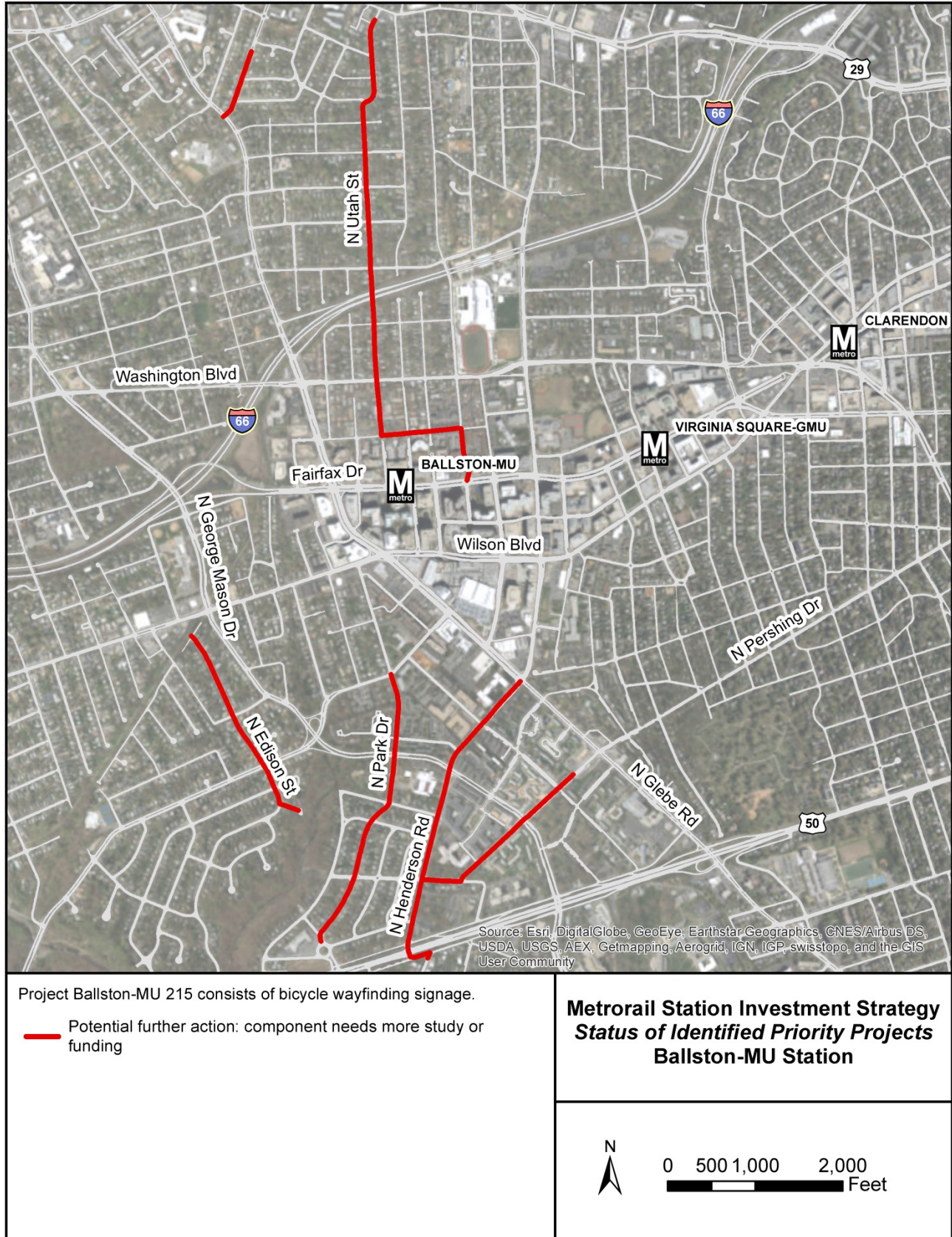
Arlington County reviewed 50 priority projects and identified 40 of these projects as still active. The majority of the projects in Arlington County are aimed at improving bicycle travel, either through on-street bicycle improvements or through other improvements, including wayfinding, lighting, or spot improvements like the replacement of large grates on Lynn Street in the Rosslyn station area.

While many of the priority projects are lower cost improvements to existing infrastructure, such as painted sharrows or signage, several projects would provide new connections for the bicycle and pedestrian network and represent a greater share of the estimated costs in Arlington County. These projects include new trails in the Rosslyn station area and a new street east of the Crystal City station.

	Potential Further Action			
	Designed, not funded	Needs more study	Partial Funding	Total
<b>Arlington County</b>	17	9	14	40
Ballston-MU			7	7
Clarendon		3	1	4
Courthouse		2	1	3
Crystal City	2			2
Pentagon City			3	3
Rosslyn	15	4	2	21

	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>Arlington County</b>	6	1	20	13	40	\$ 6,273,624
Ballston-MU				7	7	\$ 34,288
Clarendon			4		4	\$ 126,767
Courthouse			1	2	3	\$ 9,740
Crystal City	1			1	2	\$ 2,896,624
Pentagon City			3		3	\$ 64,135
Rosslyn	5	1	12	3	21	\$ 3,142,071







	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>Ballston-MU</b>	0	0	0	7	7	\$ 34,288
Ballston-MU 215				7	7	\$ 34,288

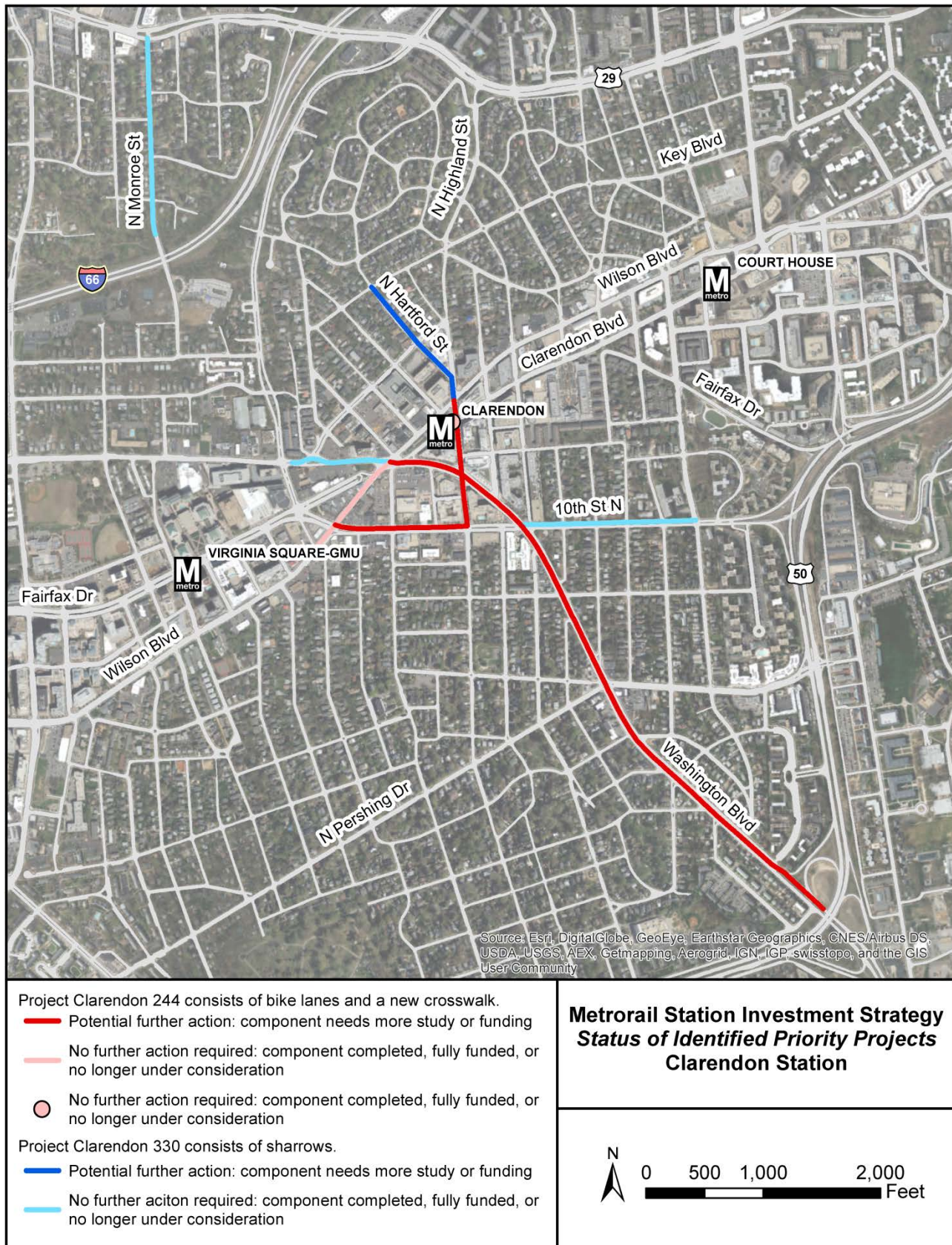
**Station: Ballston-MU**

**Project Number: 215**

**Project Description: consists of bicycle wayfinding signage**

Criteria	Result	Score	Weighted Score
Safety	37 crashes	3	12
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	7,329	2	4
Population and Employment Growth (2015-2040)	2,252	2	2
Path to Services	7 facilities	4	12
Low-Income Populations	35%	2	6
Changing Mode Access	61% Walk Mode Share	1	2
Ease of Implementation/Cost	\$34,288	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	0 customers	0	0
Walk Score	97	5	5
<b>Total Weighted Score</b>			<b>68</b>







	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>Clarendon</b>	0	0	4	0	4	\$ 126,767
Clarendon 244			3		3	\$ 124,189
Clarendon 330			1		1	\$ 2,578

**Station: Clarendon**

**Project Number: 244**

**Project Description: consists of bike lanes and a new crosswalk**

Criteria	Result	Score	Weighted Score
Safety	48 crashes	4	16
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	23,493	5	10
Population and Employment Growth (2015-2040)	2,801	2	2
Path to Services	8 facilities	4	12
Low-Income Populations	0%	0	0
Changing Mode Access	78% Walk Mode Share	1	2
Ease of Implementation/Cost	\$112,046	5	10
MetroAccess Trips	31 trips	1	1
Neighborhood Parking	0 customers	0	0
Walk Score	94	5	5
<b>Total Weighted Score</b>			<b>73</b>



Station: Clarendon

Project Number: 330

Project Description: consists of sharrows

Criteria	Result	Score	Weighted Score
Safety	40 crashes	3	12
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	23,493	5	10
Population and Employment Growth (2015-2040)	2,801	2	2
Path to Services	9 facilities	4	12
Low-Income Populations	0%	0	0
Changing Mode Access	78% Walk Mode Share	1	2
Ease of Implementation/Cost	\$11,242	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	0 customers	0	0
Walk Score	94	5	5
<b>Total Weighted Score</b>			<b>68</b>







	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>Court House</b>	0	0	1	2	3	\$ 9,740
Court House 348			1	2	3	\$ 9,740

**Station: Court House**

**Project Number: 348**

**Project Description: consists of bicycle sharrows and wayfinding signage**

Criteria	Result	Score	Weighted Score
Safety	42 crashes	4	16
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	23,493	5	10
Population and Employment Growth (2015-2040)	3,025	2	2
Path to Services	10 facilities	4	12
Low-Income Populations	26%	2	6
Changing Mode Access	93% Walk Mode Share	1	2
Ease of Implementation/Cost	\$13,448	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	0 customers	0	0
Walk Score	95	5	5
<b>Total Weighted Score</b>			<b>78</b>







	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>Crystal City</b>	1	0	0	1	2	\$ 2,896,624
Crystal City 287				1	1	\$ 2,737,962
Crystal City 289	1				1	\$ 158,663

**Station: Crystal City**

**Project Number: 287**

**Project Description: consists of a new street**

Criteria	Result	Score	Weighted Score
Safety	25 crashes	3	12
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	8%	1	3
Population and Employment (2015)	32,199	5	10
Population and Employment Growth (2015-2040)	12,611	5	5
Path to Services	3 facilities	2	6
Low-Income Populations	0%	0	0
Changing Mode Access	64% Walk Mode Share	1	2
Ease of Implementation/Cost	\$2,737,962	3	6
MetroAccess Trips	383 trips	3	3
Neighborhood Parking	0 customers	0	0
Walk Score	90	5	5
<b>Total Weighted Score</b>			<b>67</b>



Station: Crystal City

Project Number: 289

Project Description: consists of sidewalk widening

Criteria	Result	Score	Weighted Score
Safety	31 crashes	3	12
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	32,199	5	10
Population and Employment Growth (2015-2040)	12,611	5	5
Path to Services	0 facilities	1	3
Low-Income Populations	3%	1	3
Changing Mode Access	64% Walk Mode Share	1	2
Ease of Implementation/Cost	\$158,663	5	10
MetroAccess Trips	339 trips	3	3
Neighborhood Parking	0 customers	0	0
Walk Score	90	5	5
Total Weighted Score			68







	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>Pentagon City</b>	0	0	3	0	3	\$ 201,708
Pentagon City 772			3		3	\$ 201,708

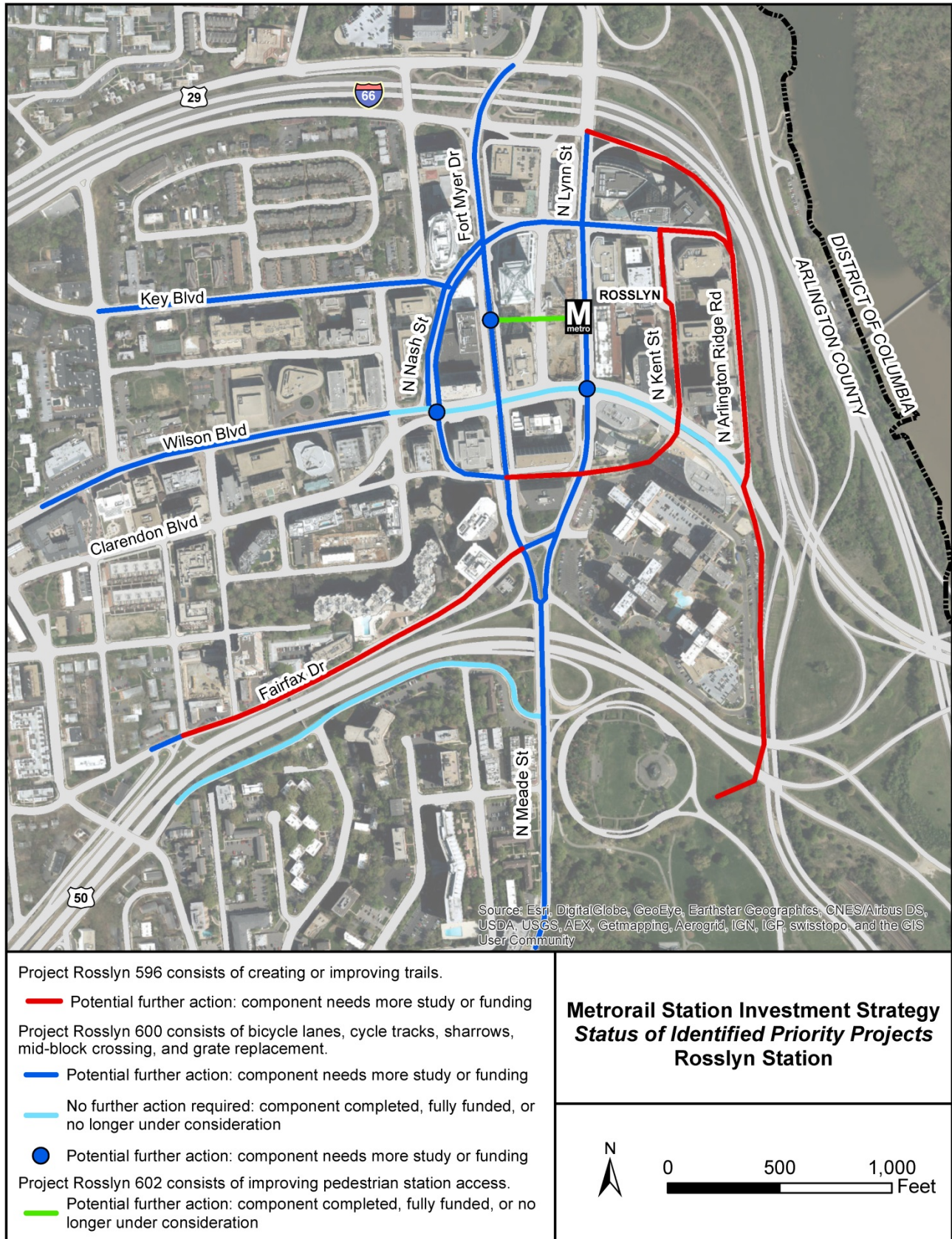
**Station: Pentagon City**

**Project Number: 772**

**Project Description: consists of bicycle lanes and sharrows**

Criteria	Result	Score	Weighted Score
Safety	21 crashes	3	12
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	9,960	3	6
Population and Employment Growth (2015-2040)	14,169	5	5
Path to Services	1 facility	1	3
Low-Income Populations	100%	5	15
Changing Mode Access	46% Walk Mode Share	1	2
Ease of Implementation/Cost	\$64,135	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	0 customers	0	0
Walk Score	81	4	4
<b>Total Weighted Score</b>			<b>72</b>







	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>Rosslyn</b>	5	1	12	3	21	\$ 3,142,071
Rosslyn 596	5				5	\$ 2,798,004
Rosslyn 600			12	2	14	\$ 237,627
Rosslyn 602		1		1	2	\$ 106,441

**Station: Rosslyn**

**Project Number: 596**

**Project Description: consists of creating or improving trails**

Criteria	Result	Score	Weighted Score
Safety	54 crashes	4	16
Quantifiable Ridership			
Proximity to Station Entrances	Not Within 500 ft	0	0
Walkshed Coverage	10%	1	3
Population and Employment (2015)	20,853	5	10
Population and Employment Growth (2015-2040)	8,478	4	4
Path to Services	0 facilities	1	3
Low-Income Populations	100%	5	15
Changing Mode Access	58% Walk Mode Share	1	2
Ease of Implementation/Cost	\$2,798,004	3	6
MetroAccess Trips	142 trips	2	2
Neighborhood Parking	customers	0	0
Walk Score	91	5	5
<b>Total Weighted Score</b>			<b>66</b>



## Metrolink Station Investment Strategy

**Station: Rosslyn**

**Project Number: 600**

**Project Description: consists of bicycle lanes, cycle tracks, and sharrows, mid-block crossing, and grate replacement**

Criteria	Result	Score	Weighted Score
Safety	94 crashes	5	20
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	20,853	5	10
Population and Employment Growth (2015-2040)	9,444	4	4
Path to Services	3 facilities	2	6
Low-Income Populations	100%	5	15
Changing Mode Access	58% Walk Mode Share	1	2
Ease of Implementation/Cost	\$300,035	5	10
MetroAccess Trips	243 trips	2	2
Neighborhood Parking	customers	0	0
Walk Score	91	5	5
<b>Total Weighted Score</b>			<b>89</b>

**Station: Rosslyn**

**Project Number: 602**

**Project Description: consists of improving pedestrian station access**

Criteria	Result	Score	Weighted Score
Safety	26 crashes	3	12
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	20,853	5	10
Population and Employment Growth (2015-2040)	9,444	4	4
Path to Services	0 facilities	1	3
Low-Income Populations	100%	5	15
Changing Mode Access	58% Walk Mode Share	1	2
Ease of Implementation/Cost	\$106,441	5	10
MetroAccess Trips	232 trips	2	2
Neighborhood Parking	customers	0	0
Walk Score	91	5	5
<b>Total Weighted Score</b>			<b>78</b>



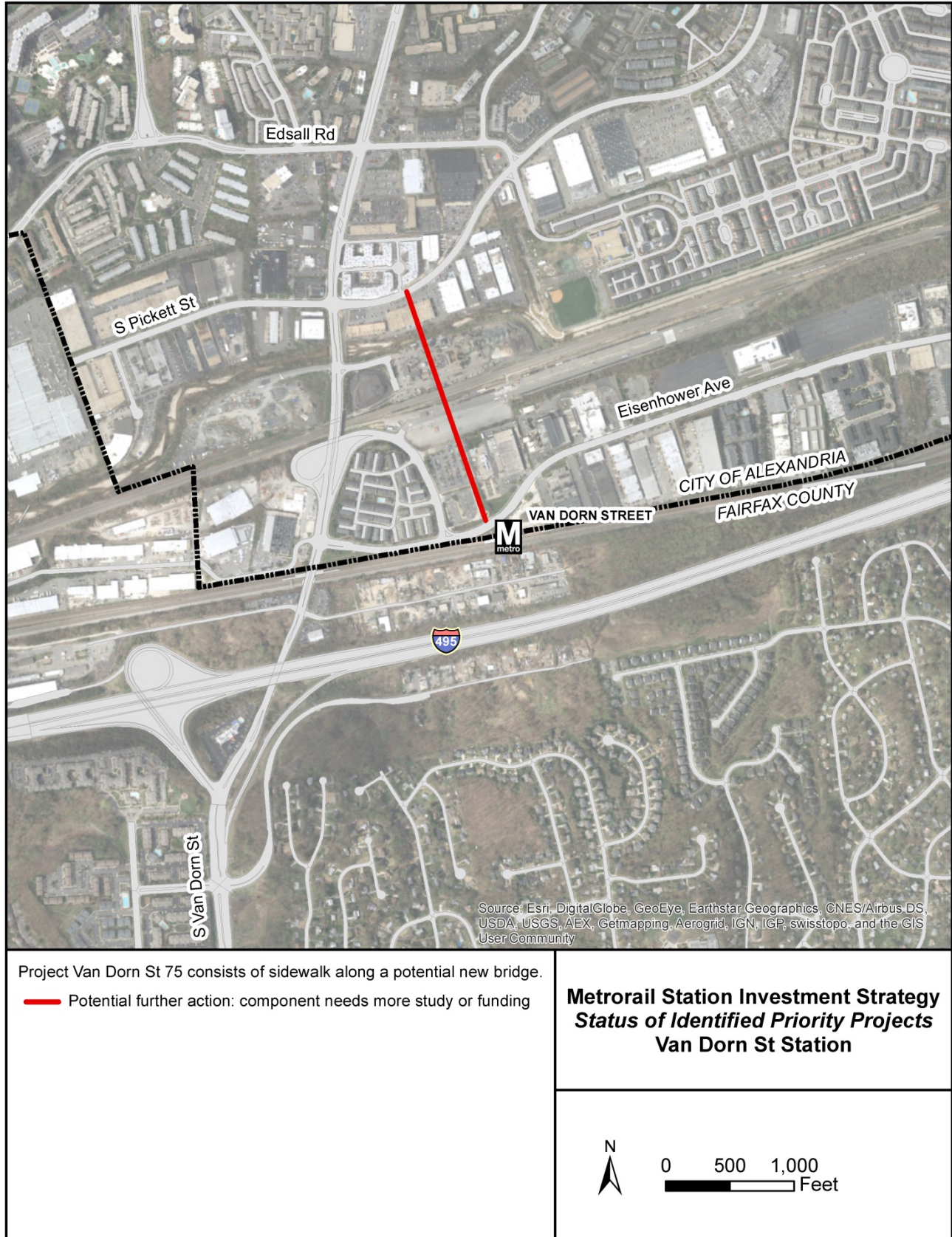
## CITY OF ALEXANDRIA

The project team identified 102 priority projects. Most of them came out of Alexandria's 2008 *Pedestrian and Bicycle Master Plan*. During the course of this study, the City updated its *Master Plan*. After review of the 2016 *Master Plan*, it was determined that 101 of the 102 projects (most of them bicycle facilities) had been completed, were planned and fully funded, or were no longer under consideration by the City. The remaining priority project is a new bridge providing a connection over railroad tracks, linking Eisenhower Avenue to Pickett Street. Consistent with the costing methodology applied to other projects of this nature, only the marginal cost of pedestrian and bicycle elements of this bridge are included in the estimated cost of \$201K shown below, with the total project cost of the bridge being much higher.

	Potential Further Action			
	Designed, not funded	Needs more study	Partial Funding	Total
<b>City of Alexandria</b>	0	1	0	1
Van Dorn Street		1		1

	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>City of Alexandria</b>	0	0	0	1	1	\$ 201,708
Van Dorn Street				1	1	\$ 201,708







	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>Van Dorn St</b>	0	0	0	1	1	\$ 201,708
Van Dorn St 75				1	1	\$ 201,708

**Station: Van Dorn St**

**Project Number: 75**

**Project Description: consists of sidewalk along a potential new bridge**

Criteria	Result	Score	Weighted Score
Safety	2 crashes	1	4
Quantifiable Ridership	185 new daily riders	4	16
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	51%	3	9
Population and Employment (2015)	1,289	1	2
Population and Employment Growth (2015-2040)	3,296	2	2
Path to Services	2 facilities	2	6
Low-Income Populations	0%	0	0
Changing Mode Access	9% Walk Mode Share	4	8
Ease of Implementation/Cost	\$201,708	5	10
MetroAccess Trips	27 trips	1	1
Neighborhood Parking	107 customers	3	3
Walk Score	31	2	2
<b>Total Weighted Score</b>			<b>78</b>



## DISTRICT OF COLUMBIA

The District of Columbia reviewed 72 priority projects and identified 61 of these projects as still active. The District has indicated that many of these projects will be re-evaluated as it shifts from developing plans specifically for station areas to larger scale neighbourhood studies, like the *Brookland-Edgewood Livability Study* (2015), and corridor studies, like the *Crosstown Multimodal Transportation Study* (ongoing). In addition, the District recently received a grant from MWCOG's Transportation and Land Use Connections (TLC) program to advance pedestrian projects into design and implementation at three stations. The District's study will use the projects identified in MSIS as its base set of projects.

	Potential Further Action			
	Designed, not funded	Needs more study	Partial Funding	Total
<b>District of Columbia</b>	0	61	0	61
Benning Road		8		8
Brookland-CUA		13		13
Columbia Heights		2		2
Dupont Circle		8		8
Foggy Bottom-GWU		5		5
McPherson Square		6		6
Mt. Vernon Square		2		2
NoMa-Gallaudet U		4		4
Shaw-Howard U		1		1
Southern Avenue		3		3
U Street-Cardozo		4		4
Union Station		5		5

	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>District of Columbia</b>	12	4	45	0	61	\$ 3,471,083
Benning Road			8		8	\$ 297,310
Brookland-CUA	11	2			13	\$ 557,978
Columbia Heights			2		2	\$ 150,278
Dupont Circle			8		8	\$ 378,133
Foggy Bottom-GWU			5		5	\$ 145,496
McPherson Square			6		6	\$ 141,444
Mt. Vernon Square			2		2	\$ 402,505
NoMa-Gallaudet U			4		4	\$ 344,713
Shaw-Howard U			1		1	\$ 266,643
Southern Avenue	1		2		3	\$ 575,075
U Street-Cardozo			4		4	\$ 48,084
Union Station		2	3		5	\$ 163,423





	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>Benning Rd 219</b>	0	0	8	0	8	\$ 297,310
Benning Rd 219			8		8	\$ 297,310

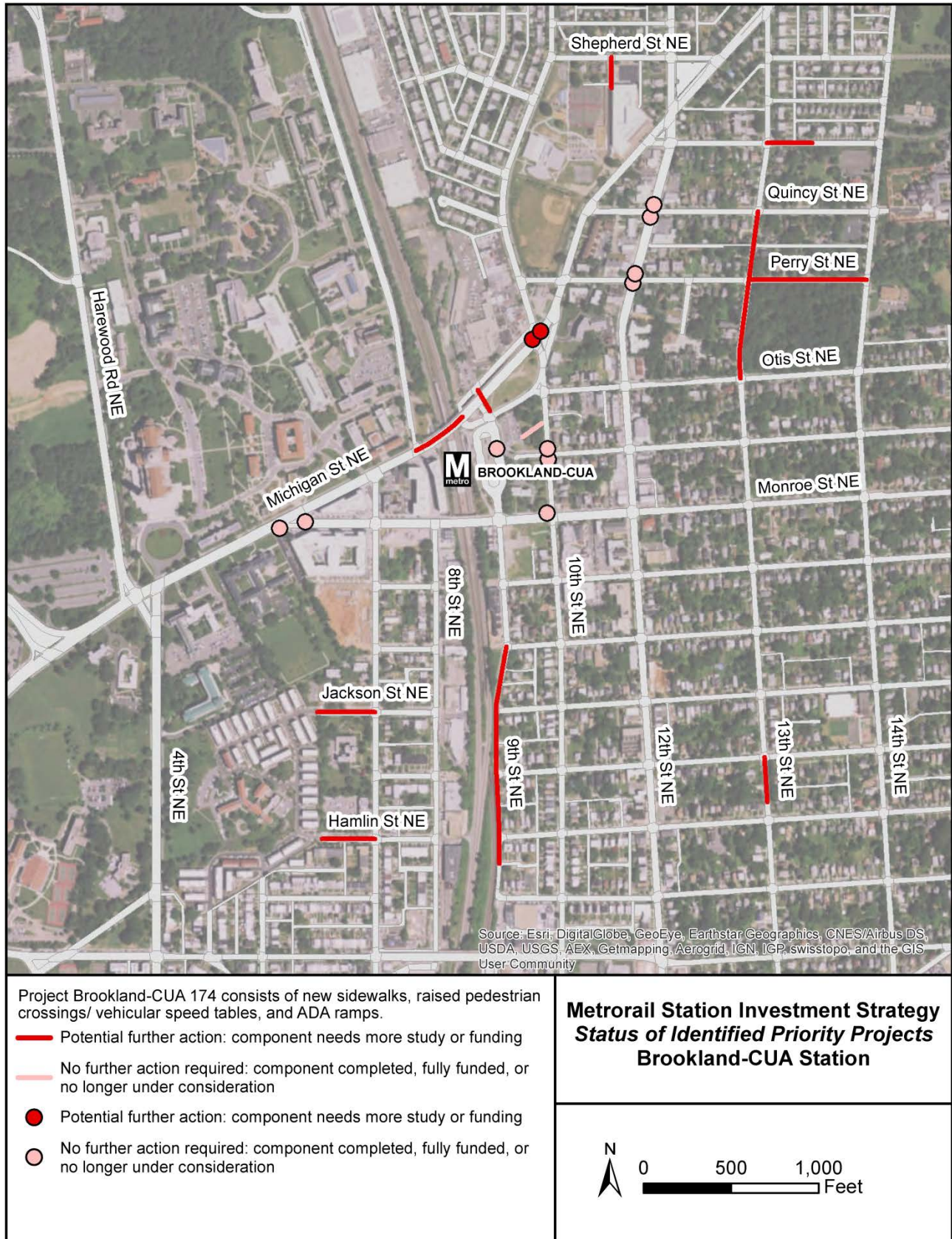
**Station: Benning Rd**

**Project Number: 219**

**Project Description: consists of bike lanes**

Criteria	Result	Score	Weighted Score
Safety	48 crashes	4	16
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	4,649	2	4
Population and Employment Growth (2015-2040)	1,837	1	1
Path to Services	8 facilities	4	12
Low-Income Populations	100%	5	15
Changing Mode Access	55% Walk Mode Share	1	2
Ease of Implementation/Cost	\$297,310	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	0 customers	0	0
Walk Score	64	3	3
<b>Total Weighted Score</b>			<b>78</b>





	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>Brookland-CUA</b>	11	2	0	0	13	\$ 557,978
Brookland-CUA 174	11	2			13	\$ 557,978

**Station: Brookland-CUA**

**Project Number: 174**

**Project Description: consists of new sidewalks, raised pedestrian crossings/ vehicular speed tables, and ADA ramps**

Criteria	Result	Score	Weighted Score
Safety	18 crashes	2	8
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	26%	2	6
Population and Employment (2015)	5,109	2	4
Population and Employment Growth (2015-2040)	1,753	1	1
Path to Services	7 facilities	4	12
Low-Income Populations	97%	5	15
Changing Mode Access	50% Walk Mode Share	1	2
Ease of Implementation/Cost	\$605,236	4	8
MetroAccess Trips	405 trips	3	3
Neighborhood Parking	0 customers	0	0
Walk Score	83	4	4
<b>Total Weighted Score</b>			<b>78</b>





	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>Columbia Heights</b>	0	0	2	0	2	\$ 150,278
Columbia Heights 341			1		1	\$ 87,702
Columbia Heights 342			1		1	\$ 62,576

**Station: Columbia Heights**

**Project Number: 341**

**Project Description: consists of cycle tracks**

Criteria	Result	Score	Weighted Score
Safety	44 crashes	4	16
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	4,673	2	4
Population and Employment Growth (2015-2040)	1,406	1	1
Path to Services	9 facilities	4	12
Low-Income Populations	100%	5	15
Changing Mode Access	89% Walk Mode Share	1	2
Ease of Implementation/Cost	\$87,702	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	0 customers	0	0
Walk Score	97	5	5
<b>Total Weighted Score</b>			<b>80</b>



**Station: Columbia Heights**

**Project Number: 342**

**Project Description: consists of bicycle lanes**

Criteria	Result	Score	Weighted Score
Safety	81 crashes	5	20
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	4,522	2	4
Population and Employment Growth (2015-2040)	1,969	1	1
Path to Services	13 facilities	5	15
Low-Income Populations	75%	4	12
Changing Mode Access	89% Walk Mode Share	1	2
Ease of Implementation/Cost	\$62,576	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	0 customers	0	0
Walk Score	97	5	5
<b>Total Weighted Score</b>			<b>84</b>







	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>Dupont Circle</b>	0	0	8	0	8	\$ 378,133
Dupont Circle 368			8		8	\$ 378,133

**Station: Dupont Circle**

**Project Number: 368**

**Project Description: consists of bicycle lanes and cycle tracks**

Criteria	Result	Score	Weighted Score
Safety	157 crashes	5	20
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	10,402	3	6
Population and Employment Growth (2015-2040)	1,090	1	1
Path to Services	15 facilities	5	15
Low-Income Populations	54%	3	9
Changing Mode Access	83% Walk Mode Share	1	2
Ease of Implementation/Cost	\$378,133	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	0 customers	0	0
Walk Score	98	5	5
<b>Total Weighted Score</b>			<b>83</b>







	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>Foggy Bottom-GWU</b>	0	0	5	0	5	\$ 145,496
Foggy Bottom-GWU 679			5		5	\$ 145,496

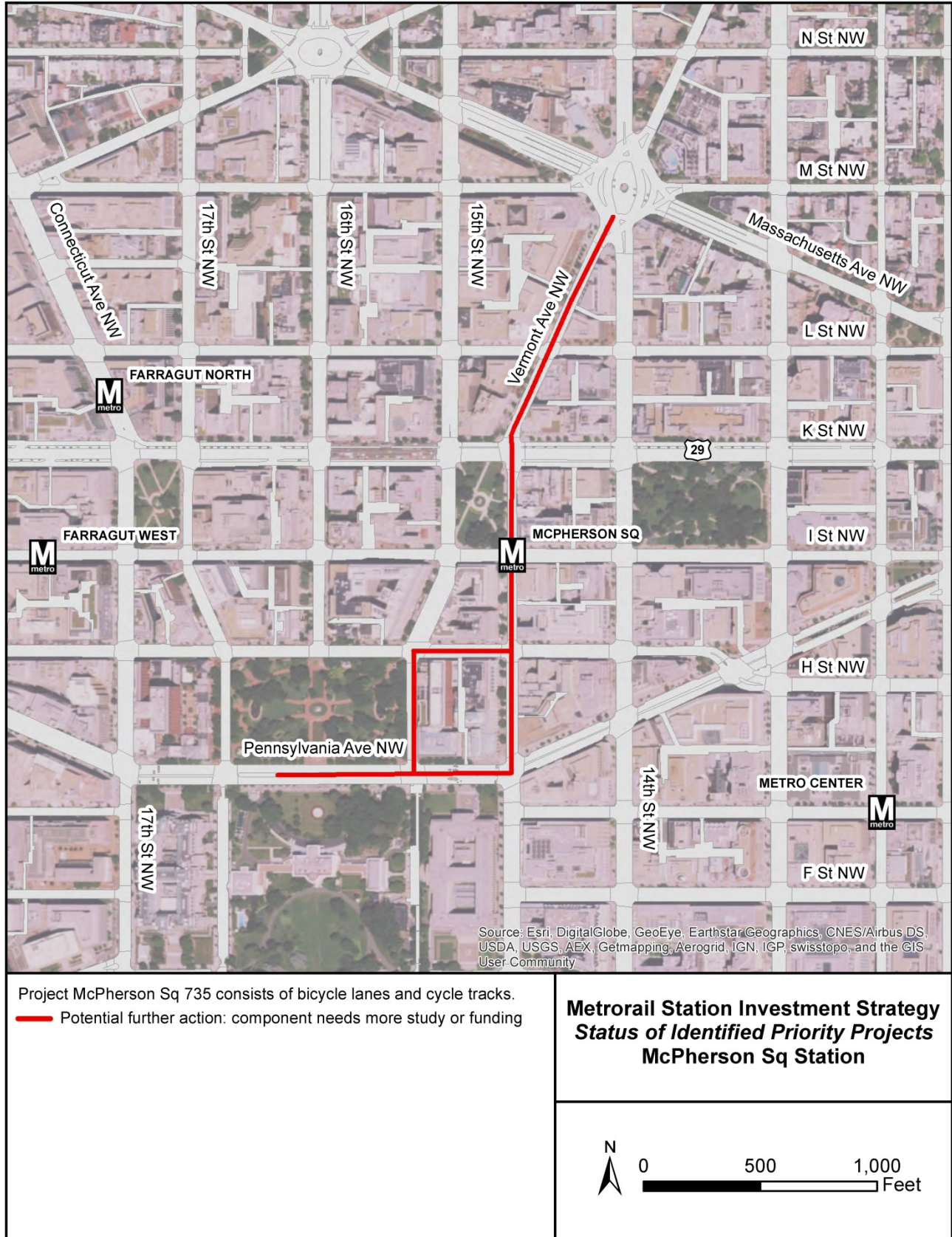
**Station: Foggy Bottom-GWU**

**Project Number: 679**

**Project Description: consists of bicycle lanes**

Criteria	Result	Score	Weighted Score
Safety	88 crashes	5	20
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	14,558	4	8
Population and Employment Growth (2015-2040)	1,411	1	1
Path to Services	17 facilities	5	15
Low-Income Populations	79%	4	12
Changing Mode Access	71% Walk Mode Share	1	2
Ease of Implementation/Cost	\$145,496	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	0 customers	0	0
Walk Score	97	5	5
<b>Total Weighted Score</b>			<b>88</b>





	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>McPherson Sq</b>	0	0	6	0	6	\$ 141,444
McPherson Sq 735			6		6	\$ 141,444

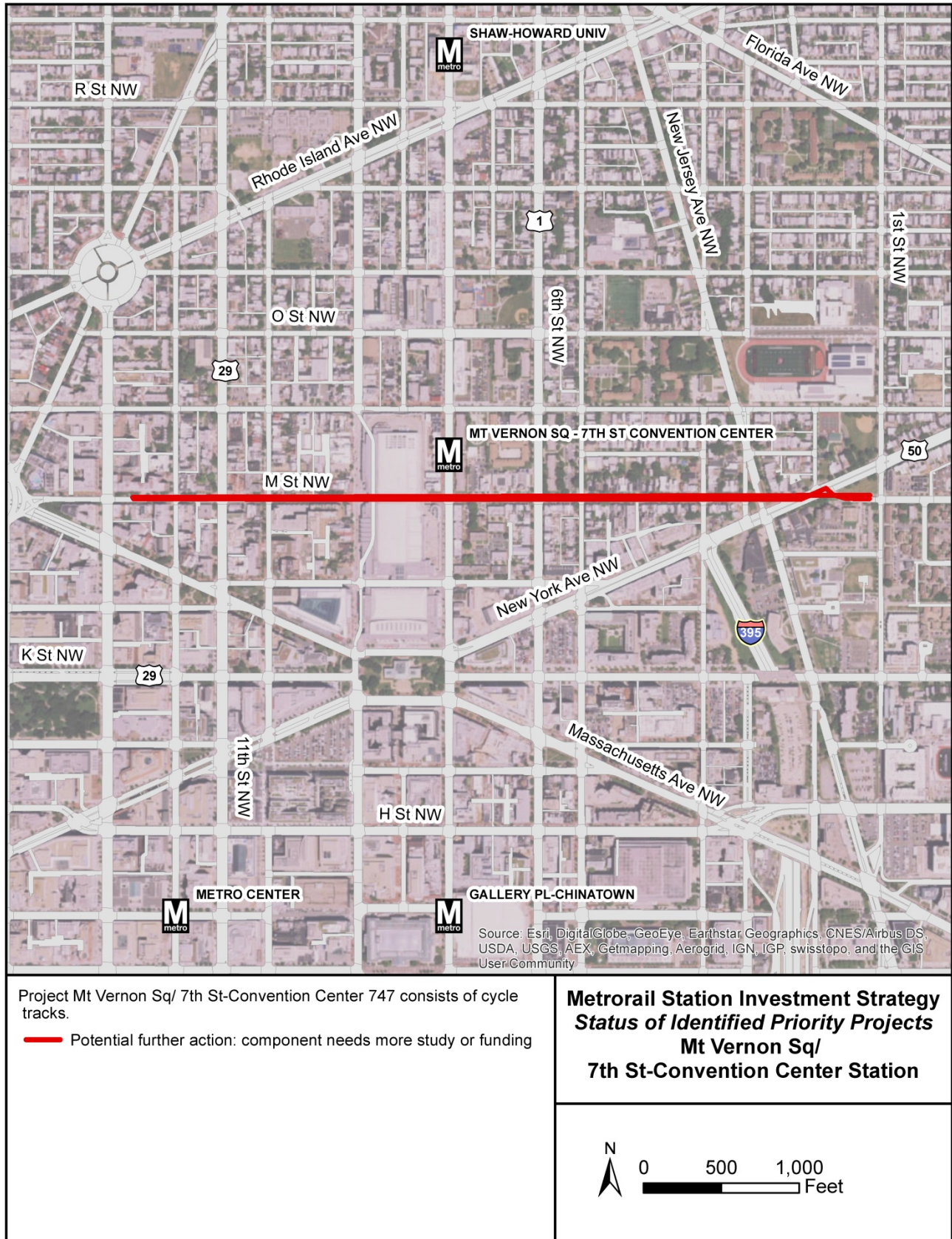
**Station: McPherson Sq**

**Project Number: 735**

**Project Description: consists of bicycle lanes and cycle tracks**

Criteria	Result	Score	Weighted Score
Safety	62 crashes	4	16
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	22,188	5	10
Population and Employment Growth (2015-2040)	772	1	1
Path to Services	7 facilities	4	12
Low-Income Populations	87%	5	15
Changing Mode Access	61% Walk Mode Share	1	2
Ease of Implementation/Cost	\$141,444	5	10
MetroAccess Trips	trips	0	0
Neighborhood Parking	0 customers	0	0
Walk Score	94	5	5
<b>Total Weighted Score</b>			<b>86</b>









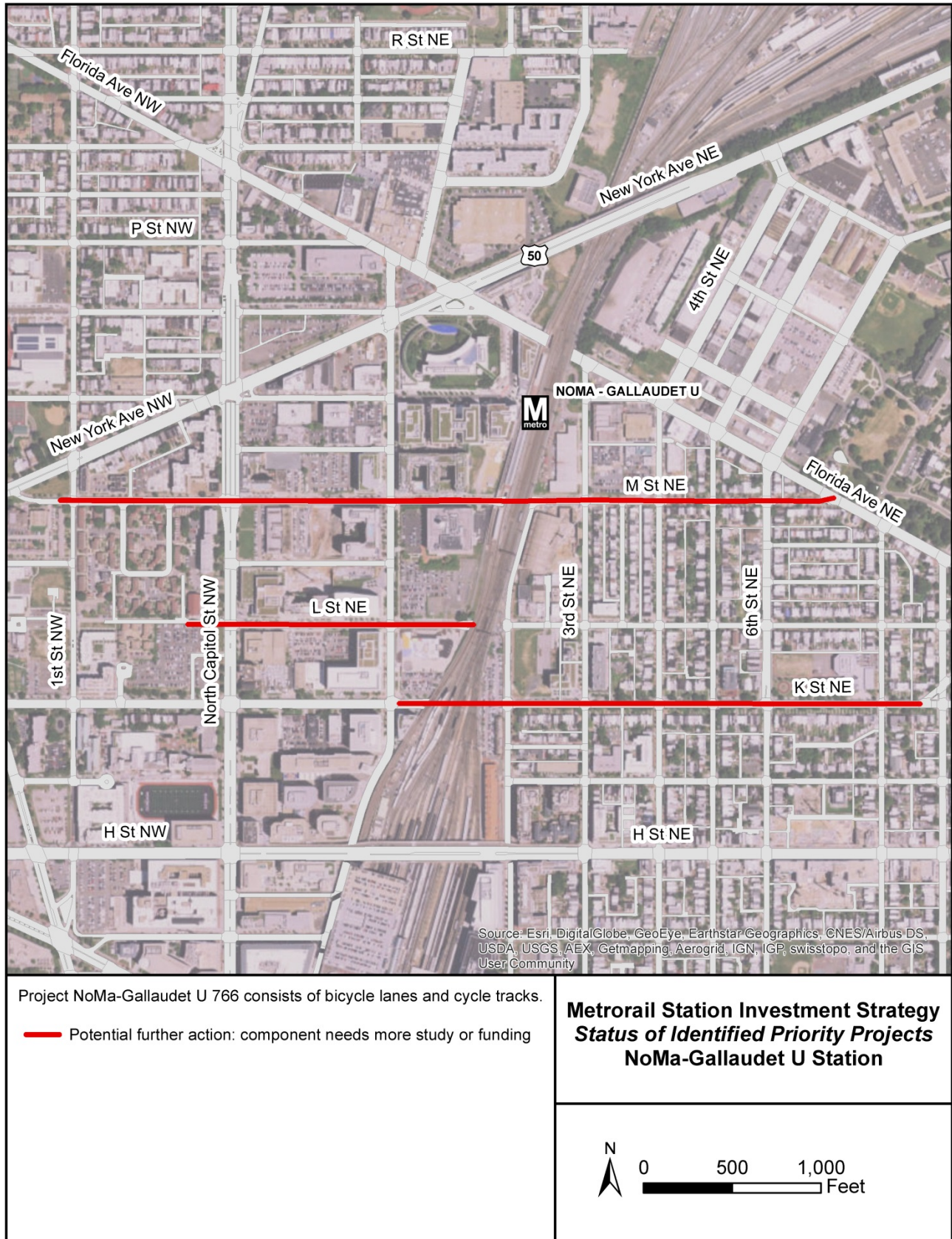
	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>Mt. Vernon Sq/ 7th St- Convention Center</b>	0	0	2	0	2	\$ 402,505
Mt Vernon Sq/ 7th St- Convention Center 747			2		2	\$ 402,505

**Station: Mt Vernon Sq/ 7th St-Convention  
Center**

**Project Number: 747**

**Project Description: consists of cycle tracks**

Criteria	Result	Score	Weighted Score
Safety	53 crashes	4	16
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	7,212	2	4
Population and Employment Growth (2015-2040)	3,291	2	2
Path to Services	7 facilities	4	12
Low-Income Populations	100%	5	15
Changing Mode Access	95% Walk Mode Share	1	2
Ease of Implementation/Cost	\$402,505	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	0 customers	0	0
Walk Score	95	5	5
<b>Total Weighted Score</b>			<b>81</b>





	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>NoMa-Gallaudet U</b>	0	0	4	0	4	\$ 344,713
NoMa-Gallaudet U 766			4		4	\$ 344,713

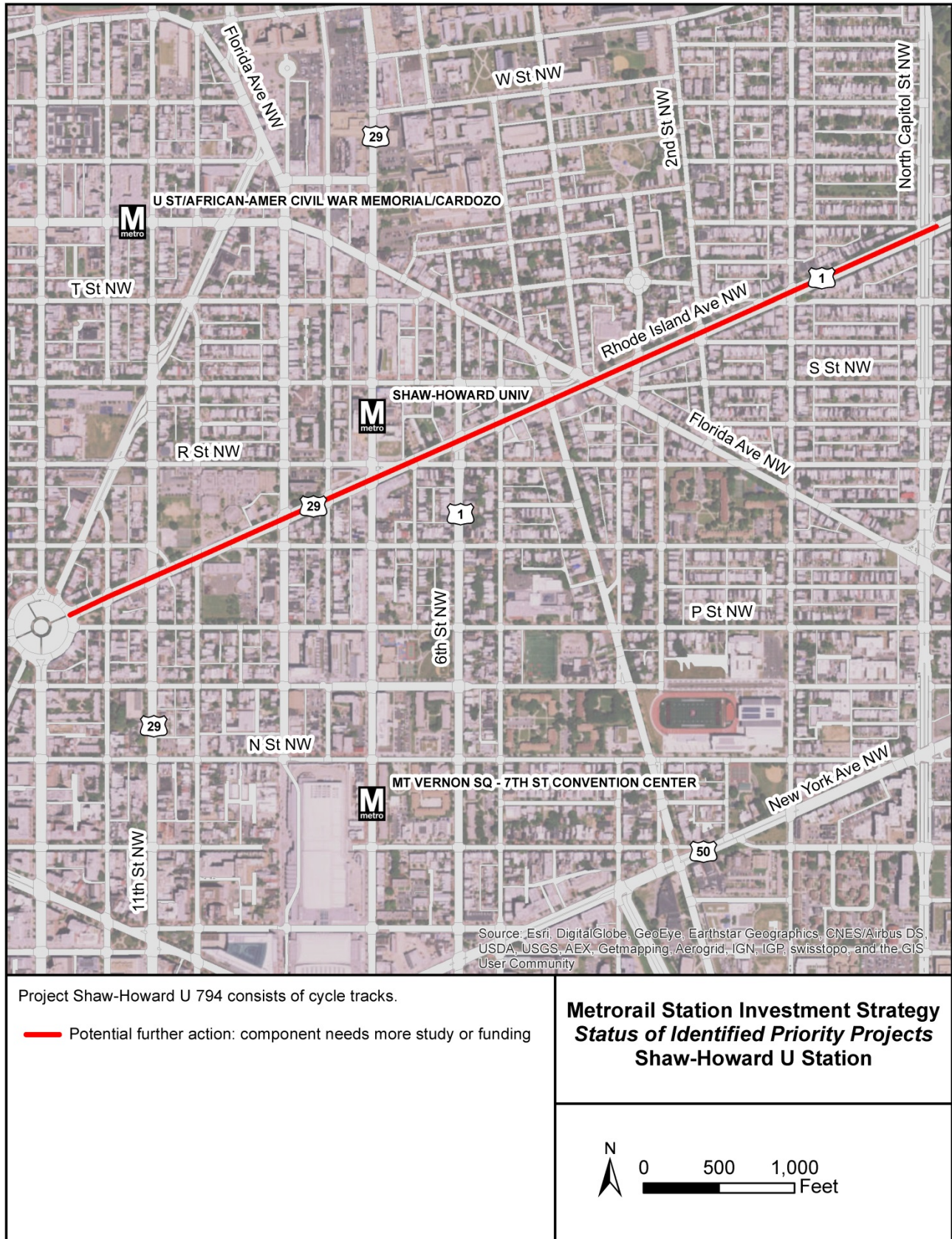
**Station: NoMa-Gallaudet U**

**Project Number: 766**

**Project Description: consists of bicycle lanes and cycle tracks**

Criteria	Result	Score	Weighted Score
Safety	51 crashes	4	16
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	15,217	4	8
Population and Employment Growth (2015-2040)	10,154	4	4
Path to Services	4 facilities	3	9
Low-Income Populations	60%	3	9
Changing Mode Access	79% Walk Mode Share	1	2
Ease of Implementation/Cost	\$344,713	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	0 customers	0	0
Walk Score	93	5	5
<b>Total Weighted Score</b>			<b>78</b>







	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>Shaw-Howard U</b>	0	0	1	0	1	\$ 266,643
Shaw-Howard U 794			1		1	\$ 266,643

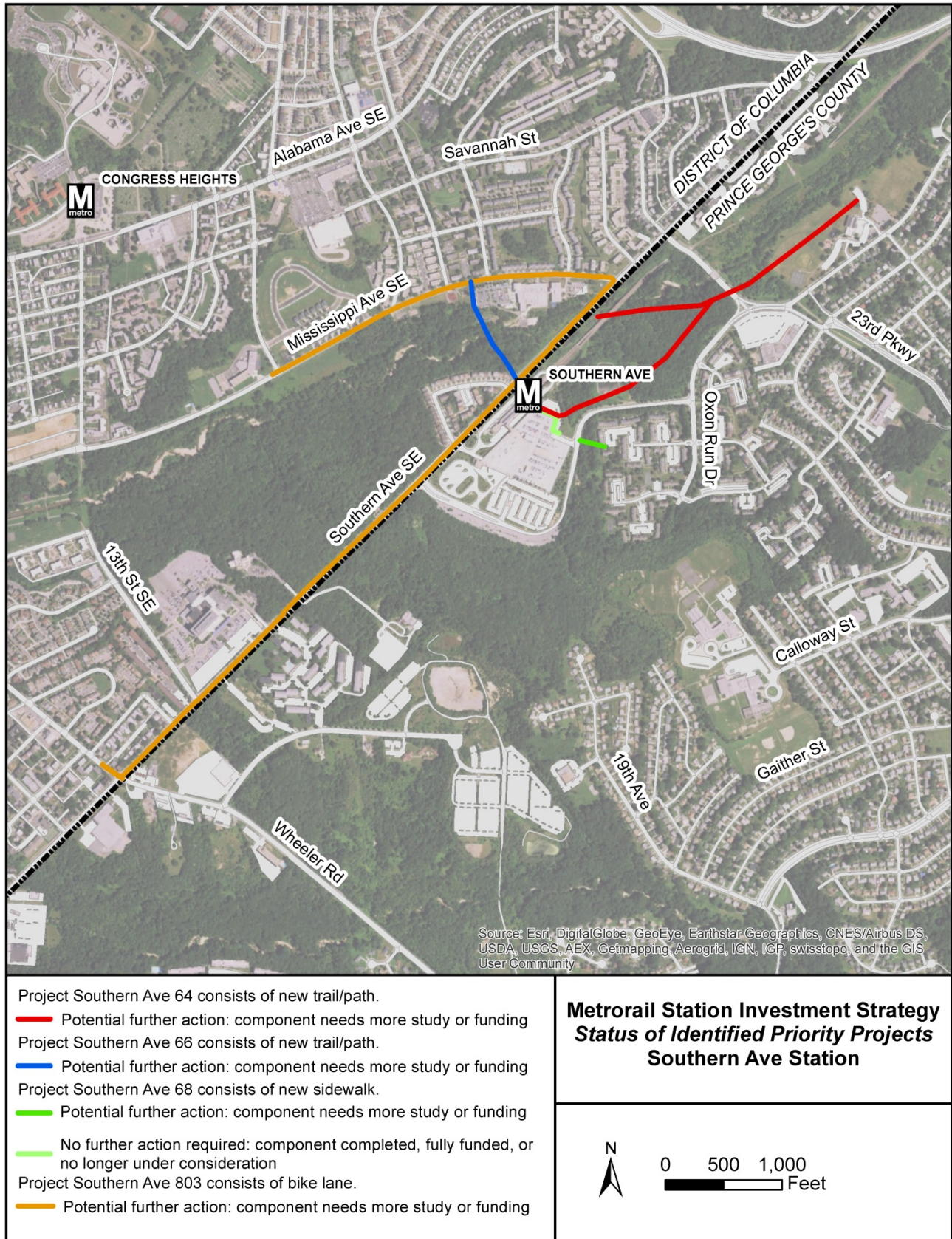
**Station: Shaw-Howard U**

**Project Number: 794**

**Project Description: consists of cycle tracks**

Criteria	Result	Score	Weighted Score
Safety	62 crashes	4	16
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	5,547	2	4
Population and Employment Growth (2015-2040)	1,487	1	1
Path to Services	11 facilities	4	12
Low-Income Populations	100%	5	15
Changing Mode Access	88% Walk Mode Share	1	2
Ease of Implementation/Cost	\$266,643	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	0 customers	0	0
Walk Score	96	5	5
<b>Total Weighted Score</b>			<b>80</b>







	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>Southern Ave</b>	1	0	2	0	3	\$ 575,075
Southern Ave 66	1				1	\$ 452,873
Southern Ave 803			2		2	\$ 122,202

**Station: Southern Ave**

**Project Number: 66**

**Project Description: consists of new trail/path**

Criteria	Result	Score	Weighted Score
Safety	0 crashes	1	4
Quantifiable Ridership	244 new daily riders	5	20
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	61%	4	12
Population and Employment (2015)	4,716	2	4
Population and Employment Growth (2015-2040)	930	1	1
Path to Services	2 facilities	2	6
Low-Income Populations	100%	5	15
Changing Mode Access	62% Walk Mode Share	4	8
Ease of Implementation/Cost	\$452,873	5	10
MetroAccess Trips	537 trips	4	4
Neighborhood Parking	128 customers	4	4
Walk Score	52	3	3
<b>Total Weighted Score</b>			<b>106</b>



Station: Southern Ave

Project Number: 803

Project Description: consists of bike lane

Criteria	Result	Score	Weighted Score
Safety	13 crashes	2	8
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	4,716	2	4
Population and Employment Growth (2015-2040)	1,773	1	1
Path to Services	5 facilities	3	9
Low-Income Populations	100%	5	15
Changing Mode Access	62% Walk Mode Share	4	8
Ease of Implementation/Cost	\$122,202	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	128 customers	4	4
Walk Score	52	3	3
Total Weighted Score			77







	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>U St/ African American Civil War Memorial/ Cardozo</b>	0	0	4	0	4	\$ 48,084
U St/ African American Civil War Memorial/ Cardozo 822			4		4	\$ 48,084

**Station: U St - African American Civil War Memorial - Cardozo**

**Project Number: 822**

**Project Description: consists of cycle tracks**

Criteria	Result	Score	Weighted Score
Safety	61 crashes	4	16
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	5,545	2	4
Population and Employment Growth (2015-2040)	3,646	2	2
Path to Services	6 facilities	3	9
Low-Income Populations	100%	5	15
Changing Mode Access	94% Walk Mode Share	1	2
Ease of Implementation/Cost	\$48,084	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	0 customers	0	0
Walk Score	99	5	5
<b>Total Weighted Score</b>			<b>78</b>







	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>Union Station</b>	0	2	3	0	5	\$ 163,423
Union Station 672		2	3		5	\$ 163,423

**Station: Union Station**

**Project Number: 672**

**Project Description: consists of bicycle lanes, cycle tracks, and pedestrian-only signal phases**

Criteria	Result	Score	Weighted Score
Safety	37 crashes	3	12
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	15,217	4	8
Population and Employment Growth (2015-2040)	10,154	4	4
Path to Services	4 facilities	3	9
Low-Income Populations	57%	3	9
Changing Mode Access	18% Walk Mode Share	2	4
Ease of Implementation/Cost	\$163,423	5	10
MetroAccess Trips	422 trips	3	3
Neighborhood Parking	0 customers	0	0
Walk Score	96	5	5
<b>Total Weighted Score</b>			<b>79</b>



## FAIRFAX COUNTY

Fairfax County reviewed 50 priority projects and identified 26 projects as still active. Like many of the other jurisdictions, the majority of priority projects in Fairfax County are on-street bicycle facilities. New and improved trails in the Franconia-Springfield station area represent the second largest portion of priority projects still active in Fairfax County and account for the largest estimated cost in the County.

	Potential Further Action			
	Designed, not funded	Needs more study	Partial Funding	Total
<b>Fairfax County</b>	0	24	2	26
Dunn Loring-Merrifield		12		12
Franconia-Springfield		7	2	9
Greensboro		1		1
Huntington		3		3
West Falls Church		1		1

	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>Fairfax County</b>	9	2	14	1	26	\$ 5,782,450
Dunn Loring-Merrifield			12		12	\$ 363,544
Franconia-Springfield	8			1	9	\$ 4,689,511
Greensboro	1				1	\$ 727,319
Huntington		1	2		3	\$ 1,873
West Falls Church		1			1	\$ 203









	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>Dunn Loring-Merrifield</b>	0	0	12	0	12	\$ 363,544
Dunn Loring-Merrifield 363			12		12	\$ 363,544

**Station: Dunn Loring**

**Project Number: 363**

**Project Description: consists of new bike lane, climbing lane, and sharrows**

Criteria	Result	Score	Weighted Score
Safety	25 crashes	3	12
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	8,442	3	6
Population and Employment Growth (2015-2040)	8,468	4	4
Path to Services	4 facilities	3	9
Low-Income Populations	0%	0	0
Changing Mode Access	24% Walk Mode Share	1	2
Ease of Implementation/Cost	\$363,544	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	124 customers	4	4
Walk Score	57	3	3
<b>Total Weighted Score</b>			<b>65</b>



Project Franconia-Springfield 16 consists of repairing/resurfacing existing trail/path and widening trail/path.

- Potential further action: component needs more study or
- No further action required: component completed, fully funded, or no longer under consideration

Project Franconia-Springfield 18 consists of new trail/path and repairing/resurfacing existing trail/path.

- Potential further action: component needs more study or
- No further action required: component completed, fully funded, or no longer under consideration

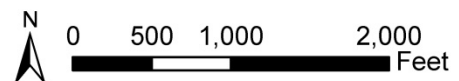
Project Franconia-Springfield 19 consists of new trail/path.

- No further action required: component completed, fully funded, or no longer under consideration

Project Franconia-Springfield 687 consists of new bike parking facility and improving existing bike parking facility.

- Potential further action: component needs more study or funding
- No further action required: component completed, fully funded, or no longer under consideration

## Metrolink Station Investment Strategy Status of Identified Priority Projects Franconia-Springfield Station





	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>Franconia-Springfield</b>	8	0	0	1	9	\$ 4,689,511
Franconia-Springfield 16	5				5	\$ 1,337,811
Franconia-Springfield 18	3				3	\$ 3,342,886
Franconia-Springfield 687				1	1	\$ 8,814

**Station: Franconia-Springfield**

**Project Number: 16**

**Project Description: consists of repairing/resurfacing existing trail/path and widening trail/path**

Criteria	Result	Score	Weighted Score
Safety	9 crashes	1	4
Quantifiable Ridership	0 new daily riders	0	0
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	4,454	2	4
Population and Employment Growth (2015-2040)	6,926	3	3
Path to Services	2 facilities	2	6
Low-Income Populations	100%	5	15
Changing Mode Access	5% Walk Mode Share	5	10
Ease of Implementation/Cost	\$1,527,962	3	6
MetroAccess Trips	178 trips	2	2
Neighborhood Parking	174 customers	5	5
Walk Score	24	1	1
<b>Total Weighted Score</b>			<b>71</b>



## Metrolink Station Investment Strategy

**Station: Franconia-Springfield**

**Project Number: 18**

**Project Description: consists of new trail/path and repairing/resurfacing existing trail/path**

Criteria	Result	Score	Weighted Score
Safety	3 crashes	1	4
Quantifiable Ridership	40 new daily riders	2	8
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	21%	2	6
Population and Employment (2015)	1,909	1	2
Population and Employment Growth (2015-2040)	2,770	2	2
Path to Services	3 facilities	2	6
Low-Income Populations	100%	5	15
Changing Mode Access	5% Walk Mode Share	5	10
Ease of Implementation/Cost	\$3,681,570	2	4
MetroAccess Trips	184 trips	2	2
Neighborhood Parking	174 customers	5	5
Walk Score	24	1	1
<b>Total Weighted Score</b>			<b>80</b>

**Station: Franconia-Springfield**

**Project Number: 19**

**Project Description: consists of new trail/path**

Criteria	Result	Score	Weighted Score
Safety	0 crashes	1	4
Quantifiable Ridership	0 new daily riders	0	0
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	1,909	1	2
Population and Employment Growth (2015-2040)	2,770	2	2
Path to Services	0 facilities	1	3
Low-Income Populations	100%	5	15
Changing Mode Access	5% Walk Mode Share	5	10
Ease of Implementation/Cost	\$319,787	5	10
MetroAccess Trips	153 trips	2	2
Neighborhood Parking	174 customers	5	5
Walk Score	24	1	1
<b>Total Weighted Score</b>			<b>69</b>



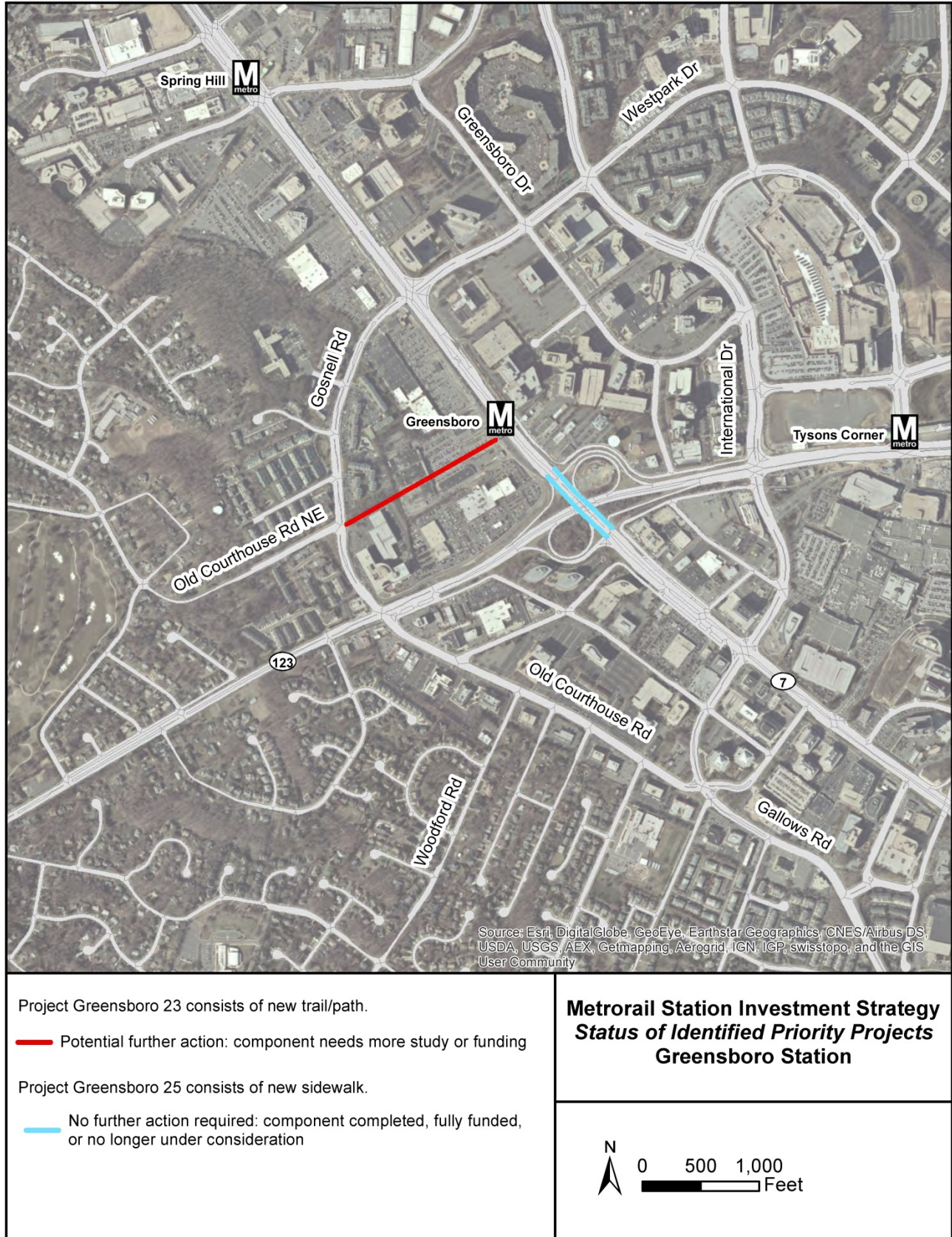


**Station: Franconia-Springfield**

**Project Number: 687**

**Project Description: consists of new bike parking and improving existing bike parking**

Criteria	Result	Score	Weighted Score
Safety	0 crashes	1	4
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	1,909	1	2
Population and Employment Growth (2015-2040)	2,770	2	2
Path to Services	0 facilities	1	3
Low-Income Populations	100%	5	15
Changing Mode Access	5% Walk Mode Share	5	10
Ease of Implementation/Cost	\$17,627	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	174 customers	5	5
Walk Score	24	1	1
<b>Total Weighted Score</b>			<b>67</b>





	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>Greensboro</b>	1	0	0	0	1	\$ 727,319
Greensboro 23	1				1	\$ 727,319

**Station: Greensboro**

**Project Number: 23**

**Project Description: consists of new trail/path**

Criteria	Result	Score	Weighted Score
Safety	0 crashes	1	4
Quantifiable Ridership	65 new daily riders	3	12
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	31%	3	9
Population and Employment (2015)	2,270	1	2
Population and Employment Growth (2015-2040)	8,812	4	4
Path to Services	0 facilities	1	3
Low-Income Populations	0%	0	0
Changing Mode Access	0% Walk Mode Share	0	0
Ease of Implementation/Cost	\$727,319	4	8
MetroAccess Trips	215 trips	2	2
Neighborhood Parking	0 customers	0	0
Walk Score	61	3	3
<b>Total Weighted Score</b>			<b>62</b>



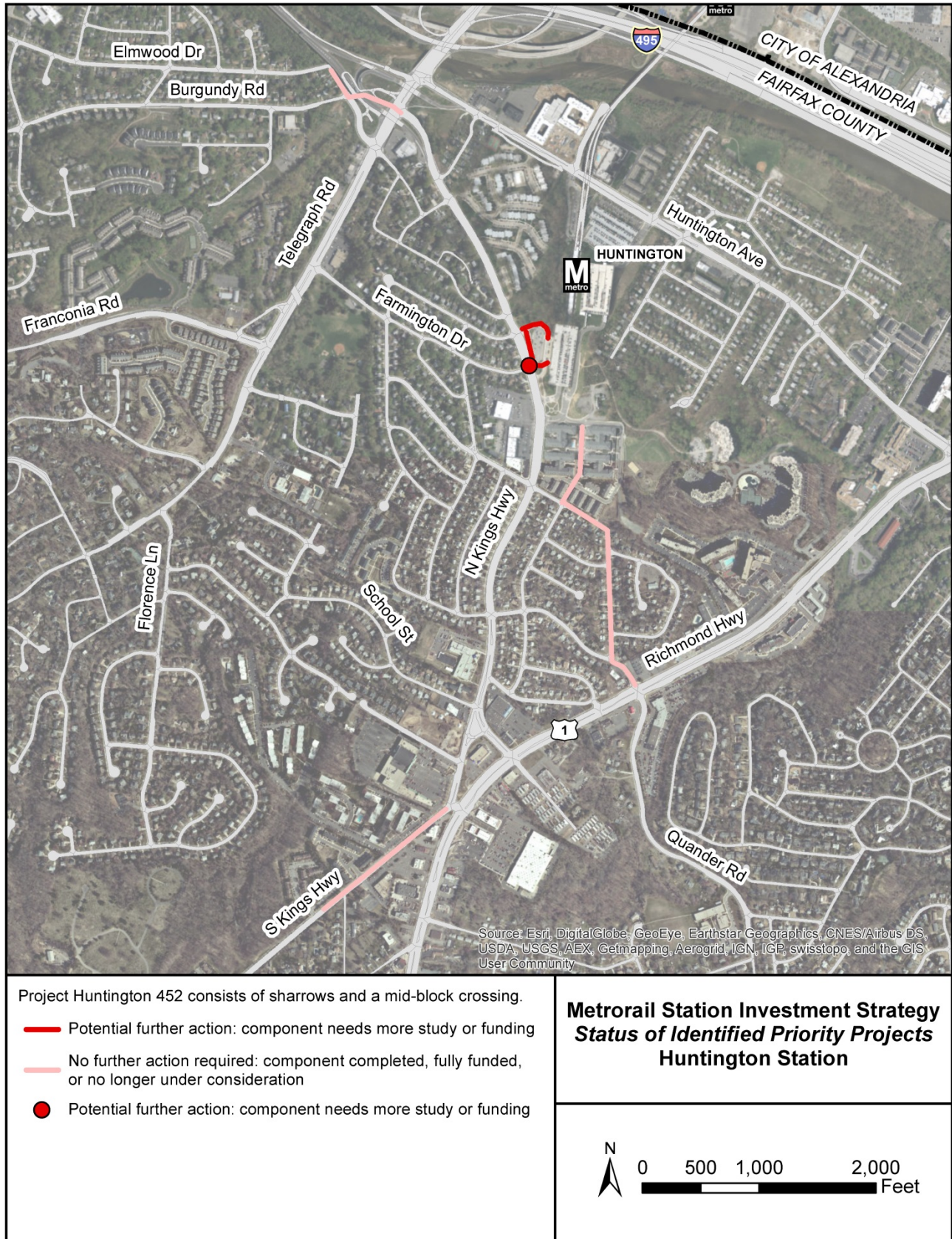
**Station: Greensboro**

**Project Number: 25**

**Project Description: consists of new sidewalk**

Criteria	Result	Score	Weighted Score
Safety	0 crashes	1	4
Quantifiable Ridership	736 new daily riders	5	20
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	55%	3	9
Population and Employment (2015)	6,333	2	4
Population and Employment Growth (2015-2040)	8,916	4	4
Path to Services	0 facilities	1	3
Low-Income Populations	0%	0	0
Changing Mode Access	0% Walk Mode Share	0	0
Ease of Implementation/Cost	\$155,371	5	10
MetroAccess Trips	2 trips	1	1
Neighborhood Parking	0 customers	0	0
Walk Score	61	3	3
<b>Total Weighted Score</b>			<b>73</b>







	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>Huntington</b>	0	1	2	0	3	\$ 1,873
Huntington 452		1	2		3	\$ 1,873

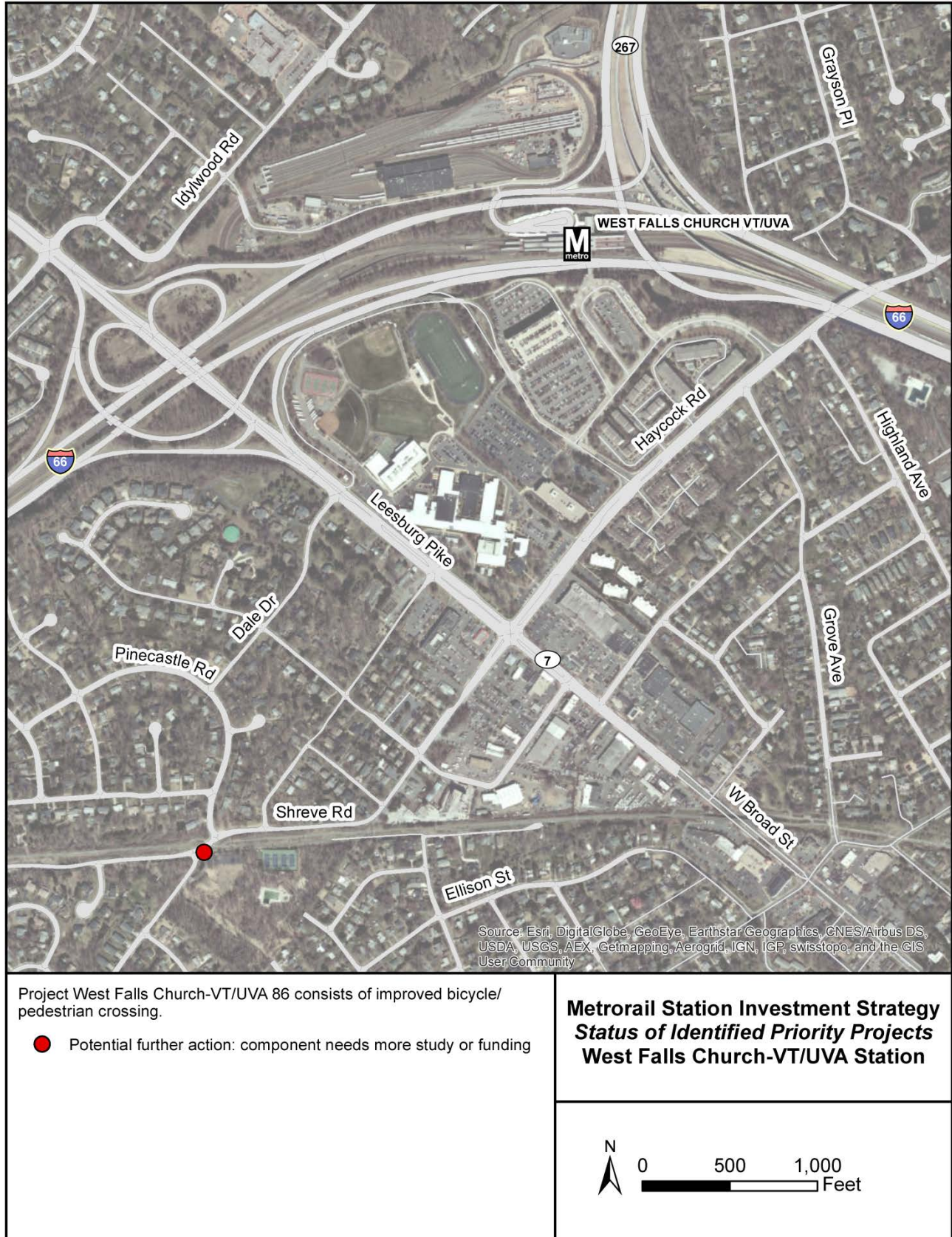
**Station: Huntington**

**Project Number: 452**

**Project Description: consists of sharrows and a mid-block crossing**

Criteria	Result	Score	Weighted Score
Safety	12 crashes	2	8
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	8,318	3	6
Population and Employment Growth (2015-2040)	2,812	2	2
Path to Services	2 facilities	2	6
Low-Income Populations	25%	2	6
Changing Mode Access	21% Walk Mode Share	1	2
Ease of Implementation/Cost	\$11,617	5	10
MetroAccess Trips	16 trips	1	1
Neighborhood Parking	241 customers	5	5
Walk Score	52	3	3
<b>Total Weighted Score</b>			<b>64</b>







	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>West Falls Church-VT/UVA</b>	0	1	0	0	1	\$ 203
West Falls Church-VT/UVA 86		1			1	\$ 203

**Station: West Falls Church-VT/UVA**

**Project Number: 86**

**Project Description: consists of improved bicycle/pedestrian crossing**

Criteria	Result	Score	Weighted Score
Safety	3 crashes	1	4
Quantifiable Ridership	0 new daily riders	0	0
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	5,579	2	4
Population and Employment Growth (2015-2040)	1,677	1	1
Path to Services	2 facilities	2	6
Low-Income Populations	53%	3	9
Changing Mode Access	6.4% Walk Mode Share	4	8
Ease of Implementation/Cost	\$724,136	4	8
MetroAccess Trips	121 trips	2	2
Neighborhood Parking	272 customers	5	5
Walk Score	36	2	2
<b>Total Weighted Score</b>			<b>64</b>



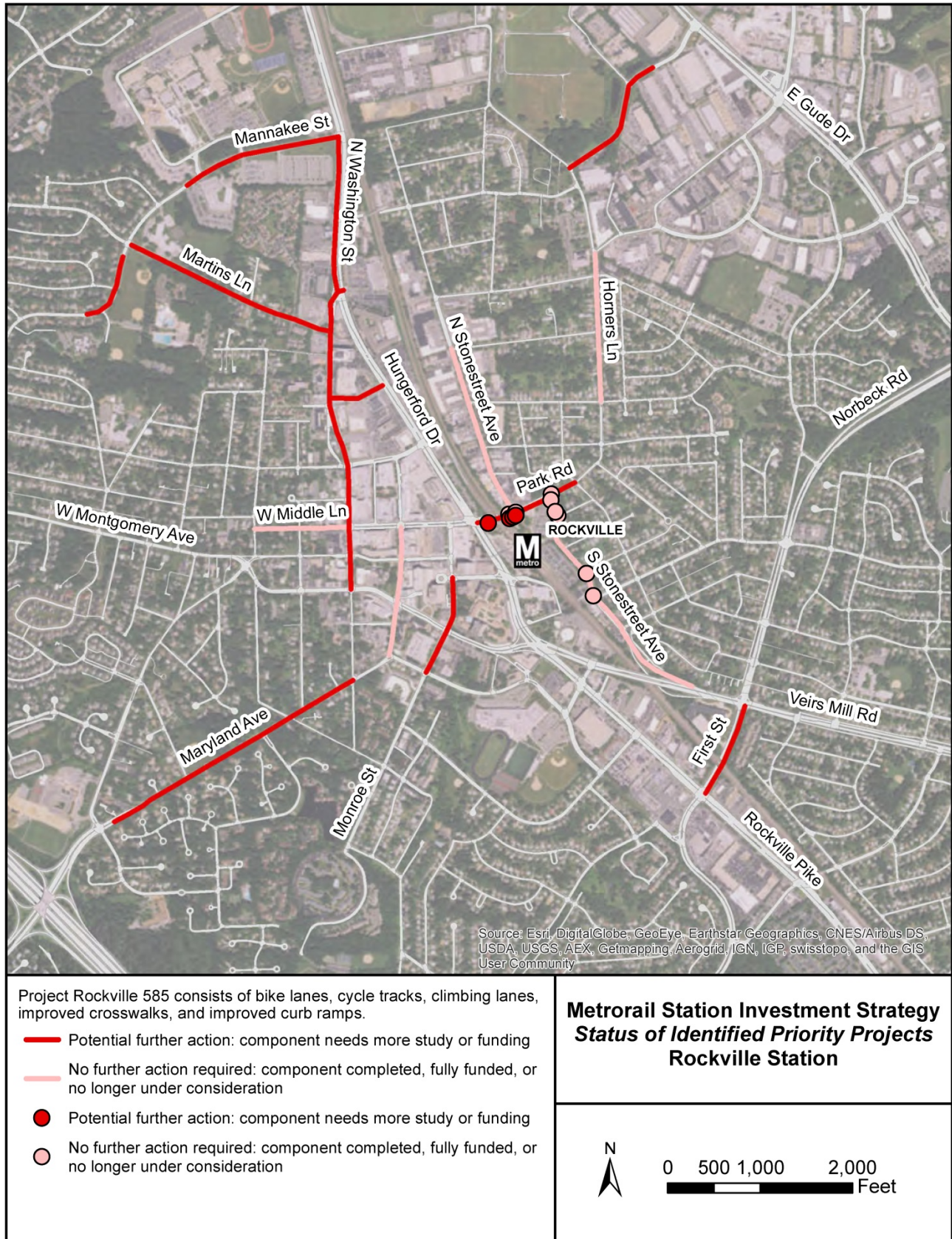


## MONTGOMERY COUNTY

Staff from Montgomery County and the City of Rockville reviewed 70 priority projects. Twenty-one had been completed or were no longer under consideration, leaving 49 active projects. The majority of the remaining projects are on-street bicycle facilities. In the Silver Spring station area, many of the identified priority projects have been replaced by projects proposed for the Silver Spring Central Business District's *Bicycle and Pedestrian Priority Area*. As of the release of this report, funding had been secured for many of these projects; therefore, they are no longer shown as active.

	Potential Further Action			
	Designed, not funded	Needs more study	Partial Funding	Total
<b>Montgomery County</b>	0	49	0	49
Rockville		15		15
Silver Spring		1		1
Wheaton		33		33

	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>Montgomery County</b>	1	5	42	1	49	\$ 1,274,809
Rockville		4	11		15	\$ 328,976
Silver Spring		1			1	\$ 8,222
Wheaton	1		31	1	33	\$ 937,611





	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>Rockville</b>	0	4	11	0	15	\$ 328,976
Rockville 585		4	11		15	\$ 328,976

**Station: Rockville**

**Project Number: 585**

**Project Description: consists of bike lanes, cycle tracks, climbing lanes, improved crosswalks, and improved curb ramps**

Criteria	Result	Score	Weighted Score
Safety	27 crashes	3	12
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	13,287	4	8
Population and Employment Growth (2015-2040)	8,358	4	4
Path to Services	14 facilities	5	15
Low-Income Populations	47%	3	9
Changing Mode Access	26% Walk Mode Share	1	2
Ease of Implementation/Cost	\$441,677	5	10
MetroAccess Trips	379 trips	3	3
Neighborhood Parking	48 customers	2	2
Walk Score	88	4	4
<b>Total Weighted Score</b>			<b>84</b>









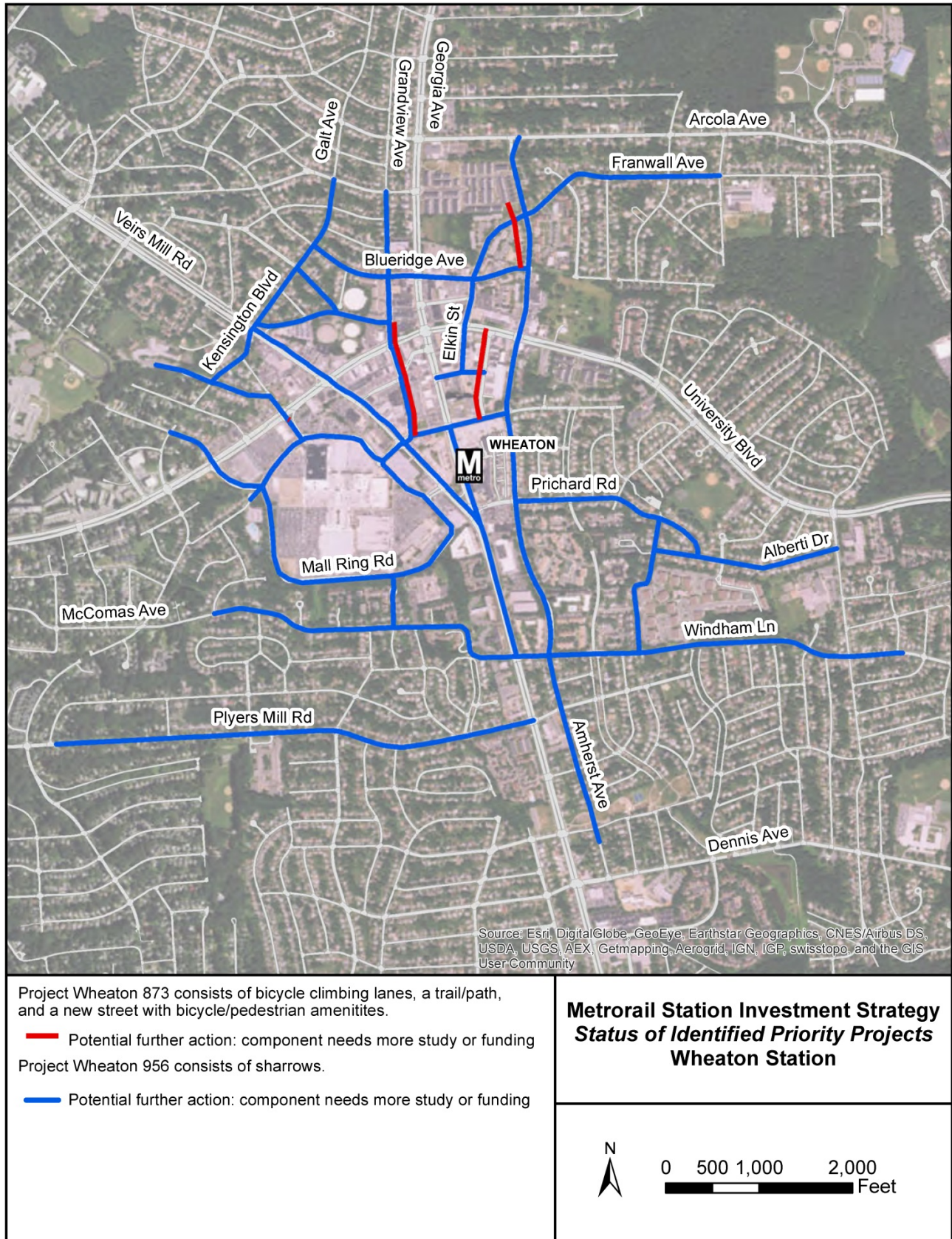
	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>Silver Spring</b>	0	1	0	0	1	\$ 8,222
Silver Spring 797		1			1	\$ 8,222

**Station: Silver Spring**

**Project Number: 797**

**Project Description: consists of sharrows, bike pavement markings, signal, and crosswalk**

Criteria	Result	Score	Weighted Score
Safety	44 crashes	4	16
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	19,226	4	8
Population and Employment Growth (2015-2040)	8,214	4	4
Path to Services	13 facilities	5	15
Low-Income Populations	67%	4	12
Changing Mode Access	56% Walk Mode Share	1	2
Ease of Implementation/Cost	\$46,015	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	0 customers	0	0
Walk Score	93	5	5
<b>Total Weighted Score</b>			<b>87</b>





	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>Wheaton</b>	1	0	31	1	33	\$ 937,611
Wheaton 873	1		2	1	4	\$ 814,314
Wheaton 956			29		29	\$ 123,297

**Station: Wheaton**

**Project Number: 873**

**Project Description: consists of bicycle climbing lanes, a trail/path, and a new street with bicycle/pedestrian amenities.**

Criteria	Result	Score	Weighted Score
Safety	25 crashes	3	12
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	15%	2	6
Population and Employment (2015)	6,281	2	4
Population and Employment Growth (2015-2040)	4,145	3	3
Path to Services	10 facilities	4	12
Low-Income Populations	100%	5	15
Changing Mode Access	31% Walk Mode Share	1	2
Ease of Implementation/Cost	\$814,314	4	8
MetroAccess Trips	34 trips	1	1
Neighborhood Parking	65 customers	2	2
Walk Score	90	5	5
<b>Total Weighted Score</b>			<b>85</b>



Station: Wheaton

Project Number: 956

Project Description: consists of sharrows

Criteria	Result	Score	Weighted Score
Safety	41 crashes	4	16
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	6,473	2	4
Population and Employment Growth (2015-2040)	4,145	3	3
Path to Services	15 facilities	5	15
Low-Income Populations	83%	5	15
Changing Mode Access	31% Walk Mode Share	1	2
Ease of Implementation/Cost	\$123,297	5	10
MetroAccess Trips	0 trips	0	0
Neighborhood Parking	65 customers	2	2
Walk Score	90	5	5
<b>Total Weighted Score</b>			<b>87</b>

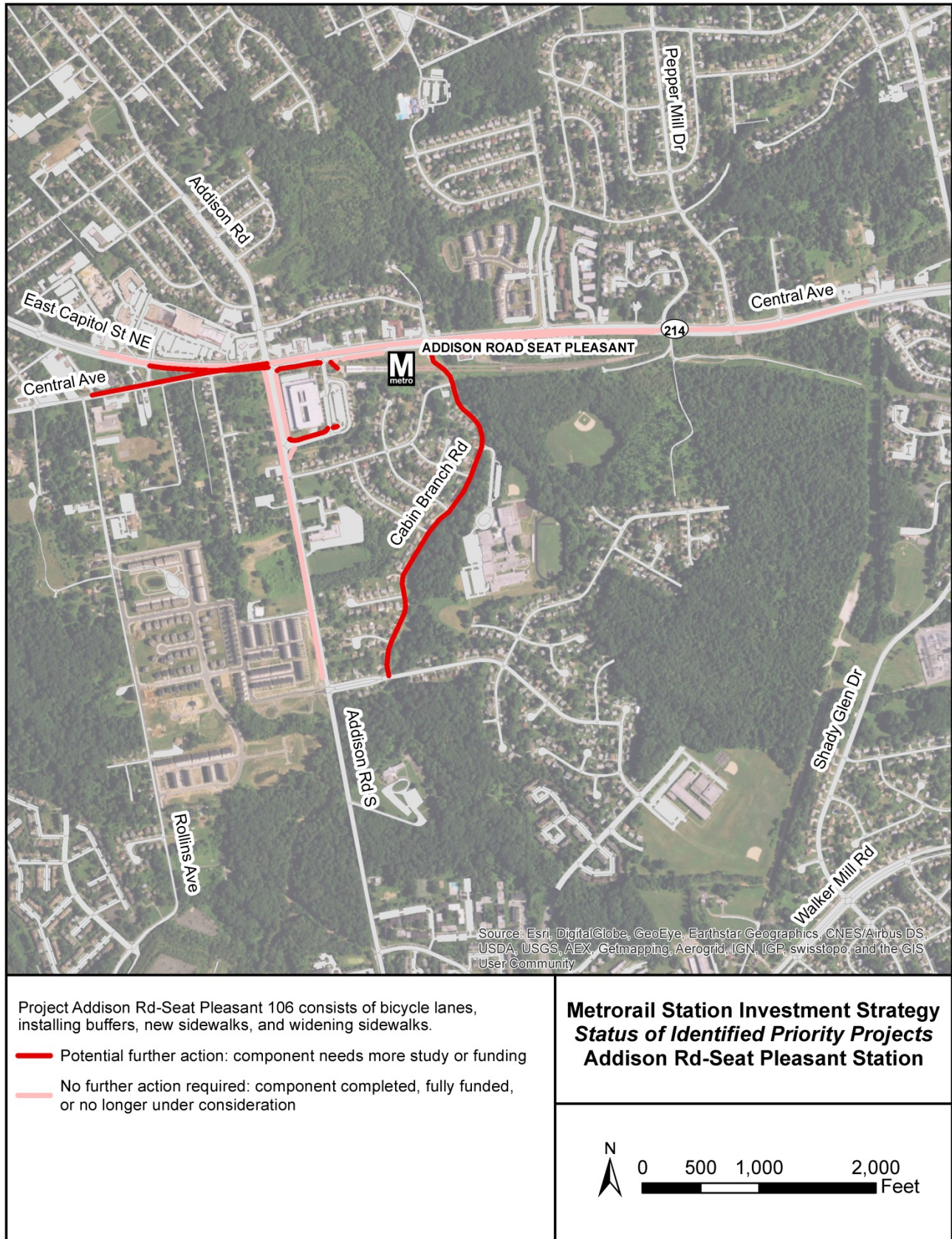


## PRINCE GEORGE'S COUNTY

Staff from Prince George's County, the City of College Park and SHA reviewed 50 priority projects and identified 23 projects as still active. Active projects in the County have a higher estimated cost than any other jurisdiction, largely driven by a pedestrian bridge and adjoining trail network in the Landover station area that would connect Landover station with neighborhoods to the northwest. While prioritization analysis of this bridge project included the connecting trail system, the estimated quantifiable ridership resulted solely from the inclusion of the pedestrian bridge portion in the pedestrian network. In other words, the ridership gains could be achieved without building the trail connections.

	Potential Further Action			
	Designed, not funded	Needs more study	Partial Funding	Total
<b>Prince George's County</b>	5	18	0	23
Addison Road-Seat Pleasant	5	7		12
Cheverly		1		1
Landover		3		3
Southern Avenue		5		5
Suitland		2		2

	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>Prince George's County</b>	20	0	3	0	23	\$ 13,569,852
Addison Road-Seat Pleasant	9		3		12	\$ 867,010
Cheverly	1				1	\$ 500,866
Landover	3				3	\$ 9,703,161
Southern Avenue	5				5	\$ 2,220,779
Suitland	2				2	\$ 278,036



	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>Addison Rd-Seat Pleasant</b>	9	0	3	0	12	\$ 867,010
Addison Rd-Seat Pleasant 106	9		3		12	\$ 867,010

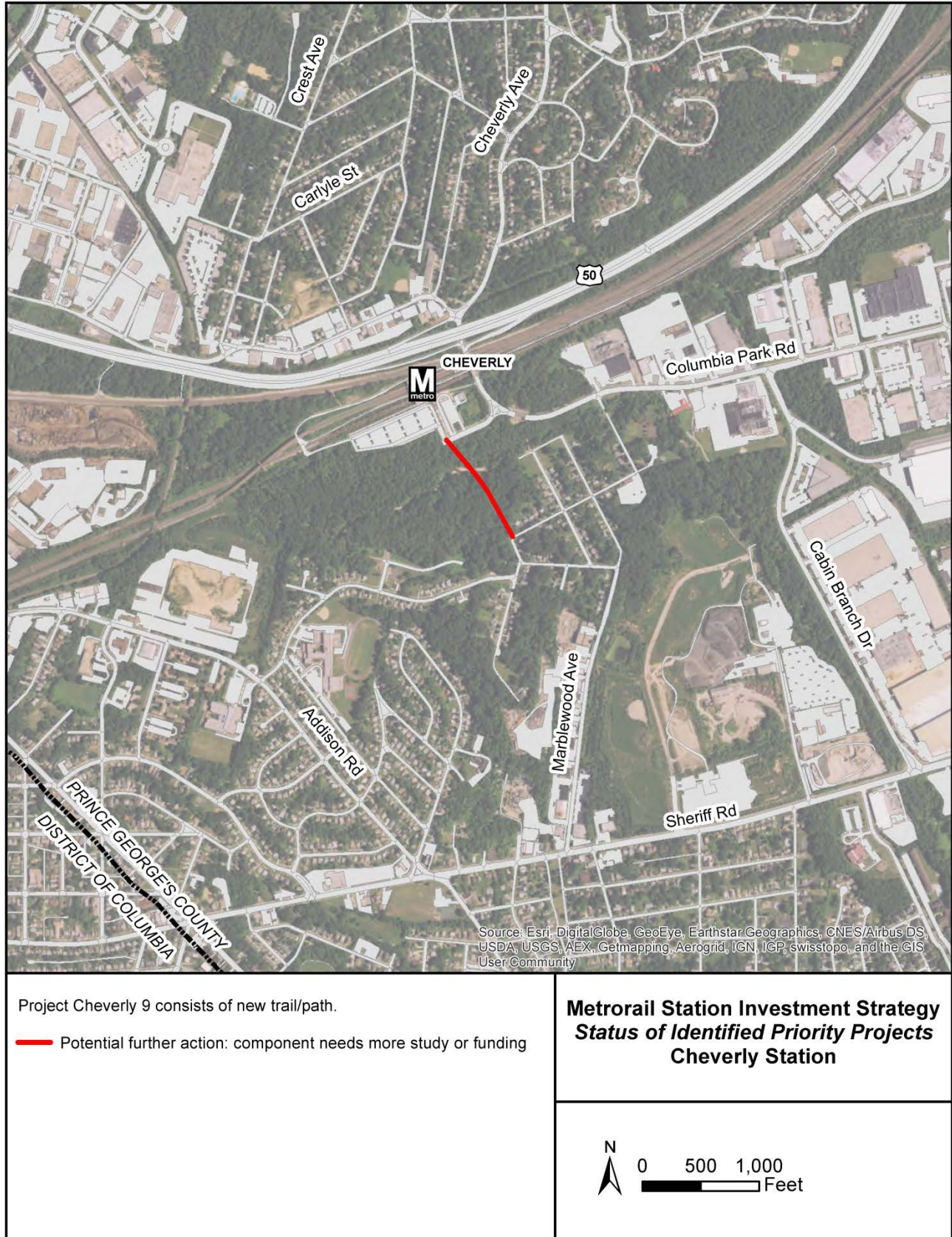
**Station: Addison Rd-Seat Pleasant**

**Project Number: 106**

**Project Description: consists of bicycle lanes, installing buffers, new sidewalks, and widening sidewalk**

Criteria	Result	Score	Weighted Score
Safety	13 crashes	2	8
Quantifiable Ridership			
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	11%	1	3
Population and Employment (2015)	1,723	1	2
Population and Employment Growth (2015-2040)	1,187	1	1
Path to Services	3 facilities	2	6
Low-Income Populations	100%	5	15
Changing Mode Access	4% Walk Mode Share	5	10
Ease of Implementation/Cost	\$994,156	4	8
MetroAccess Trips	853 trips	4	4
Neighborhood Parking	90 customers	3	3
Walk Score	56	3	3
<b>Total Weighted Score</b>			<b>78</b>







	Potential Further Action					Cost
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	
<b>Cheverly</b>	1	0	0	0	1	\$ 500,866
Cheverly 9	1				1	\$ 500,866

**Station: Cheverly**

**Project Number: 9**

**Project Description: consists of new trail/path**

Criteria	Result	Score	Weighted Score
Safety	0 crashes	1	4
Quantifiable Ridership	31 new daily riders	2	8
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	42%	3	9
Population and Employment (2015)	417	1	2
Population and Employment Growth (2015-2040)	3,908	2	2
Path to Services	0 facilities	1	3
Low-Income Populations	100%	5	15
Changing Mode Access	18% Walk Mode Share	2	4
Ease of Implementation/Cost	\$184,637	5	10
MetroAccess Trips	38 trips	1	1
Neighborhood Parking	110 customers	3	3
Walk Score	30	2	2
<b>Total Weighted Score</b>			<b>78</b>





	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>Landover</b>	3	0	0	0	3	\$ 9,703,161
Landover 30	3				3	\$ 9,703,161

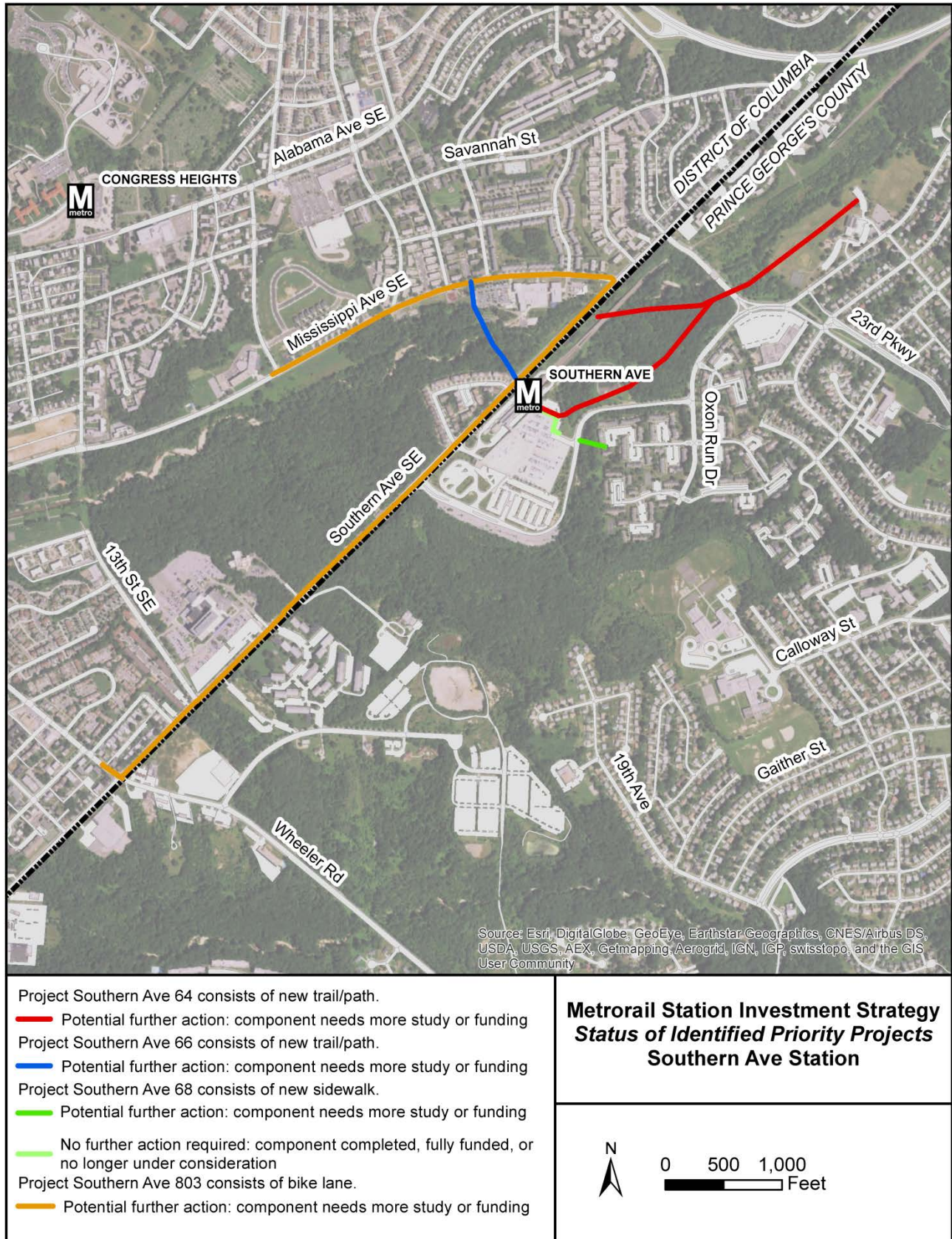
**Station: Landover**

**Project Number: 30**

**Project Description: consists of new trail/path**

Criteria	Result	Score	Weighted Score
Safety	1 crash	1	4
Quantifiable Ridership	74 new daily riders	3	12
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	46%	3	9
Population and Employment (2015)	4,378	2	4
Population and Employment Growth (2015-2040)	376	1	1
Path to Services	1 facility	1	3
Low-Income Populations	100%	5	15
Changing Mode Access	3% Walk Mode Share	5	10
Ease of Implementation/Cost	\$9,703,161	1	2
MetroAccess Trips	200 trips	2	2
Neighborhood Parking	89 customers	3	3
Walk Score	16	1	1
<b>Total Weighted Score</b>			<b>81</b>









	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>Southern Ave</b>	5	0	0	0	5	\$ 2,220,779
Southern Ave 64	3				3	\$ 2,192,806
Southern Ave 68	2				2	\$ 27,973

**Station: Southern Ave**

**Project Number: 64**

**Project Description: consists of new trail/path**

Criteria	Result	Score	Weighted Score
Safety	1 crash	1	4
Quantifiable Ridership	30 new daily riders	1	4
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	40%	3	9
Population and Employment (2015)	2,246	1	2
Population and Employment Growth (2015-2040)	813	1	1
Path to Services	0 facilities	1	3
Low-Income Populations	100%	5	15
Changing Mode Access	62% Walk Mode Share	4	8
Ease of Implementation/Cost	\$2,192,806	3	6
MetroAccess Trips	541 trips	4	4
Neighborhood Parking	128 customers	4	4
Walk Score	52	3	3
<b>Total Weighted Score</b>			<b>78</b>

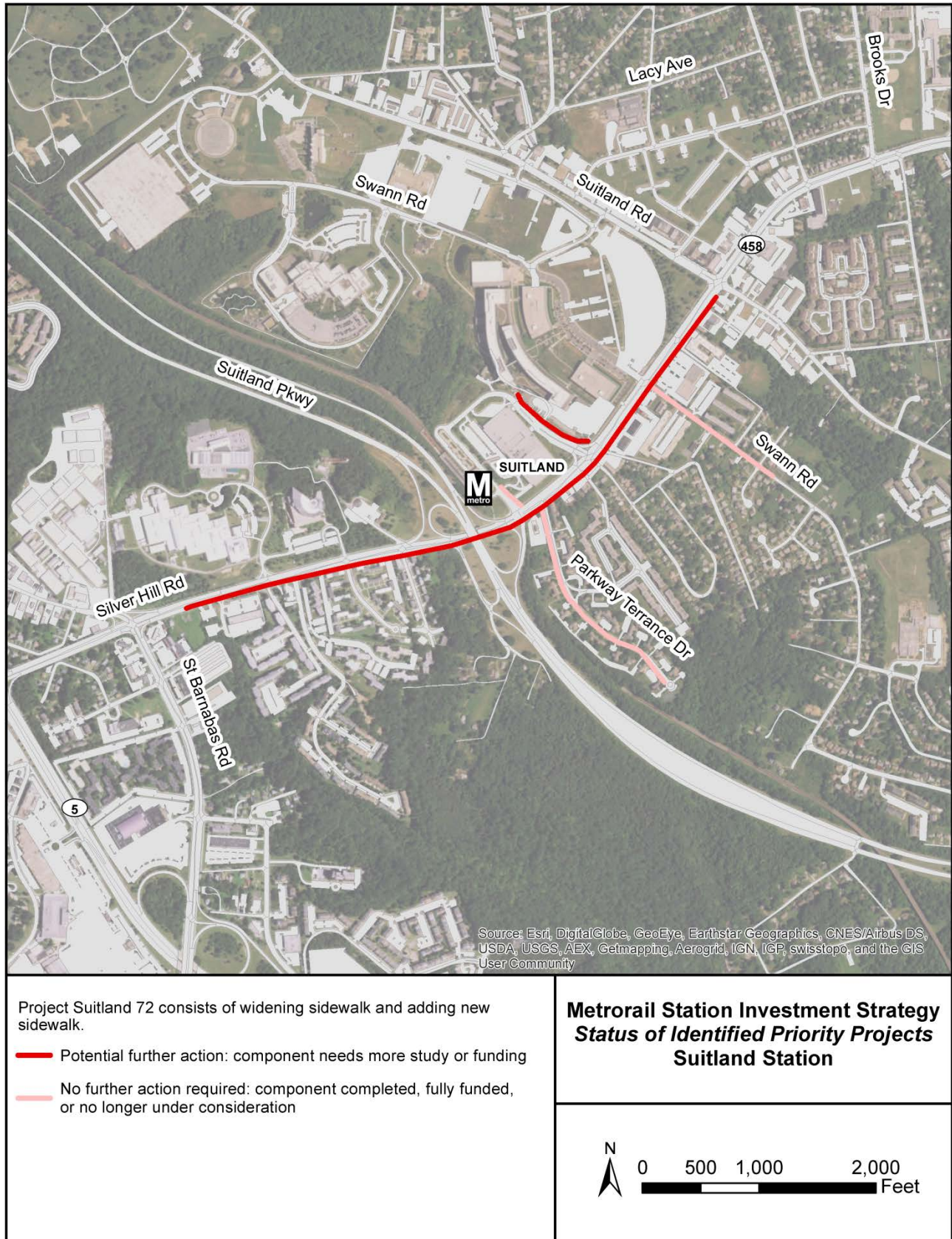


Station: Southern Ave

Project Number: 68

Project Description: consists of new sidewalk

Criteria	Result	Score	Weighted Score
Safety	0 crashes	1	4
Quantifiable Ridership	275 new daily riders	5	20
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	0%	0	0
Population and Employment (2015)	2,246	1	2
Population and Employment Growth (2015-2040)	615	1	1
Path to Services	0 facilities	1	3
Low-Income Populations	100%	5	15
Changing Mode Access	62% Walk Mode Share	4	8
Ease of Implementation/Cost	\$72,960	5	10
MetroAccess Trips	510 trips	4	4
Neighborhood Parking	128 customers	4	4
Walk Score	52	3	3
<b>Total Weighted Score</b>			<b>89</b>



	Potential Further Action					
	Sidewalk/ Trail	Intersection	On Street Bike	Other	Total	Cost
<b>Suitland</b>	2	0	0	0	2	\$ 278,036
Suitland 72	2				2	\$ 278,036

**Station: Suitland**

**Project Number: 72**

**Project Description: consists of widening sidewalk and adding new sidewalk**

Criteria	Result	Score	Weighted Score
Safety	11 crashes	2	8
Quantifiable Ridership	8 new daily riders	1	4
Proximity to Station Entrances	Within 500 ft	5	15
Walkshed Coverage	11%	1	3
Population and Employment (2015)	6,661	2	4
Population and Employment Growth (2015-2040)	841	1	1
Path to Services	2 facilities	2	6
Low-Income Populations	64%	4	12
Changing Mode Access	8% Walk Mode Share	4	8
Ease of Implementation/Cost	\$650,665	4	8
MetroAccess Trips	518 trips	4	4
Neighborhood Parking	119 customers	3	3
Walk Score	52	3	3
<b>Total Weighted Score</b>			<b>79</b>