



Veirs Mill Road-Randolph Road



June 2015



Table of Contents – Veirs Mill – Volume I

EXECUTIVE SUMMARY	III
INTRODUCTION	1
STUDY AREA - VEIRS MILL RD – RANDOLPH RD	2
VEIRS MILL ROAD (MD 586)	5
CONNECTICUT AVENUE (MD 185).....	5
RANDOLPH ROAD.....	6
MASTER PLAN RECOMMENDATIONS, OTHER STUDIES, AND PLANNED PROJECTS	9
MASTER PLAN RECOMMENDATIONS	9
Countywide Transit Corridors Functional Master Plan (December 2013).....	9
Countywide Bikeways Functional Master Plan (March 2005)	9
OTHER STUDIES.....	12
Randolph Road Pedestrian Road Safety Audit (September, 2011)	12
Master Plan for the Communities of Kensington Wheaton.....	13
PUBLIC INPUT.....	19
MID-COUNTY REGIONAL SERVICES CENTER MEETING	19
STAKEHOLDERS	20
FIELD INVESTIGATION AND EXISTING CONDITIONS.....	21
FIELD INVESTIGATION SUMMARY	21
BICYCLE AND PEDESTRIAN NETWORK.....	22
TRANSIT NETWORK.....	22
RANKING CRITERIA.....	27
PRIORITY IMPROVEMENTS	29
OVERVIEW OF IMPROVEMENT TYPES	29
RECOMMENDED PRIORITY IMPROVEMENTS	36
Area Wide Recommendations.....	36
Connecticut Avenue (MD 185)	37
Randolph Road	38
Sampson Road	40
Selfridge Road	41
Veirs Mill Road (MD 586).....	41
CONCLUSION	47
REFERENCES	49



LIST OF TABLES

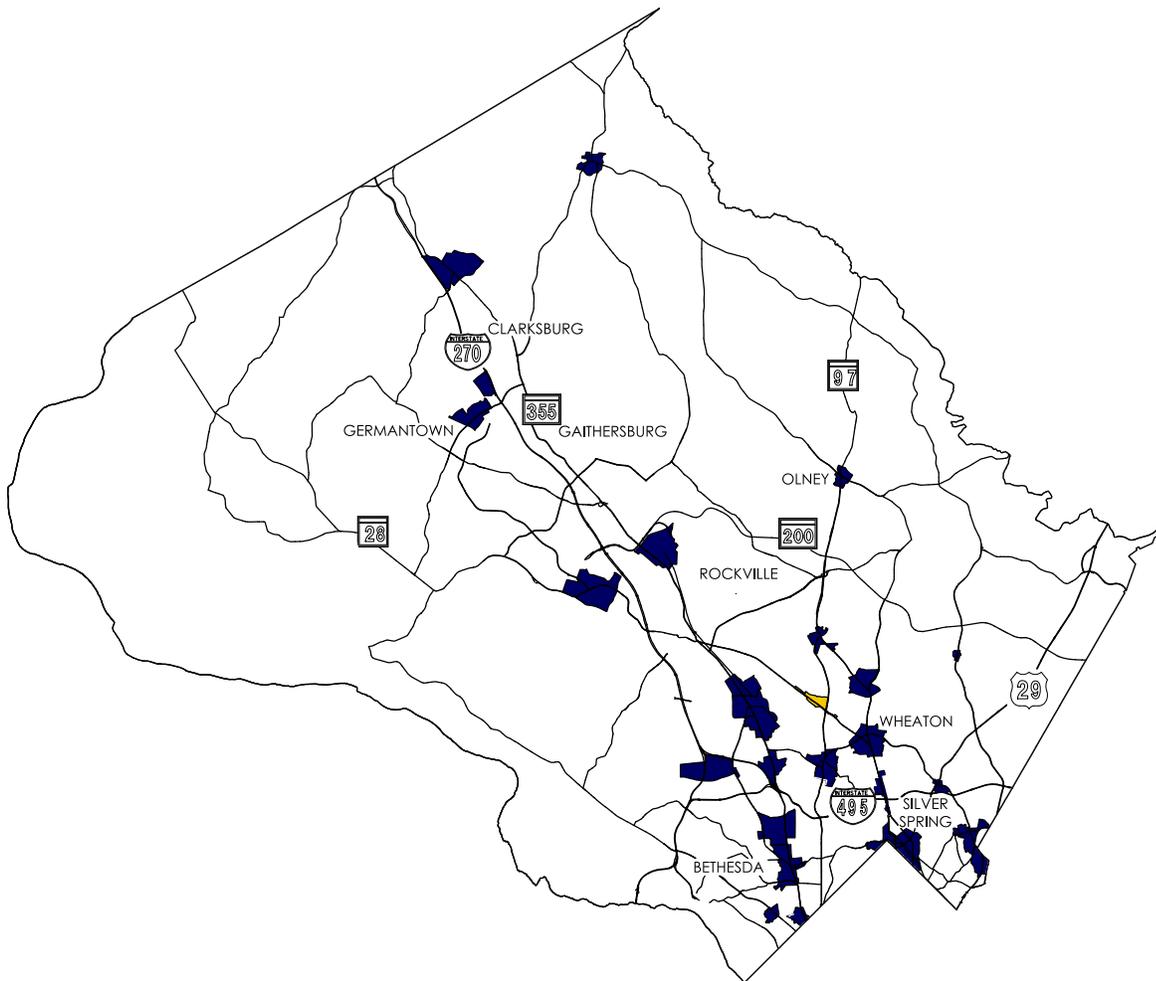
Table 1: Existing Roadway Summary..... 6
 Table 2: Summary of Master Plan Recommendations..... 15
 Table 3: Summary of Other Studies 16
 Table 4: Improvement Type Summary 29
 Table 5: Priority Ranking Matrix..... 44

LIST OF FIGURES

Figure 1: Veirs Mill Road and Randolph Road BiPPA..... 4
 Figure 2: Veirs Mill Land Uses 7
 Figure 3: Planned Bus Rapid Transit Routes 11
 Figure 4: Current Bicycle Network 23
 Figure 5: Current Pedestrian Network 24
 Figure 6: Current Transit Network 25
 Figure 7: Proposed Sidewalk and Shared Use Path Improvements..... 30
 Figure 8: Proposed Bicycle Network Improvements..... 31
 Figure 9: Proposed ADA Improvements 32
 Figure 10: Proposed Intersection Improvements..... 33
 Figure 11: Proposed Safety Improvements 34
 Figure 12: Proposed Maintenance 35

Veirs Mill Road– Randolph Road

Executive Summary





EXECUTIVE SUMMARY

A Bicycle and Pedestrian Priority Area (BiPPA) is a geographical area where the enhancement of bicycle or pedestrian traffic is a priority. The objective of BiPPA is to enhance safe bicycle and pedestrian access to support cohesive neighborhoods, aging infrastructure, and improve long-range connectivity and circulation.

In 2013, the Maryland National Capital Parks and Planning Commission designated twenty-eight bicycle and pedestrian priority areas within Montgomery County. The Montgomery County Department of Transportation (MCDOT), in partnership with the State Highway Administration (SHA) and the Maryland-National Capital Park and Planning Commission (M-NCPPC), identified improvements to be made to five (Glenmont, Grosvenor-Strathmore, Silver Spring CBD, Veirs Mill Road-Randolph Road, Wheaton CBD) of the designated twenty-eight bicycle and pedestrian priority areas. This was done through public workshops, which allowed the department to understand the diverse concerns and opinions of the stakeholders and residents.

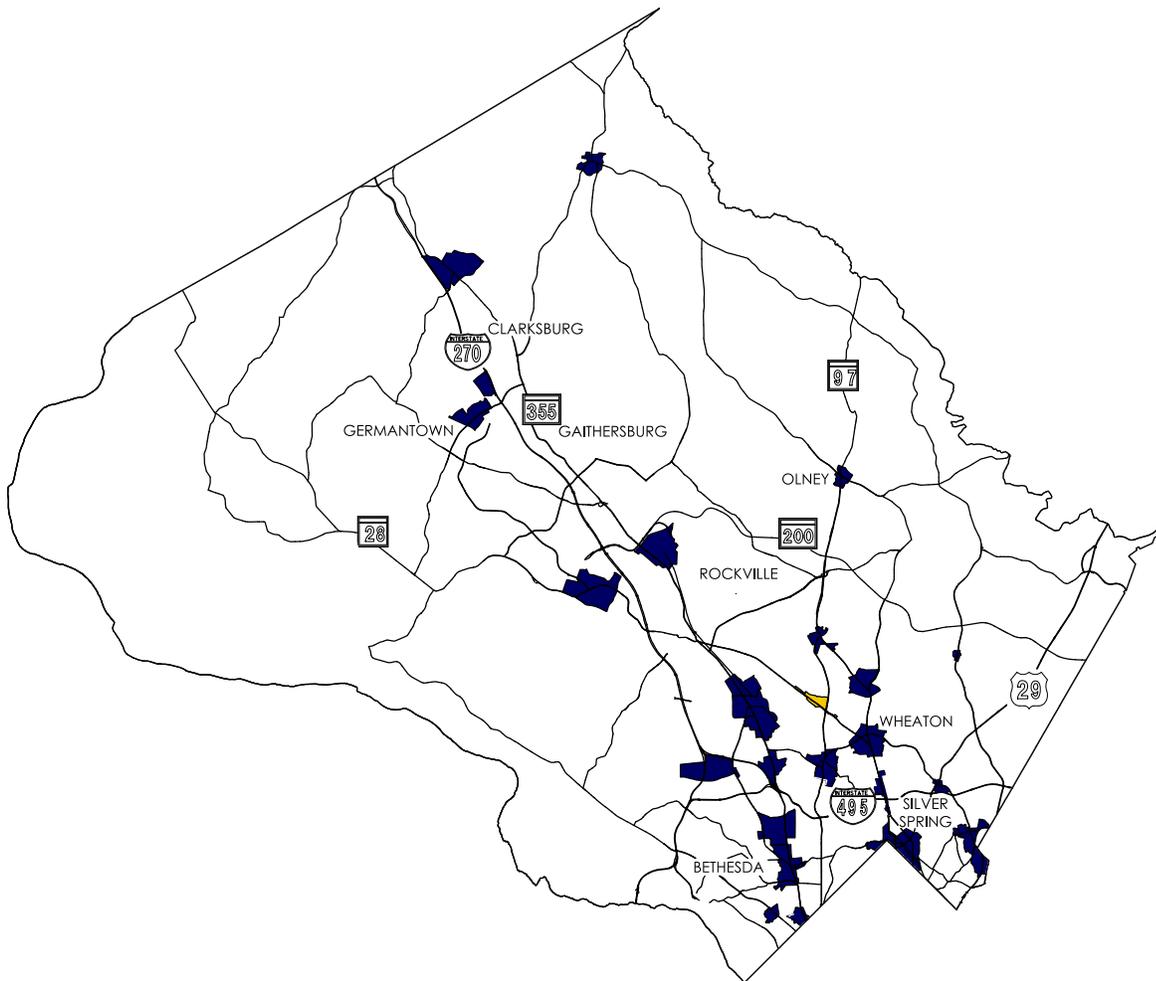
This report was prepared specifically for the Veirs Mill BiPPA based on the collaboration of agency officials, community stakeholders, planners, engineers, and specialists in geographic information systems (GIS). An initial summary of master plan recommendations was progressed by the team, followed by field investigations, and the development of this report. All state, county, and municipal rights-of-way were included in the study. Recommendations were then prioritized based on benefits, impacts, timeframe, and cost.

Generally, improvements were evaluated based on three primary factors: priority, timeframe, and cost. Priority is based on the ratio of benefits to impacts. Each improvement was assigned to a timeframe category: Short-term (1 – 2 years), Mid-term (2 – 5 years), or Long-term (5+ years). Similarly, each improvement was assigned an order of magnitude cost ranging from less than \$10,000 to greater than \$5,000,000.

Please refer to Table 2 for a summary of recommended priority improvements listed.

Veirs Mill Road– Randolph Road

Introduction





INTRODUCTION

Montgomery County is the most populous and one of the most diverse counties in Maryland. Our population exceeds one million residents and continues to grow. With such a large population, the Montgomery County Department of Transportation must address the varied transportation needs of all its residents, which is why BiPPA was created. The Montgomery County Department of Transportation considers bicycle and pedestrian facilities a critical component in the County's transportation infrastructure network. Bicycling and walking facilities provide a wide range of benefits to individuals, their communities, and the surrounding environment.

In urban areas, there are traditionally higher percentages of people of color, people with low income, and seniors – all are residents that put a greater share of their budget toward transportation. In such areas, walking and bicycling are among the most affordable forms of transportation. Therefore, providing safe, convenient, and attractive bicycle and pedestrian access – along with modernizing existing aging infrastructure – is essential to ensure equity for all transportation users and their access to jobs, public services, and social network.

Collectively, we can help decrease traffic congestion, air pollution, and enhance quality of life.

The goals of bicycle and pedestrian priority improvements are to engage the surrounding community for feedback to identify and develop recommendations for the area. These recommendations include upgrading aging infrastructure, improving safety, and improving long-range connectivity and circulation. This report provides recommendations for the design and construction of bicycle and pedestrian improvements within the bicycle and pedestrian priority areas that enhance and promote accessibility, safety, mobility, and comfort for bicyclists and pedestrians as voiced by the public.



STUDY AREA - VEIRS MILL RD – RANDOLPH RD

The Veirs Mill Bicycle and Pedestrian Priority Area (BiPPA) boundary was designated by the M-NCPPC in 2013, in accordance with Section 2-604 of the Annotated Code of Maryland, which delegates this responsibility to local jurisdictions. The BiPPA is centered on the intersection of Veirs Mill Road (MD 586) and Randolph Road and is enclosed by Connecticut Ave (MD 185) to the southeast (with a small portion of the study area extending south along Veirs Mill Road to include the Montclair Manor multi-family development), Veirs Mill Road and small portions of the surrounding neighborhoods to the west, Parkland Drive in the north, and Colie/Randolph Road on the northeast.

The Veirs Mill Road-Randolph Road BiPPA study area, accounting for a land area of approximately 0.25-square miles, is part of unincorporated Montgomery County, Maryland, and is located approximately five miles northwest of downtown Silver Spring. The 2010 Census estimated this area's population at 1,862 people, of which 83 percent identify as minority, including 64 percent as Hispanic. There are three schools in the area: the Sargent Shriver Elementary School just to the north, the Veirs Mill Elementary School just to the south, and Wheaton High School, located east of the Veirs Mill area along Randolph Road. Other amenities close to the study area include multiple parks: the Winding Creek Local Park directly to the west, the Stoneybrook Park to the north, and the Montgomery County Recreation area, located on the eastern quadrant of the intersection of Veirs Mill Road and Randolph Road. The Rock Creek Trail passes just to the west of the study area, providing access to the Rock Creek Regional Park in the north and Washington, DC to the south. Additionally, the Matthew Henson State Park is to the northwest of this area.

The vicinity of the Veirs Mill Road and Randolph Road intersection is occupied by commercial land uses, which include the Colonial Shopping Center/Stonemill Shopping Center, the Veirs Mill/Randolph Crossing Shopping Center, as well as individual parcels in the eastern quadrant of the intersection. The commercial amenities at the corner of Veirs Mill and Randolph Roads are consistent with typical strip-mall, car-oriented type development and include multiple outparcel buildings with drive-thru windows, such as banks and fast food restaurants.

The eastern intersection quadrant also includes a Montgomery County Recreation area, while the remainder of the study area is characterized by residential development, mostly single-family, with pockets of multi-family residential and office intermixed. The northwestern quadrant of the Veirs Mill and Connecticut Avenue intersection includes a garden apartment complex.

Overall, the area is substantially developed as a suburban community with curvilinear streets and mostly single-family homes over rolling terrain. While the surrounding neighborhoods have pedestrian amenities, crossing either Veirs Mill Road or Randolph Road to reach the shopping center on foot or by bike requires traversing six lanes of high-speed traffic. There are, however, high-visibility crosswalks at the intersection of Randolph and Selfridge Roads, just south of the

VEIRS MILL RD – RANDOLPH RD



Veirs Mill/Randolph intersection. In total, with more than eight bus stops in the direct vicinity of the commercial parcels, the Veirs Mill and Randolph Road crossing is highly trafficked by non-motorized users.

While pedestrian amenities exist in this vicinity, there is no infrastructure for bicyclists. Veirs Mill Road (MD 586), Randolph Road, and Connecticut Avenue (MD 185) all have heavy traffic flows during peak hours, making this area particularly difficult for pedestrians and bicyclists to navigate. The Veirs Mill and Randolph Road BiPPA is displayed in Figure 1.

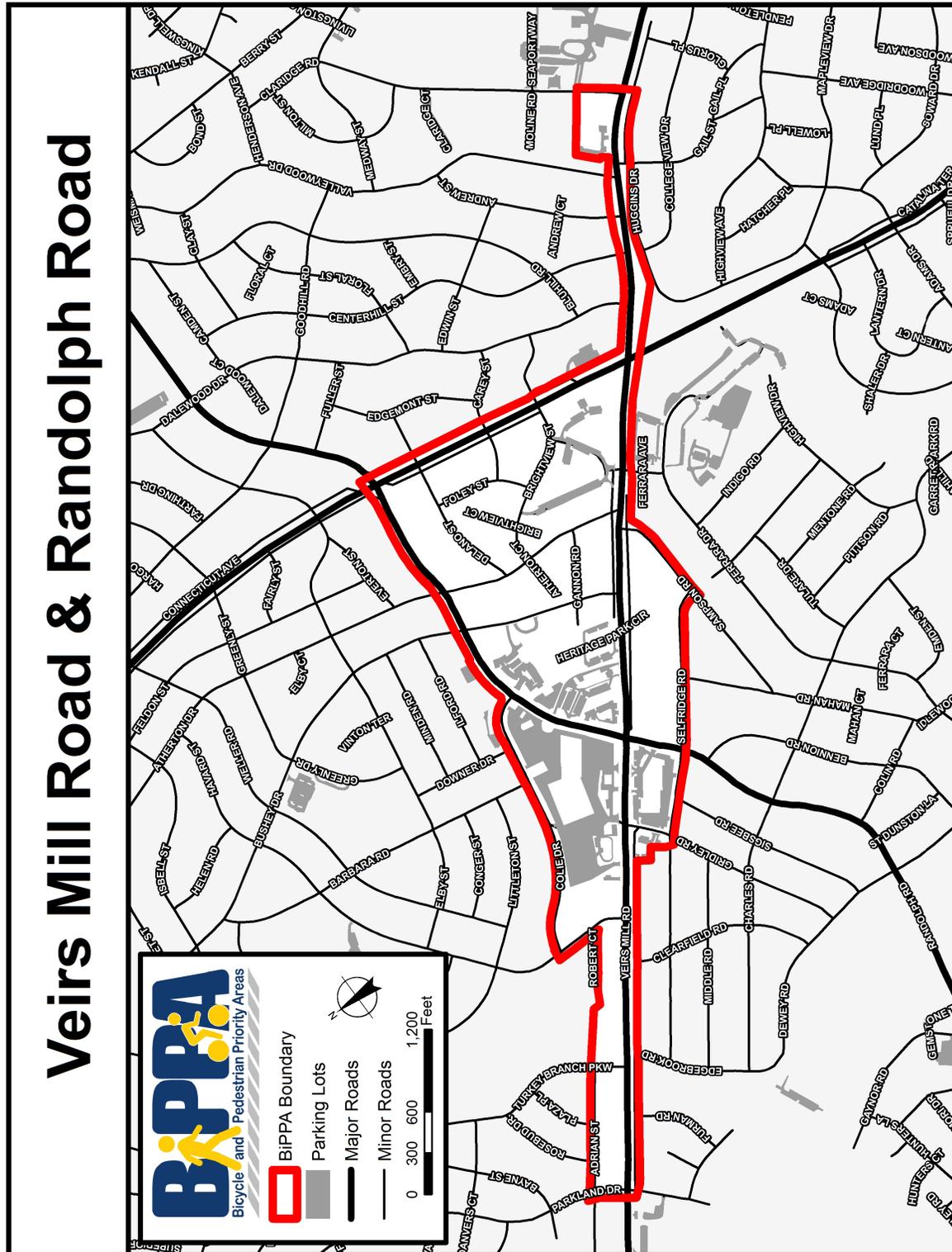


Figure 1: Veirs Mill Road and Randolph Road BiPPA

VEIRS MILL ROAD (MD 586)

Veirs Mill Road (MD 586) is an east-west SHA-maintained roadway that traverses the BiPPA study area. MD 586 runs 1.51 miles inside of the BiPPA Boundary from Parkland Drive to Claridge Road. The roadway is a six-lane, divided highway through the study area with a posted speed limit of 45 MPH from Parkland Drive to Claridge Road. Veirs Mill Road functions as an urban principal arterial, with a traffic volume of 42,221 vehicles per day at Parkland Ave on the western edge of the BiPPA area and 36,301 vehicles per day on the eastern edge. There are residential service roads that run on the south side of Veirs Mill Road from Parkland Avenue to Gridley Road and along the north side of Veirs Mill from Randolph Road to Sampson Road. A short segment of access road is present in the vicinity of Bushey Drive on the north side of Veirs Mill, extending to the multi-family housing development near Brightview Street.

Existing right-of-way widths vary from 140 - 165 feet throughout the corridor. There are existing sidewalks with street trees along the southwestern part of the roadway, while there is only sidewalk along the northeastern part of the roadway. Medians are typically planted with grass. The side streets along Veirs Mill Road provide access to neighborhood residences and are predominantly characterized by single-family residential development. In almost all cases, these local streets have sidewalks with wide buffer areas on both sides of the roadway. Speed limits are uniformly low at 25 MPH, while the curvilinear streets still provide cross-access between neighborhoods.

The Matthew Henson Bike Trail crosses Veirs Mill Road near the intersections of Edgebrook Road and Turkey Branch Parkway.

CONNECTICUT AVENUE (MD 185)

Connecticut Avenue (MD 185) is a major north-south SHA-maintained thoroughfare running through the northwest quadrant of suburban Montgomery County, Maryland. MD 185 runs 0.42 miles north from Veirs Mill Road (MD 586) to Randolph Road. MD 185 is a six-lane, divided highway with a posted speed limit of 40 MPH from Veirs Mill Road to Randolph Road and 45 MPH from Randolph Road to Aspen Hill Road. Connecticut Avenue functions as an urban principal arterial, carrying between 33,371 to 36,201 vehicles per day. Existing right-of-way widths vary from 150 – 165 feet throughout the corridor. There are existing sidewalks with street trees along the southwestern part of the roadway, while there is sidewalk along both sides of the roadway. Most of the medians are typically planted with grass, shrubbery, and trees. Adjacent service roads, much as the service roads described above, are local, low-speed roads providing access to single-family residences as well as to a few other amenities, including one church and one multi-family neighborhood.

The Matthew Henson Bike Trail crosses Connecticut Avenue to the north of Dean Road.



RANDOLPH ROAD

Randolph Road is a Montgomery County roadway oriented primarily in an east-west direction with a posted speed limit of 35 MPH. Randolph Road is a six-lane divided roadway that has a closed section. Existing street lighting for both sides of Randolph Road is provided by cobra head luminaires on utility poles. Both sides of Randolph Road have sidewalk for the full length of the BiPPA area and parking is allowed along the outside travel lane during non-peak hours. Pedestrian crossings are located at all major intersections along Randolph Road and there are numerous residential driveway aprons along Randolph Road west of Connecticut Avenue (MD 185).

Additionally, Randolph Road, as a Montgomery County maintained roadway, provides important access between vital community amenities. To the east of the BiPPA area, Randolph Road provides access to the Wheaton High School, Wheaton Outdoor Pool, and the Glenmont Local Park. To the west, Randolph Road crosses the Rock Creek Trail and leads into the commercial areas around the White Flint station in North Bethesda, eventually terminating at the Rockville Pike (MD 355).

The following is summary of existing major roadways within the Veirs Mill Road-Randolph Road BiPPA:

Table 1: Existing Roadway Summary

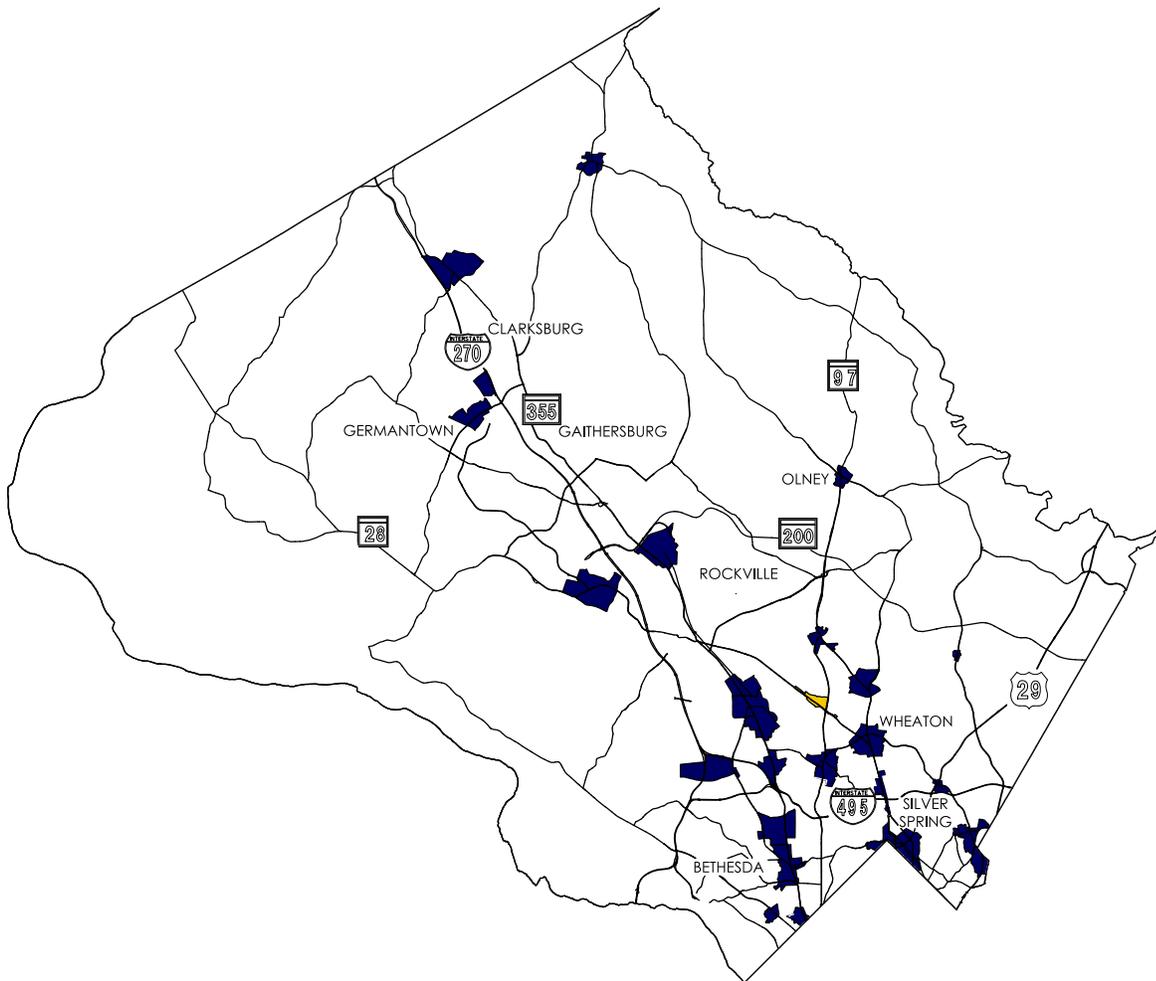
Roadway	From	To	AADT as of 2013	Posted Speed Limit	Classification	Owner
Veirs Mill Road (MD 586)	Parkland Drive	Claridge Road	36,410-42,350	45 MPH	Urban Other Principal Arterial	MdSHA
Connecticut Ave (MD 185)	Veirs Mill Road	Randolph Road	33,470-36,310	40 MPH / 45 MPH	Urban Other Principal Arterial	MdSHA
Randolph Road (CO 1659)	Selfridge Rd	Connecticut Ave (MD 185)	-	35 MPH	Arterial	MCDOT



Figure 2: Veirs Mill Land Uses

Veirs Mill Road– Randolph Road

Master Plan Recommendations, Other Studies, and Planned Projects



MASTER PLAN RECOMMENDATIONS, OTHER STUDIES, AND PLANNED PROJECTS

MASTER PLAN RECOMMENDATIONS

Countywide Transit Corridors Functional Master Plan (December 2013)

The Countywide Transit Corridors Functional Master Plan (2013) recommends implementation of a Bus Rapid Transit (BRT) system, with dedicated transit lanes and signal priority, throughout Montgomery County. Both the proposed Randolph Road and Veirs Mill Road BRT Corridors would pass directly through the BiPPA study area. While ridership is forecast to be low along the Randolph Road BRT corridor, it does provide crucial linkages between other BRT corridors and is therefore important for connectivity within the BRT network. However, due to the limited ridership potential and the higher impact to residential properties, the recommendation on this corridor is to install a mixed traffic transitway. The Randolph Road BRT line is also subject to two alternatives within the Veirs Mill BiPPA. The first is to continue west along Randolph Road as a mixed traffic transitway (with a new station at Lauderdale Drive), while the other is to follow the Veirs Mill BRT line north from Randolph Road to its station at Parkland Drive. The route would then proceed west along Montrose Parkway.

As opposed to the Randolph Road BRT line, the Veirs Mill BRT line is very important for transit, experiencing some of the highest existing transit volumes in Montgomery County. The proposal is for dedicated lanes between the Rockville and Wheaton Metro Stations.

The master plan also recommends overall pedestrian safety, accessibility, and mobility recommendations along the proposed BRT routes. The recommendations from the master plan are listed in Table 2 below.

Countywide Bikeways Functional Master Plan (March 2005)

According to the Countywide Bikeways Functional Master Plan (March 2005), the following routes are either designated as existing or proposed bicycle facilities through the Veirs Mill Road-Randolph Road BiPPA:

1. Connecticut Ave- Signed Shared Roadway/ On- Road (Class 3) Proposed
2. Connecticut Ave- Shared Use Path/ Off-Road (Class 1) Proposed
3. Randolph Road - Shared Use Path / Off-Road (Class 1) Proposed
4. Veirs Mill Road (MD 586)- Shared Use Path/ Off- Road (Class 1) Existing
5. Veirs Mill Road (MD 586)- Signed Shared Roadway/ On-Road (Class 3) Proposed
6. Veirs Mill Road (MD 586)- Bike Lanes/ On-Road (Class 2) Proposed



The M-NCPPC Countywide Bikeway Network Concept Plan provides recommendations for pedestrian circulation and the bikeway network. Table 2, below, provides a summary of these recommendations.

The plan also recommends signage improvements and metro connections for all existing bikeways. Some bikeways are a part of the east-west cross-county connector that will be extended to all the metro stations. The lanes will also be widened so that the right-turning drivers have room to turn from Veirs Mill Road. Certain bikeway connections on Randolph Road will be hard to implement due to steep terrain and drainage issues.

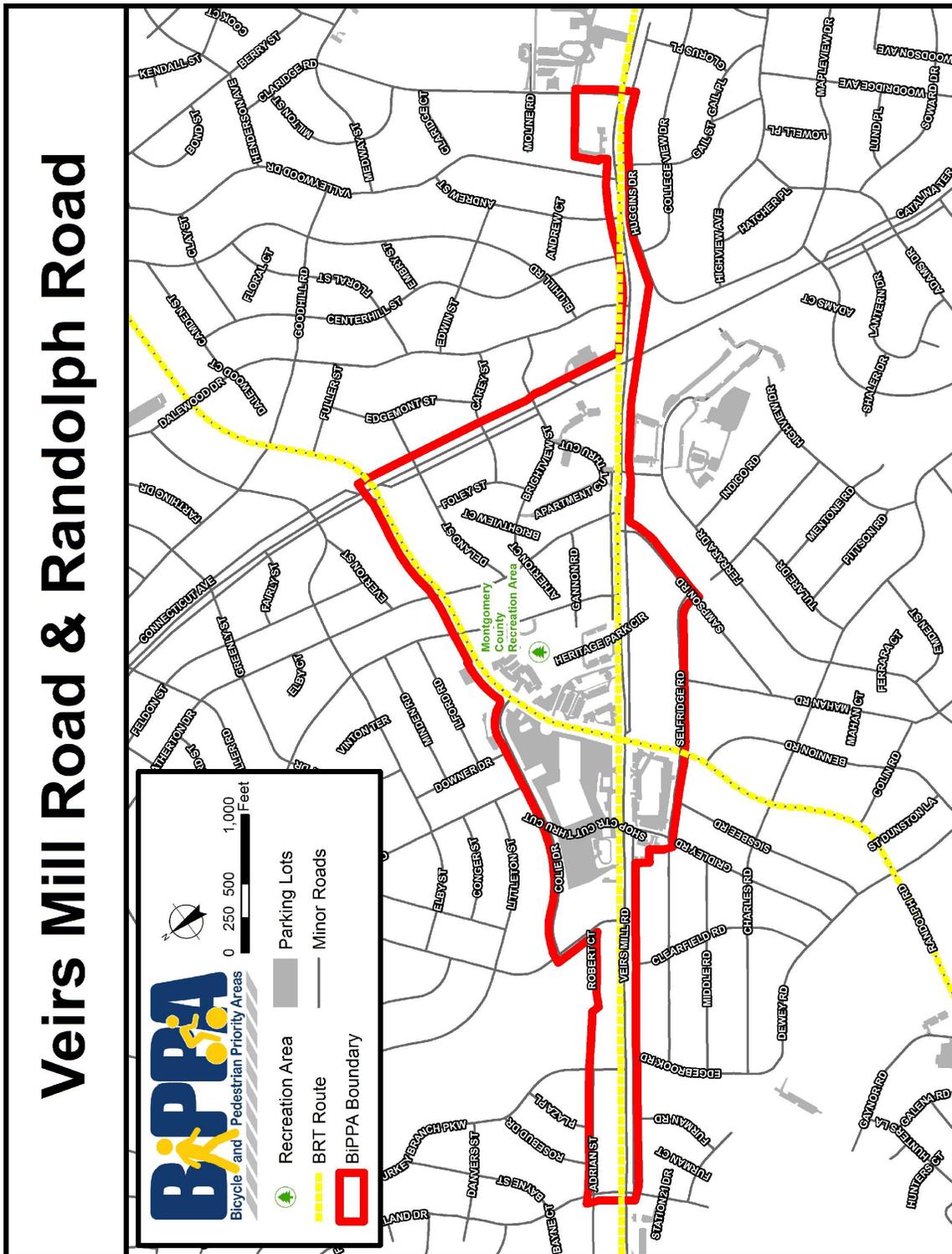


Figure 3: Planned Bus Rapid Transit Routes



OTHER STUDIES

Randolph Road Pedestrian Road Safety Audit (September, 2011)

The Randolph Road Pedestrian Road Safety Audit was initiated by MCDOT to identify various issues related to pedestrian and bicycle safety. The Randolph Road study area is recognized as one of Montgomery County's highest incidence areas for pedestrian-related collisions. Based on collision data, 15 pedestrian collisions occurred in this study area between January 2004 and December 2008. The safety audit aims to use site characteristics, traffic data, and crash data in order to identify existing conditions and present suggestions for the MCDOT to enhance pedestrian safety throughout the study area.

The following are the issues and suggestions identified during the Pedestrian Road Safety Audit process and are categorized by the suggested timeframe of completion (short-term, medium-term, and long-term).

1. Pedestrian-Vehicle Conflicts
 - a. Short Term: Consider signage to improve driver awareness of pedestrians and to support automated photo enforcement to deter blocking the intersections and crosswalks.
 - b. Intermediate: Consider upgrading/installing crosswalks that are compliant with MDSHA standards, explore pedestrian signal timing modifications, and evaluate signal timing modifications to reduce conflicts and minimize queuing.
2. Uncontrolled Midblock Crossings
 - a. Intermediate: Pursue installing a barrier or landscaping in the median to deter uncontrolled midblock crossing.
 - b. Long Term: Determine feasibility and constructability of bus stop relocation or expansion of landing areas to increase waiting space and encourage pedestrian activity closer to marked crosswalks. Consider limiting pedestrian access at midblock locations through review of site design in future redevelopment applications.
3. Pedestrian Compliance with Signals
 - a. Short Term: Consider installing signage to encourage pedestrian compliance with signals and modify pedestrian signal timings to comply with the MUTCD guidance.
 - b. Intermediate: Pursue installing accessible countdown pedestrian signals and push-buttons.
 - c. Long Term: Consider community-based educational efforts and enforcement strategies.

4. Pedestrian Facility Limitations
 - a. Short Term: Consider remarking pavements and relocating newspaper stands to the back of the sidewalks.
 - b. Intermediate: Determine feasibility of expanding pedestrian landing areas and feasibility of wheelchair ramp and gutter pan modifications to eliminate vertical displacement at one corner. Consider reducing or eliminating encroachment of medians on crosswalks.
 - c. Long Term: Pursue constructing pedestrian pathways to commercial properties and determine the feasibility of constructing landscaped buffers to provide separation of pedestrians from the roadway.

5. Other
 - a. Short-Term: Consider trimming vegetation to improve sight distance for drivers, repairing non-functioning lamps, and low-wattage street lamps with higher luminosity.
 - b. Long-Term: Evaluate feasibility of dedicated bicycle lanes within or along Randolph Road as part of future roadway projects.

Master Plan for the Communities of Kensington Wheaton

The goal of the Kensington-Wheaton Master Plan is to re-establish vibrant and attractive commercial centers at the intersection of Veirs Mill Road and Randolph Road in a manner compatible with adjacent residential communities. The major highways in this master plan include the following roadways that are in the BiPPA study area: Connecticut Avenue, Veirs Mill Road, and Randolph Road.

The only significant commercial development within the planning area, outside of the sector plan areas, exists at the intersection and immediate vicinity of Veirs Mill Road and Randolph Road. This commercial area includes the Stone Mill Shopping Center, located at the northeast quadrant of the intersection of Veirs Mill and Randolph Road. The master plan suggests that re-zoning will need to occur for significant improvements to be made on the parking lots. While the commercial development located in this area provides some desirable community shopping and service outlets, the storefront vacancies deprive the community of attracting any additional retail and service outlets. This plan also identifies deficiencies in the shopping center's inefficient design in terms of access and internal circulation.

In terms of revitalizing the existing land-use within the planning area, the following are policies that the master plan recommends. The first is to encourage the establishment of a public-private partnership with community support to facilitate revitalization efforts at the Stone Mill Shopping Center. The second is to create a mix of commercial operations which enhances the economic viability of the area and which provides goods and services desired by residents of nearby neighborhoods. Lastly, the policy encourages upgrading the shopping center's physical appearance as well as its vehicular and pedestrian circulation.

The Master Plan for the Communities of Kensington Wheaton also recommends numerous transportation projects in our study area. On Veirs Mill Road a resurfacing and road widening



project is underway, as well as a safety and resurfacing project for Connecticut Avenue. The other transportation-related recommendation is the implementation of a park-and-ride location at the intersection of Randolph and Veirs Mills Roads where the Stone Mill Square Shopping Center is located. Shop-owners have indicated they would consider the possibility of some shared use of the parking facilities for a park-and-ride lot.

Table 2 on the following page summarizes these Plan recommendations, and their source documents.

**Table 2: Summary of Master Plan Recommendations**

Item Number	Roadway	Owner/ROW	Improvement Type	Description	Reference
1	Area Wide	MdSHA/ Montgomery County	Sidewalk	Improve sidewalks to have a minimum width of 6' along BRT's	Countywide Transit Corridors Functional Master Plan
2	Area Wide	MdSHA/ Montgomery County	Sidewalk	Construct landscape buffers of sufficient width to achieve sidewalks and handicap ramps that meet ADA best practices along BRT's	Countywide Transit Corridors Functional Master Plan
3	Area Wide	MdSHA/ Montgomery County	Bicycle	Construct 5.5' Bike lanes along Veirs Mill Road (MD 586), Connecticut Avenue (MD 185) and Randolph Road	Countywide Transit Corridors Functional Master Plan
4	Connecticut Avenue (MD 185)	MdSHA	Share Use Path	Construct a shared use path on Connecticut Avenue (MD 185) from Veirs Mill Road (MD 586) to Brightview Street (Part of larger system)	Countywide Bikeways Functional Master Plan
5	Connecticut Avenue (MD 185)	MdSHA	Bicycle	Construct a sharrow on Connecticut Avenue (MD 185) between Brightview Street and Randolph Road (Part of larger system)	Countywide Bikeways Functional Master Plan
6	Randolph Road	Montgomery County	Share Use Path	Construct a shared use path on Randolph Road (Part of larger system)	Countywide Bikeways Functional Master Plan
7	Sampson Road	Montgomery County	Bicycle	Construct a sharrow on Sampson Road from Selfridge Road to Veirs Mill Road (MD 586) (Part of larger system)	Countywide Bikeways Functional Master Plan
8	Selfridge Road	Montgomery County	Bicycle	Construct a sharrow on Selfridge Road from Edgebrook Road to Sampson Road (Part of larger system)	Countywide Bikeways Functional Master Plan
9	Veirs Mill Road (MD 586)	MdSHA	Share Use Path	Construct a shared use path on Veirs Mill Road (MD 586) from Sampson Road to Gail Street (Part of larger system)	Countywide Bikeways Functional Master Plan



Table 3: Summary of Other Studies

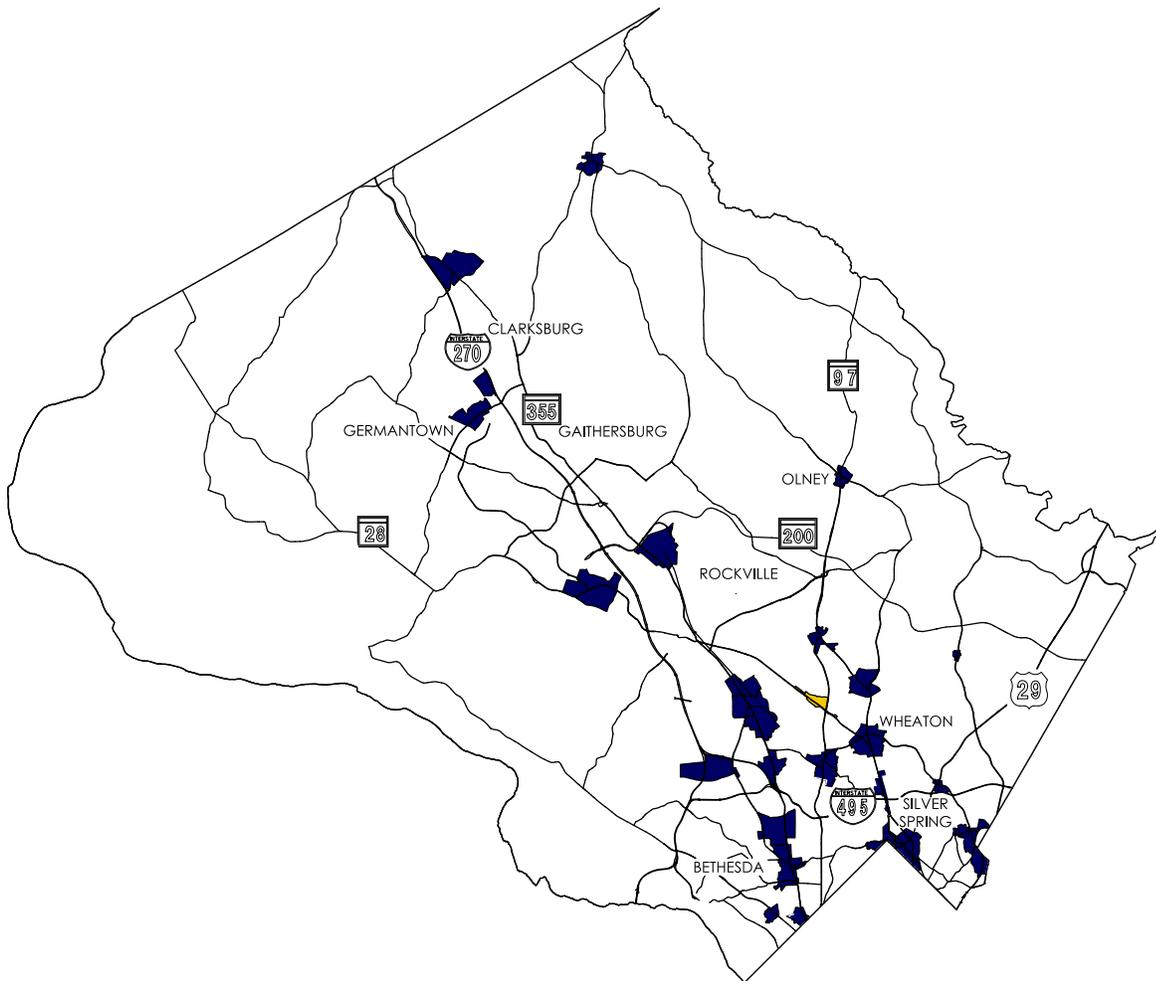
Item Number	Roadway	Owner/ROW	Improvement Type	Description	Reference
1	Area Wide	Montgomery County	Signing	Improve signage at intersections to reduce turning movement crashes	Randolph Road Pedestrian Road Safety Audit
2	Area Wide	Montgomery County	Sidewalk	Upgrade all sidewalks to MdSHA standards	Randolph Road Pedestrian Road Safety Audit
3	Area Wide	Montgomery County	Intersection	Modify pedestrian signal timings to synchronize pedestrian phase with concurrent vehicle phases	Randolph Road Pedestrian Road Safety Audit
4	Randolph Road	Montgomery County	Intersection	Remove encroachment of median into crosswalks	Randolph Road Pedestrian Road Safety Audit
5	Randolph Road	Montgomery County	Curb Ramps	Replace detectable warning surfaces at curb ramps	Randolph Road Pedestrian Road Safety Audit
6	Randolph Road	Montgomery County	Midblock	Install a barrier to prevent or landscaping in the median to prevent uncontrolled mid-block crossing	Randolph Road Pedestrian Road Safety Audit
7	Randolph Road	Montgomery County	Maintenance	Replace non-functioning street lighting	Randolph Road Pedestrian Road Safety Audit
8	Randolph Road	Montgomery County	Sidewalk	Replace damaged railing along sidewalks	Randolph Road Pedestrian Road Safety Audit
9	Randolph Road	Montgomery County	Intersection	Conduct a pedestrian LOS to determine if additional WALK or Flashing Don't Walk time is need for each pedestrian phase	Randolph Road Pedestrian Road Safety Audit
10	Randolph Road	Montgomery County	APS/CPS	Install APS/CPS at all intersections	Randolph Road Pedestrian Road Safety Audit
11	Randolph Road	Montgomery County/ Private	Sidewalk/Share Use Path	Construct formal pathways to commercial properties	Randolph Road Pedestrian Road Safety Audit
12	Randolph Road	Montgomery County	Pedestrian Lighting	Install additional street lighting	Randolph Road Pedestrian Road Safety Audit
13	Randolph Road	Montgomery County	High Visibility Crosswalks	Construct High Visibility pattern crosswalks at the major intersections of Randolph Road with Colie Drive, Bushey Drive, Atherton Drive, Selfridge Road, Veirs Mill Road, and Connecticut Avenue.	BiPPA Process
14	Sampson Road	Montgomery County	Bicycle	Construct a sharrow on Sampson Road from Selfridge Road to Veirs Mill Road (MD 586) (Part of larger system)	Countywide Bikeways Functional Master Plan
15	Veirs Mill Road (MD 586)	MdSHA	Construct New Sidewalk	Construct new sidewalk along sections of Veirs Mill Road (MD 586)	BiPPA Process
16	Veirs Mill Road (MD 586)	MdSHA	Crosswalk, APS, Sidewalk Imp.	Provide high-visibility crosswalks, APS signals, and improve sidewalks along Veirs Mill Road (MD 586)	BiPPA Process
17	Veirs Mill Road (MD 586)	MdSHA	Reduce Speed Limit, Signing	Reduce the speed limit within the Veirs Mill Road - Randolph Road BiPPA to 35 and provide signing indicating a high transit, bike, and pedestrian area.	BiPPA Process
18	Veirs Mill Road Atherton Dr	MdSHA	Intersection	Crosswalk is not marked	MD 586 PRSA
19	Veirs Mill Road Bushey Dr	MdSHA	Intersection	Limited sight distance at bus stop, missing marked crosswalks	MD 586 PRSA



Item Number	Roadway	Owner/ROW	Improvement Type	Description	Reference
20	Veirs Mill Road Centerhill St	MdSHA	Intersection	No marked crosswalk or refuge areas, curb ramps are not ADA compliant	MD 586 PRSA
21	Veirs Mill Road Claridge Rd	MdSHA	Intersection	Missing direct pedestrian access from frontage road, crosswalks should be school crossings	MD 586 PRSA
22	Veirs Mill Road Connecticut Ave	MdSHA	Intersection	Crosswalks are unconventional, APA/CPS missing, bus stop sign obstruct pedestrian signal head, crosswalk for free-right turn for MD 185 is not marked	MD 586 PRSA
23	Veirs Mill Road Ferrara Ave	MdSHA	Intersection	Overgrown vegetation, pedestrian pole in NE quadrant is not ADA compliant	MD 586 PRSA
24	Veirs Mill Road Gail St	MdSHA	Intersection	Pedestrian warning signs are missing, may need school crossing, lack of overhead lighting	MD 586 PRSA
25	Veirs Mill Road Gridley Rd	MdSHA	Intersection	West leg of intersection missing pedestrian amenities, radius of curb of MD 586 to SB Gridley RD is too tight, Signal head not aligned	MD 586 PRSA
26	Veirs Mill Road Randolph Rd	MdSHA	Intersection	Vegetation encroaching on intersection, pedestrian amenities are sub-standard	MD 586 PRSA
27	Veirs Mill Road Sampson Rd	MdSHA	Intersection	Missing intersection lighting	MD 586 PRSA

Veirs Mill Road– Randolph Road

Public Input



Public Input





PUBLIC INPUT

MID-COUNTY REGIONAL SERVICES CENTER MEETING

On November 24th, 2014 a group of regional stakeholders met to discuss improvements planned as part of the Montgomery County Department of Transportation's (MCDOT) Bicycle and Pedestrian Priority Area (BiPPA) Improvements Study. Representatives from Montgomery County Regional Services Center (MCRSC), Wheaton Urban District Advisory Commission (WUDAC), MCDOT, Maryland National Capital Park and Planning Commission (M-NCPPC), and Stantec Consulting attended the meeting. Information presented included: master plans, studies and reports reviewed, mapping showing the BiPPA boundaries and existing bicycle/pedestrian networks, planned bicycle networks and improvement types. Following the presentation there was an in depth discussion concerning these topics. The following items concerning the Veirs Mill Road-Randolph Road BiPPA were stated:

- The SHA was said to have a current plan for Veirs Mill Road improvements. MCDOT was asked to provide MCRSC with a copy of this plan.
- There is the potential to address crosswalk or traffic controls on Veirs Mill Rd (MD 586) in the SHA Veirs Mill Road project.



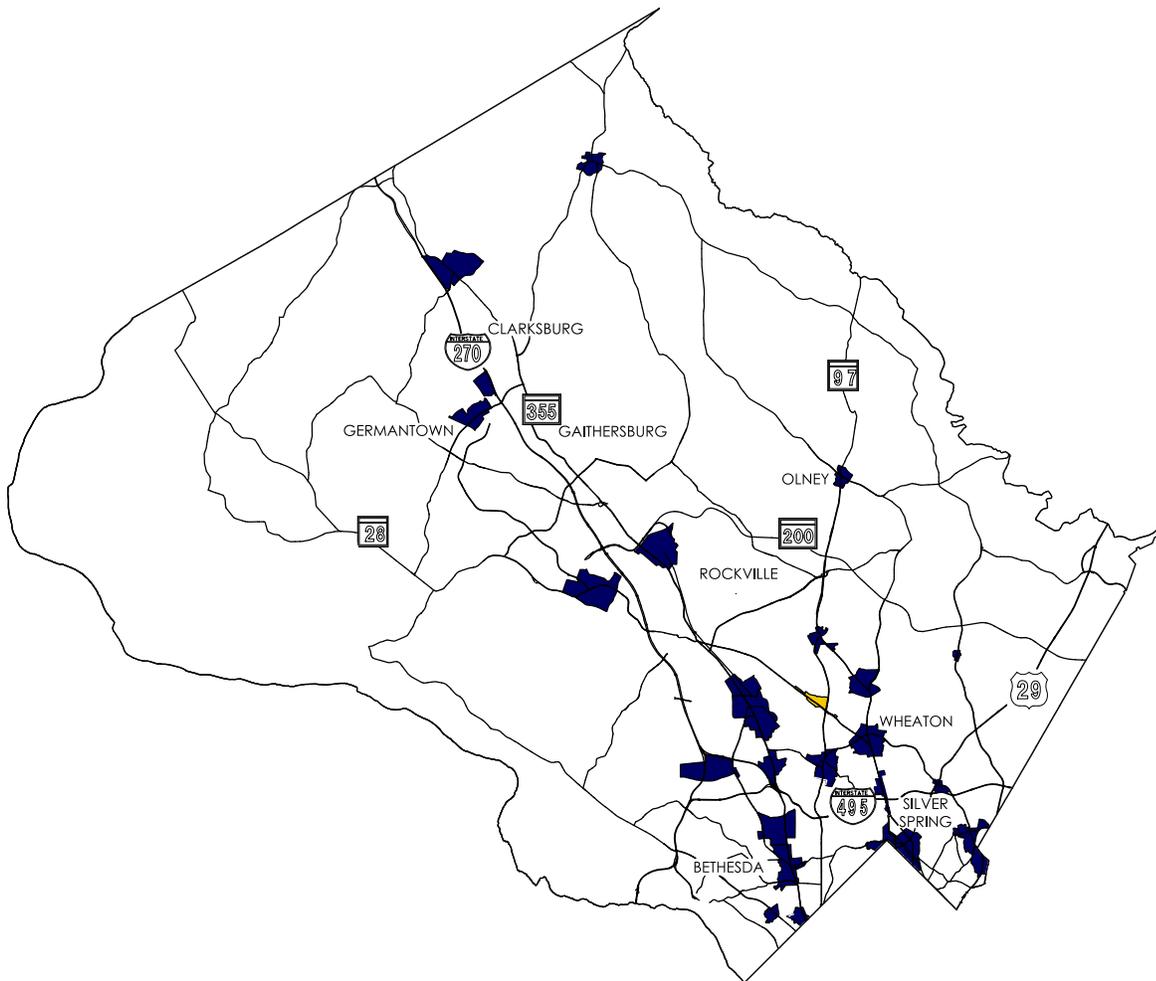
STAKEHOLDERS

Stakeholders for the Veirs Mill Road-Randolph Road BiPPA include the Mid-County Regional Service Center, the Montgomery County Council, the Maryland State Highway Administration (SHA), the Montgomery County Department of Transportation (MCDOT), and the Maryland-National Capitol Park and Planning Commission (M-NCPPC). As the planning and implementation process continues, it is expected that additional stakeholders will include:

- Montgomery County Department of Permitting Services
- Montgomery County Department of Environmental Protection
- Metropolitan Area Transit Authority (WMATA)
- PEPCO
- Verizon
- Washington Gas and Light
- Washington Suburban Sanitary Commission

Veirs Mill Road– Randolph Road

Field Investigation and Existing Conditions





FIELD INVESTIGATION AND EXISTING CONDITIONS

FIELD INVESTIGATION SUMMARY

For the BiPPA study, a comprehensive field investigation was performed to further define how and where master plan improvements could be implemented at street level within the Veirs Mill area. Preparation and execution of field investigations followed these basic steps:

- 1) Downloaded basemapping and aerial imagery available from the Montgomery County Parks and Planning Commission online database to the office network server;
- 2) Uploaded basemapping onto mobile iPad/ArcMap platform;
- 3) Prepared a customized menu with all potential improvement types and loaded onto ArcMap;
- 4) Visited study area with field crews consisting of one or two transportation engineers and one GIS technician;
- 5) Collected locations, photos, and notes on various proposed improvements in the field using iPad/ArcMap platform; and
- 6) Uploaded data collected in the field to network server for further analysis and design.

The outlined method proved to be especially useful for locating potential spot improvements such as curb ramps, driveway aprons, APS/CPS, curb extensions, median refuge, signing, maintenance tasks, etc.

By performing field investigations, crews were also able to note other important factors such as site constraints, user behavior, facility operation, safety issues, and adjacent construction.



BICYCLE AND PEDESTRIAN NETWORK

There are existing bicycle lanes along Veirs Mill Road, northwest of the study area, between Twinbrook Parkway and Parkland Drive. These account for slightly less than 1.5 miles in total. At approximately eight to ten feet in width, these bike lanes are wide enough for two cyclists to ride abreast and are in relatively good condition.

At the southern terminus of the bicycle lanes at Parkland Avenue, the Veirs Mill cross-section changes to include an adjacent local road along the six-lane freeway. This road serves to provide local access and is also designated as a shared roadway, i.e. for use by bicyclists and automobiles. The shared roadway intersects with the Matthew Henson Trail at Edgebrook Road before dropping off at the Randolph Crossing Shopping Center. The shared roadway continues along Veirs Mill Road heading southeast from the Veirs Mill Road and Randolph Road intersection, before ending approximately 1,200 feet in advance of the intersection of Veirs Mill Road and Connecticut Avenue.

There are similar accommodations (shared roadways) along Connecticut Avenue. The eastern and western sides of the roadway have a shared roadway beginning at Brightview Street and continuing northward after the Randolph Road and Connecticut Avenue intersection. While shared roadways do provide a traffic-calmed route for bicyclists, this area lacks connectivity between bicycle facilities overall. Bicycle parking is not common in this study area and should be considered at the major commercial centers around the intersection of Veirs Mill Road and Randolph Road as well as at the Montgomery County Recreation Area.

Sidewalks are present along almost every street in this area, but may need maintenance and are often not ADA-compliant.

TRANSIT NETWORK

The Veirs Mill Road-Randolph Road BiPPA is served by public transportation bus lines. There are 34 bus stops in the area, providing regional connections to many different places. In fact, there are more than eight bus stops in the direct vicinity of the commercial parcels, making the Veirs Mill and Randolph Road crossing a highly trafficked area by non-motorized users.

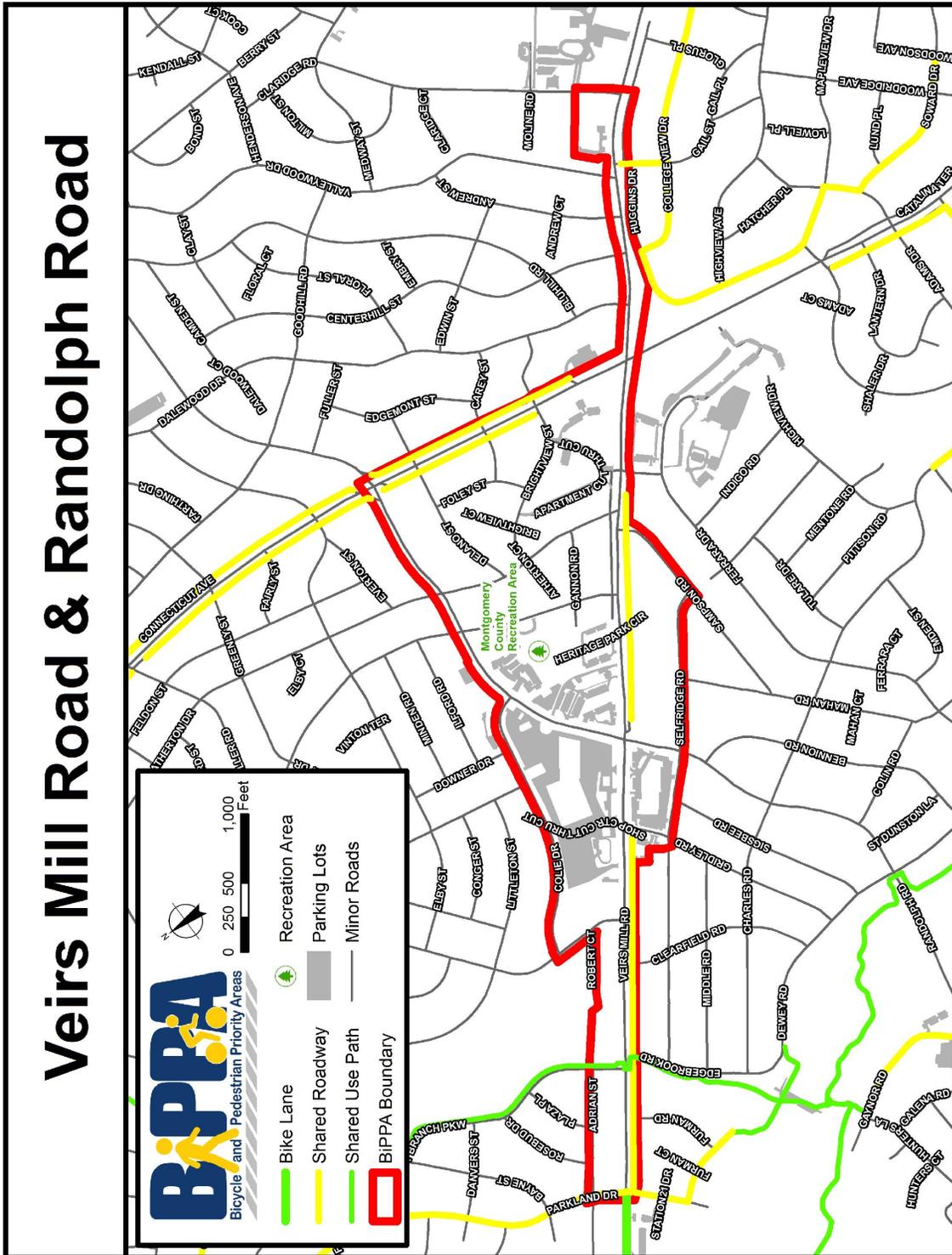


Figure 4: Current Bicycle Network

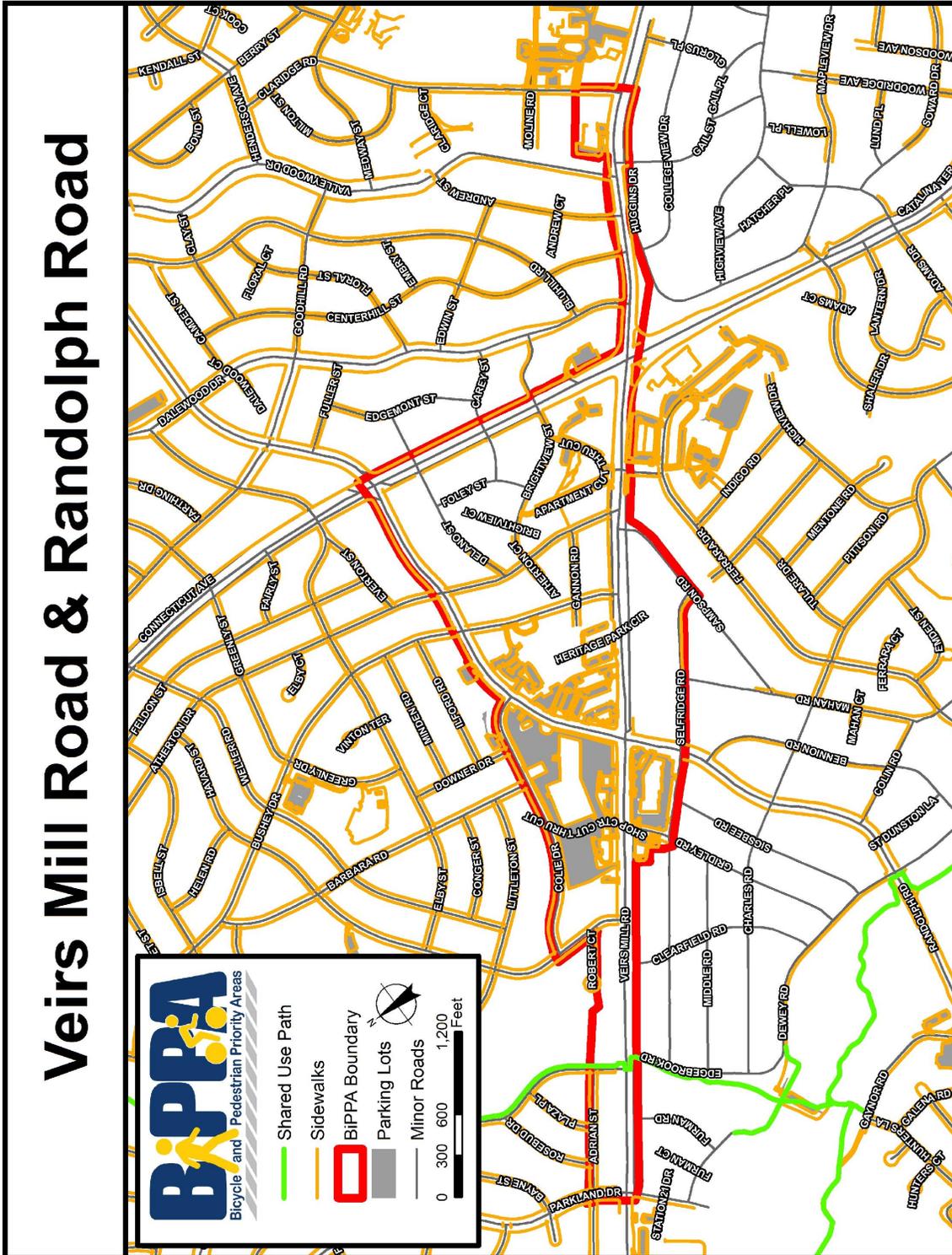


Figure 5: Current Pedestrian Network

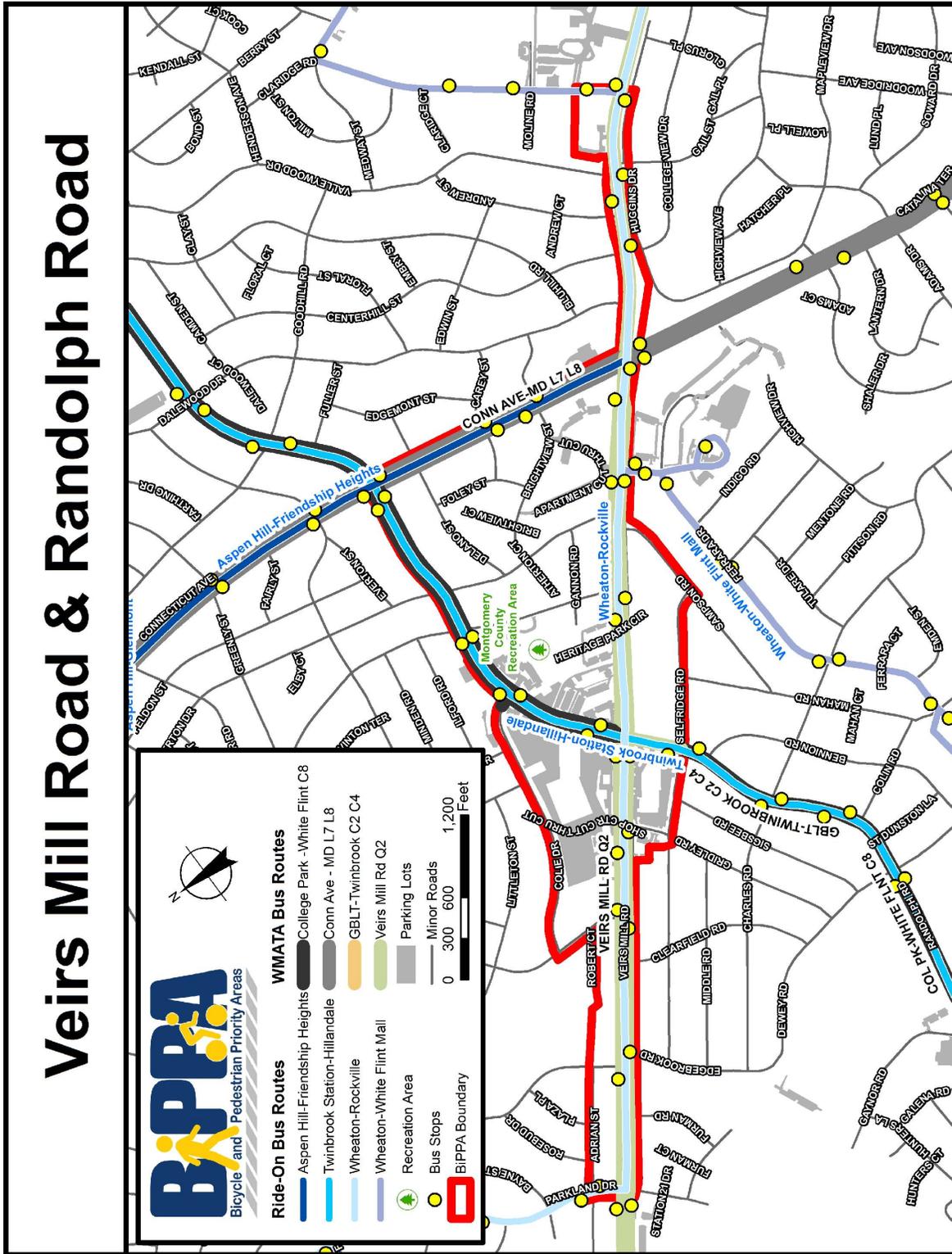
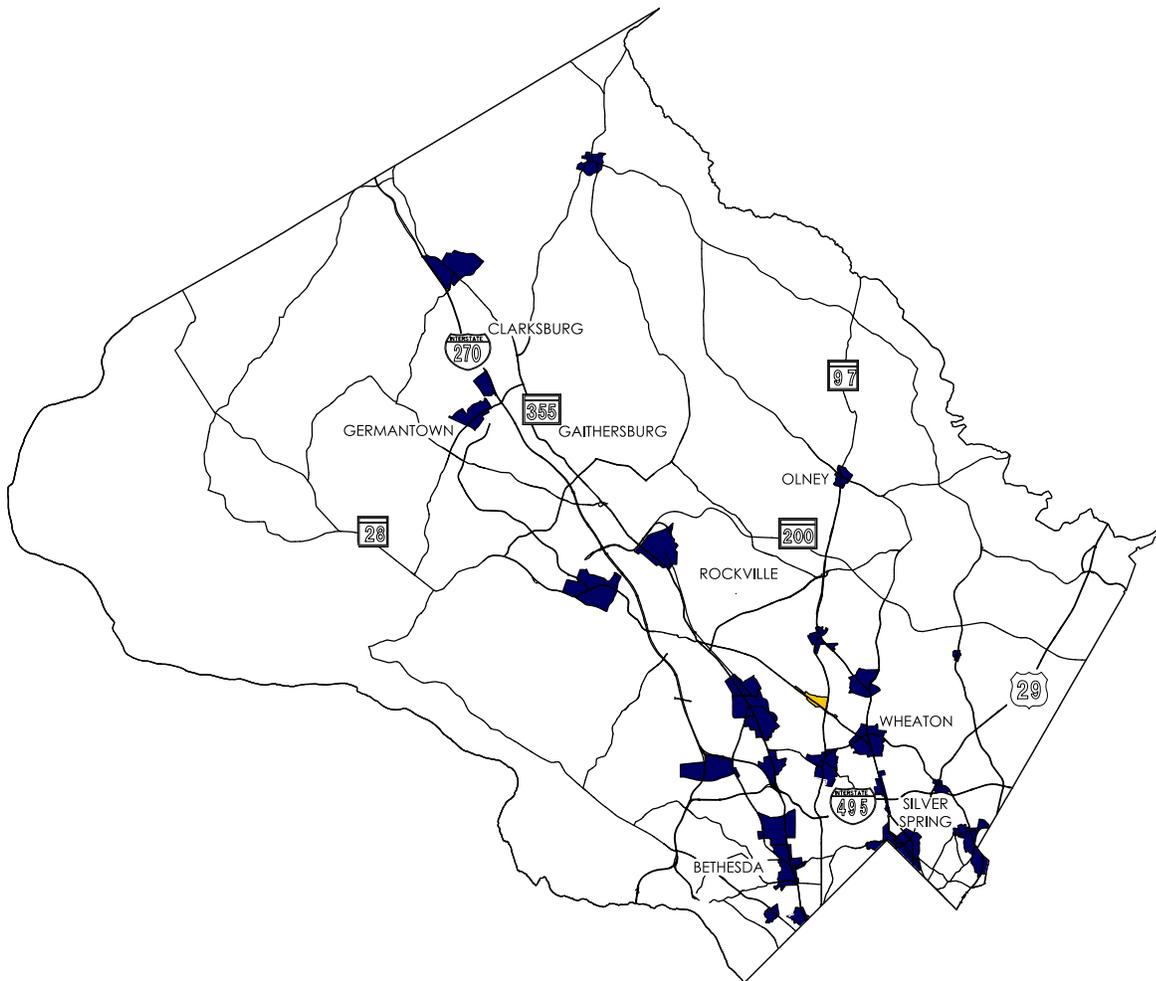


Figure 6: Current Transit Network

Veirs Mill Road– Randolph Road

Ranking Criteria





RANKING CRITERIA

This study proposes some improvements can be implemented almost immediately, some in phases or increments, while others will need to follow the capital project track through to planning, design and construction. To help prioritize improvements, the following factors have been considered for each of the proposed improvements:

1. Priority - High, Medium, Low
 - a. Determined based on the net sum of:
 - i. Benefits – Safety, Connectivity and Circulation, Transportation Equity, Accessibility, Infrastructure Upgrade, Master Plan, Public Input
 - ii. Impacts – Right of way, Environmental, Traffic, Parking, Utilities
2. Timeframe – Short-term (1 – 2 years), Mid-term (2 – 5 years), Long-term (5+ years)
 - a. Determined based on the sum of:
 - i. Design Tasks – Environmental Investigation, Survey, Utility Investigation, Soils Investigation, Traffic Study, Contract Documents, Public/Stakeholder coordination, Permits & Approvals, Right of way acquisition, Funding
 - ii. Construction Tasks – Paving, Grading, Structures, Utility Relocation, Drainage/Storm Water Management/Erosion & Sediment Control, Signals, Lighting, Signing & Marking, Traffic Control
3. Cost (Order of magnitude)
 - a. Broken down into the following ranges:
 - i. \$ = <\$10,000
 - ii. \$\$ = \$10,000 - \$100,000
 - iii. \$\$\$ = 100,000 - \$1,000,000
 - iv. \$\$\$\$ = 1,000,000 - \$5,000,000
 - v. \$\$\$\$\$ = >\$5,000,000



Priority is simply based on the ratio of benefits to impacts. For improvements with multiple benefits and few impacts, a high priority is the result. Likewise, improvements with few benefits and multiple impacts result in a low priority.

Timeframe is based on the number of design and construction tasks necessary to implement an improvement. Short-term improvements have an estimated completion time of 1-2 years and would require minimal design, coordination, or permits/approvals. Furthermore, short-term improvements can likely be implemented with established funding sources. Examples of short-term improvements include signing and marking, ADA upgrades, and maintenance tasks. Mid-term improvements have an estimated completion time of 2-5 years and would typically require a combination of further design, coordination, programmed funding, and permits/approvals. Typical mid-term improvements include shared-use paths, cycle tracks, and new signals. Lastly, long-term improvements have an estimated completion date that is greater than 5 years. These projects would require an extensive combination of further planning, design, coordination, political will, programmed funding, and permits/approvals. The typical scope of long-term improvements would include reconstruction and extensive impacts such as utility relocations and right of way acquisition.

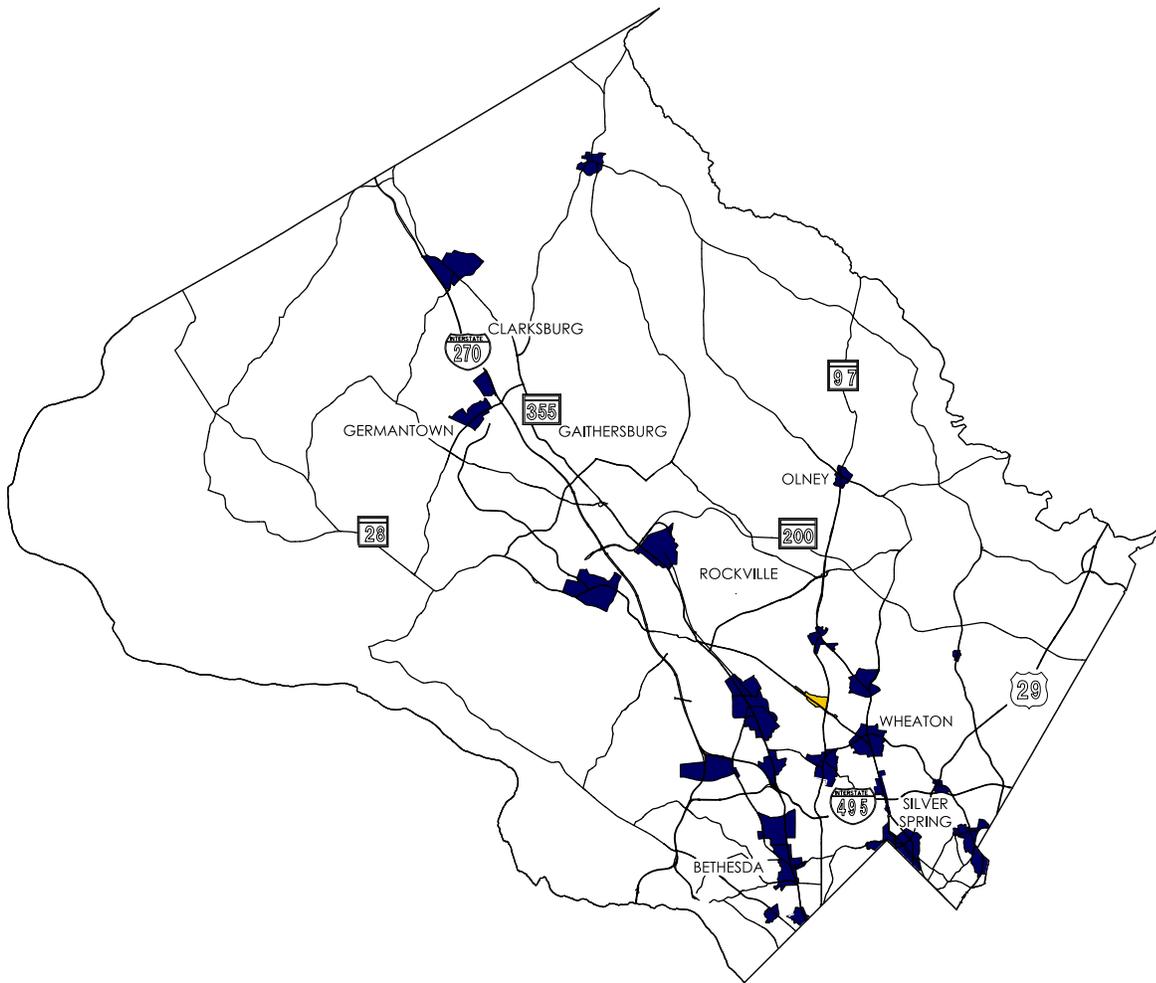
Cost is based on methodology provided in the attached appendix. However, the cost component is largely subjective and should only be considered as an order of magnitude.

The implementation for each improvement could follow a different track, depending on the factors listed above, as well as the implementing agency. However, short-term improvements could likely be constructed with a combination of basic design drawings and MCDOT and/or MDSA standard drawings to locate and construct improvements. Mid- and long-term improvements will generally require further project development that includes coordination, survey, design, ROW acquisition, permits, and/or approvals.

Funding sources are subject to change throughout the duration of this study. At the present time, all public transportation agencies and funding entities - federal, state, county, and municipal - are considered potential partners for funding of implementation and maintenance of these priority improvements. For county roads, funds are appropriated directly by the Montgomery County Council. For state roads, depending on the type of improvement, different funds can be used to implement improvements. Fund 76 and Fund 77 projects, commonly used for signal upgrades, pavement resurfacing, signing and marking, can incorporate bicycle and pedestrian accommodations. A list of known, potential funding sources is listed the appendices.

Veirs Mill Road– Randolph Road

Priority Improvements





PRIORITY IMPROVEMENTS

OVERVIEW OF IMPROVEMENT TYPES

The Veirs Mill-Randolph Road BiPPA has been evaluated for various bicycle and pedestrian improvements types. Proposed improvements have been developed and prioritized based on master or sector plan recommendations and public/stakeholder input.

In the Recommended Priority Improvements section, improvements are primarily organized by corridors or intersections. However, many improvement types can be implemented in an area-wide project format as well. The area-wide improvements include pedestrian curb ramps, reconstruction of driveway aprons, widening of sidewalk, reconstruction of sidewalk, striping or re-striping of crosswalks, the addition of APS/CPS, installation or relocation of pedestrian/bicycle signing, and general tree trimming maintenance. The linear improvements include the implementation of shared lanes (sharrows), bike lanes, and cycle tracks (a bicycle lane buffered or separated from adjacent automotive traffic) as well as the construction of shared-use paths and sidewalks.

Table 4: Improvement Type Summary

Improvement	Applications and Benefits
Sidewalk	<i>Pedestrian connections to parks, schools, residents, businesses, or other sidewalk / trail sections</i>
Shared-Use Paths	<i>Pedestrian connections to parks, schools, residents, businesses, or other sidewalk / trail sections</i>
Shared Roadway Markings	<i>Limited lane widths, on-street parking sections, wayfinding, or wherever correct bicycle positioning is vague</i>
Bike Lanes	<i>Higher-speed (greater than 25mph) streets to avoid some bicycle-car conflicts and create predictable movements</i>
Cycle Track	<i>Similar to bicycle lanes, also reduces some concerns from overtaking crashes and may reduce double-parking</i>
Curb Ramp	<i>Missing or non-ADA-compliant curb ramps</i>
Driveway Apron	<i>Deteriorated, missing, or non-ADA-compliant aprons</i>
Median Refuge	<i>Increases separation of pedestrians from car traffic to improve comfort levels and safety</i>
Curb Extension	<i>Shortens crossing distances, lowers speeds of turning vehicles, increases visibility of pedestrians entering an intersection</i>
Bike Box	<i>Reduces bicycle delay, increases bicycle convenience, and improves bicycle positioning in traffic in slow/start situations.</i>
Crosswalks	<i>Improves visibility of pedestrians in motorway (may be high-visibility markings), denotes best or preferred location for pedestrian crossings</i>
Accessible / Countdown Pedestrian Signal	<i>Replaces non-compliant signals, improves crossing safety for pedestrians, particularly on long crossing maneuvers</i>
Pedestrian-Actuated Signal	<i>Reduces pedestrian and vehicular delay</i>

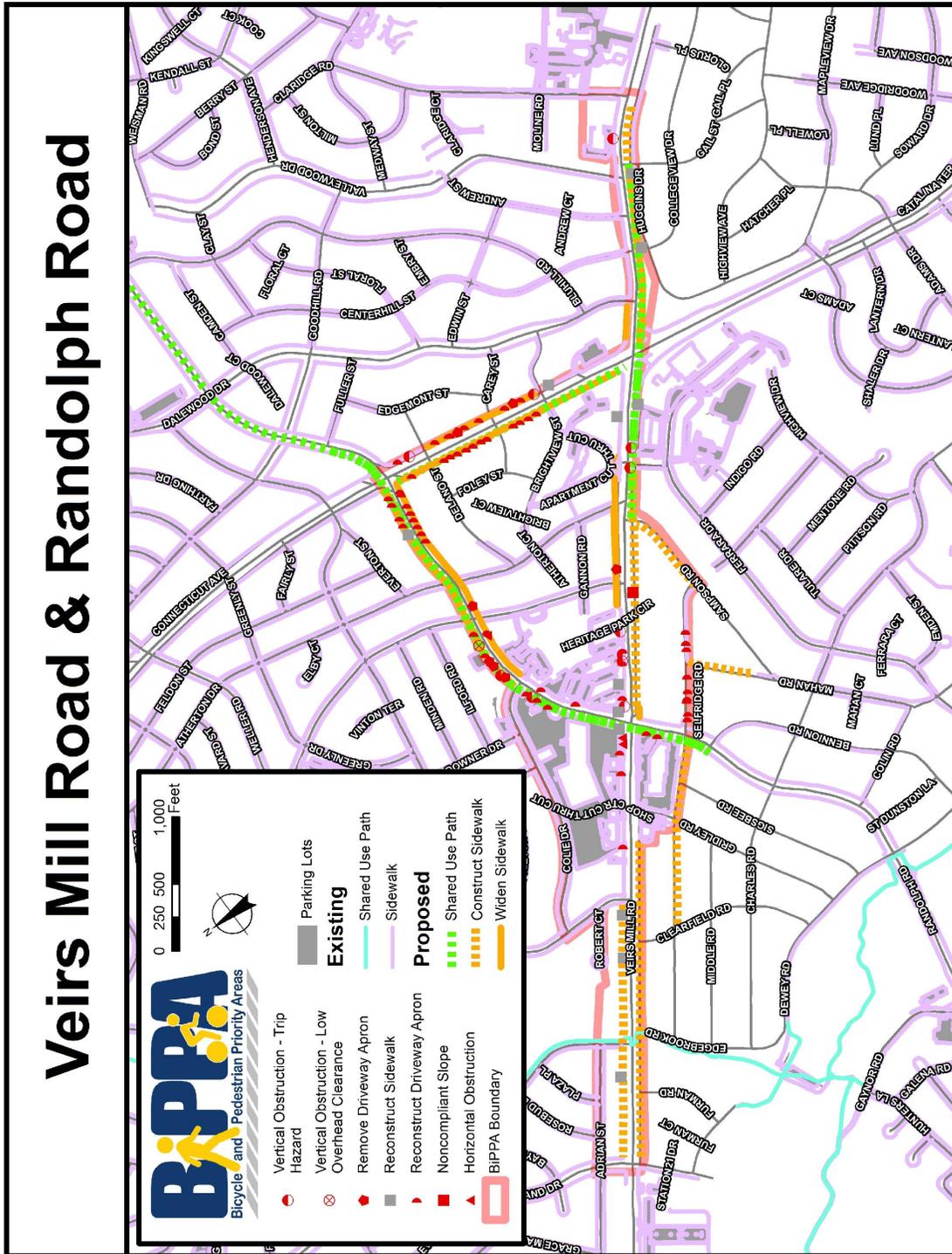


Figure 7: Proposed Sidewalk and Shared Use Path Improvements

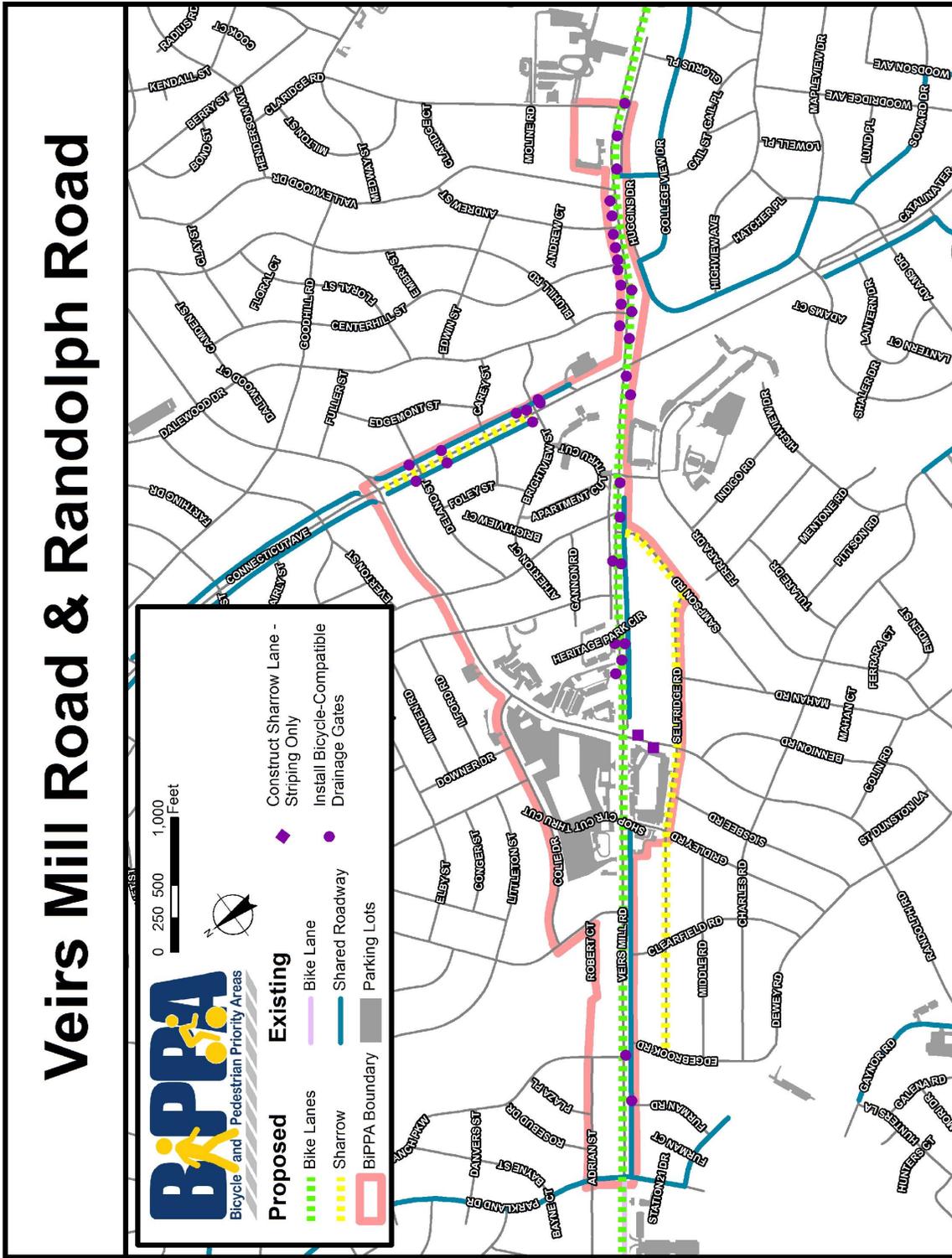


Figure 8: Proposed Bicycle Network Improvements

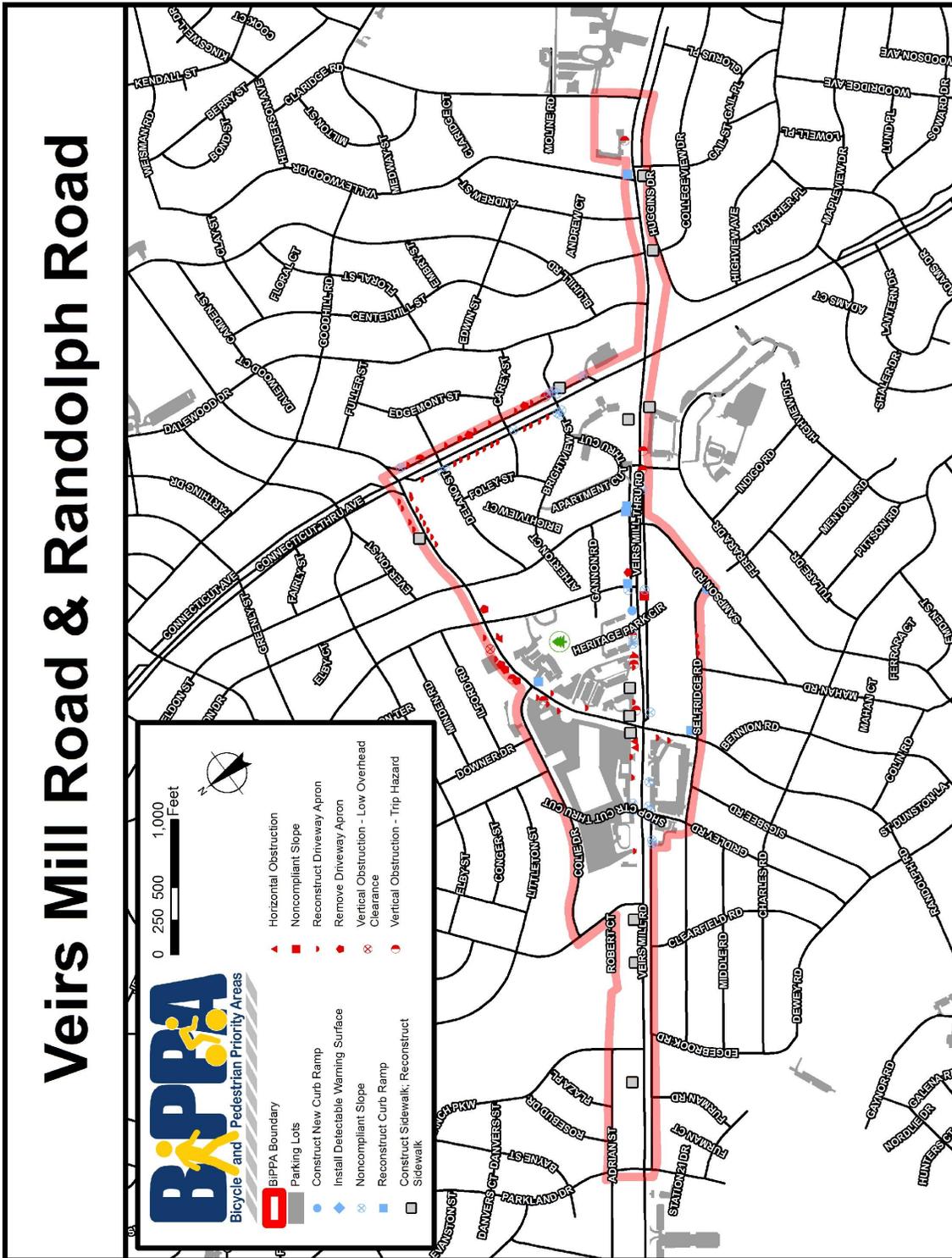


Figure 9: Proposed ADA Improvements

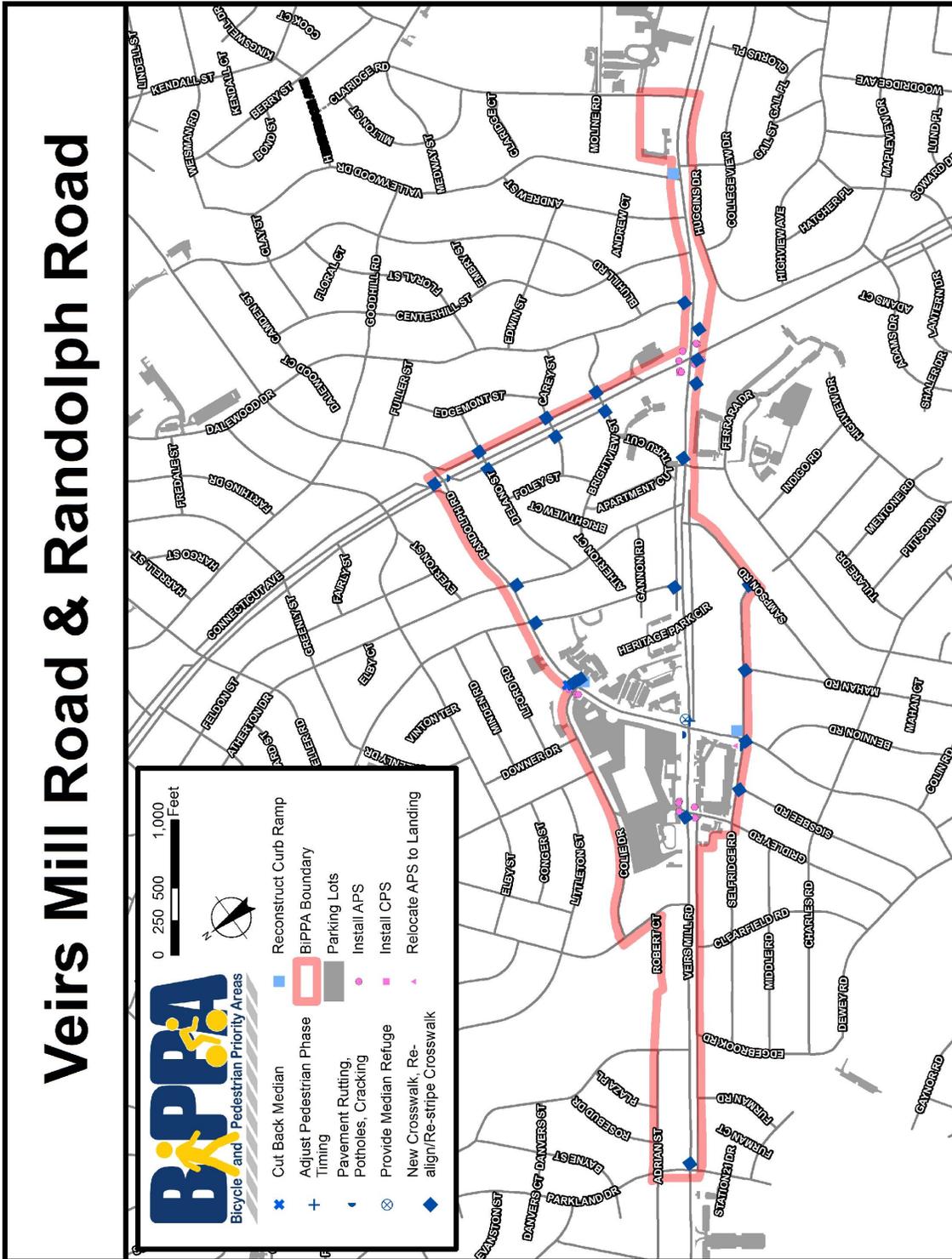


Figure 10: Proposed Intersection Improvements

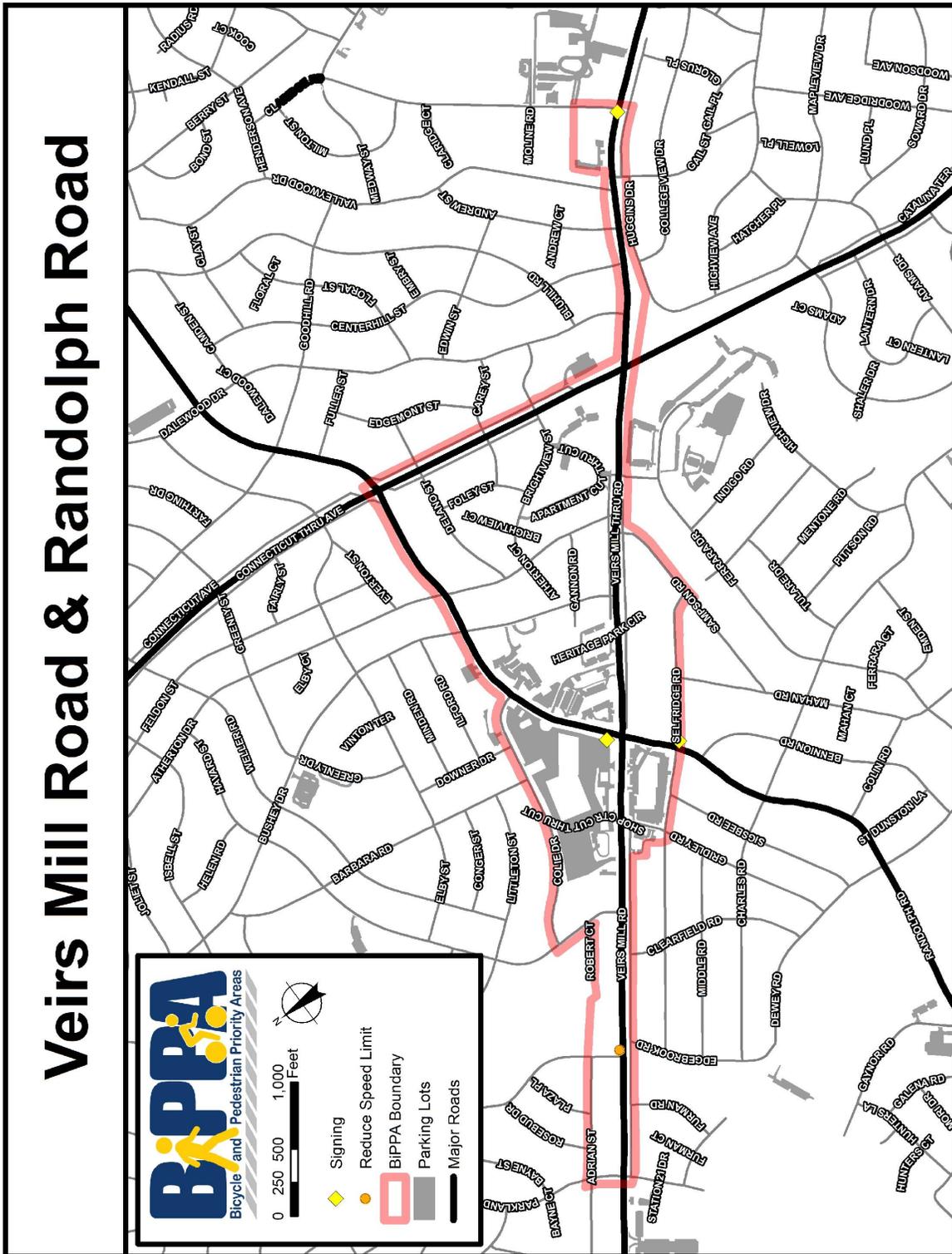


Figure 11: Proposed Safety Improvements

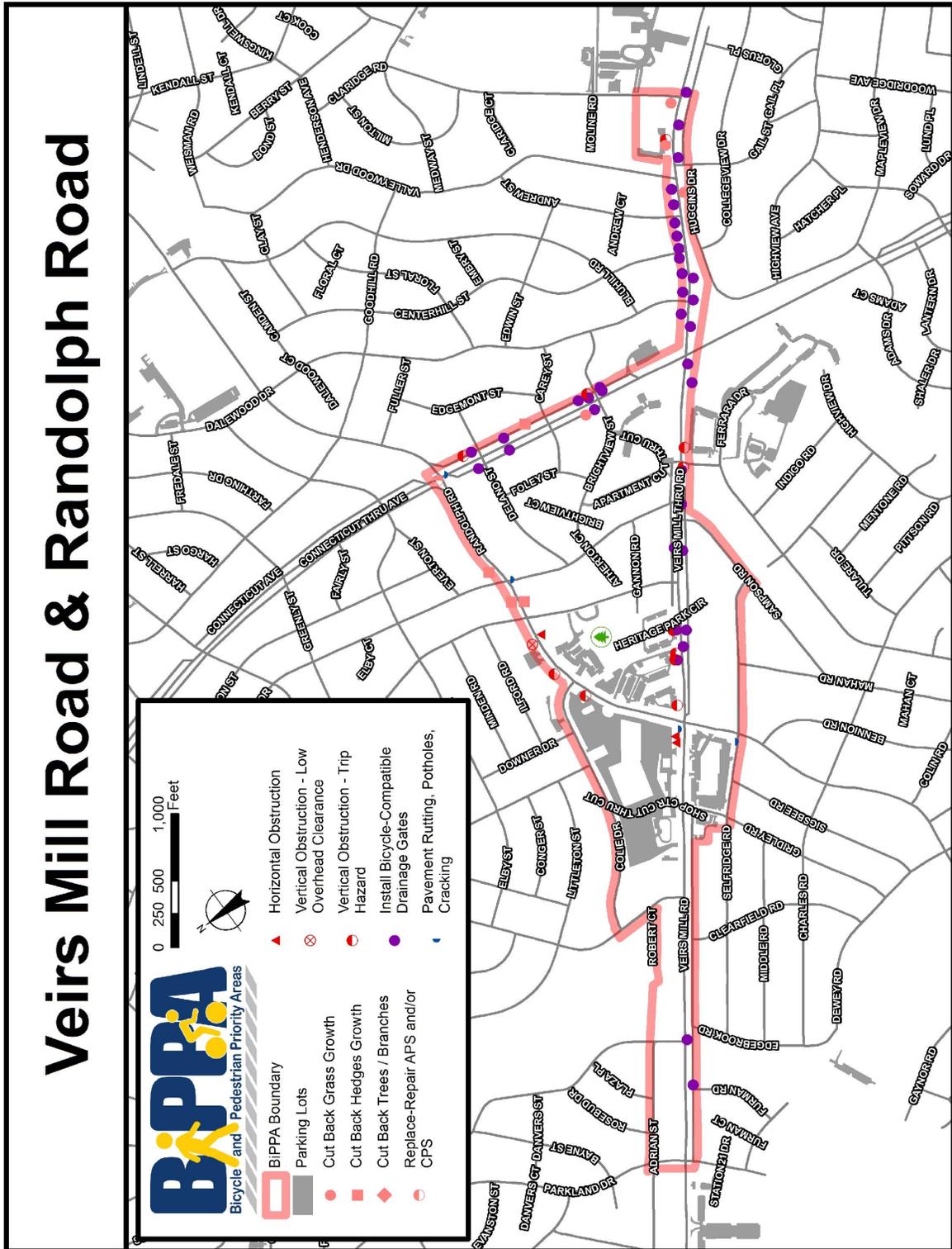


Figure 12: Proposed Maintenance



RECOMMENDED PRIORITY IMPROVEMENTS

The following section summarizes priority improvements developed for this BiPPA study. This section should be read in combination with the concept plans provided in Volume II. Priority and timeframe are based on the ranking criteria established in the previous section. Costs are also based on general assumptions and the cost methodology provided in Volume II.

Area Wide Recommendations

Improvement Type: *Signing, Sidewalk Upgrades, Pedestrian Signal Timing, Landscape Buffers, Bike Lanes*

Priority: High

Timeframe: Mid-term

Cost: \$\$

As relatively low-cost improvements, these area wide recommendations have the potential to transform the Veirs Mill Road – Randolph Road BiPPA in terms of pedestrian and bicycle infrastructure. The first recommendation is to enhance signing at intersections to reduce turning movement crashes. In conjunction with the recommendation to modify pedestrian signal timing to synchronize with the concurrent vehicle phase, this recommendation will improve the way pedestrians interact with vehicles at intersections. Another key recommendation is to upgrade all sidewalks in the BiPPA area to MdSHA standards with special attention to those sidewalks along the proposed BRT routes. As transit is an important mode within this BiPPA area, ensuring that sidewalks along BRT routes are wide enough to accommodate people walking to and from the BRT stations will be an important consideration. Providing landscaped buffers and curb ramps, another area wide recommendation, will enhance the pedestrian environment and make walking (and taking transit) more attractive. The final area wide recommendation is to construct bike lanes along Veirs Mill (MD 586), Connecticut Avenue (MD 185), and Randolph Road. While bike lanes may not be feasible along these roads, many of the recommendations below are aimed at accommodating bicyclists safely in this area. Bike lanes, however, are appropriate along some of the major roadways in the Veirs Mill Road – Randolph Road BiPPA and should be considered for implementation.



Connecticut Avenue (MD 185)

From Veirs Mill Road (MD 586) to Randolph Road

Improvement Type: *Shared roadway, Signage & Markings, Shared-use Path, Drain Replacement, Reconstruct Driveway Aprons*

Priority: *High*

Timeframe: *Mid-term*

Cost: *\$\$*

Adding infrastructure that supports safe cycling along this corridor is a vital piece of making the entire area better for cyclists. The Countywide Bikeways Functional Master Plan suggests the implementation of a shared use path of roughly 550 feet on the west side of Connecticut Avenue (MD 185) from Veirs Mill Road (MD 586) to Brightview Street, and then a sharrow between Brightview Street and Randolph Road. However, due to the presence of shared service roadways on both sides of Connecticut Avenue (MD 185) from Randolph Road to Brightview Street, sharrows should be implemented on these service roads instead of on Connecticut Avenue (MD 185) proper. The shared use path will replace existing sidewalk, requiring some new construction/widening. Parking will likely not be impacted as a result of implementing sharrows, though some disruption may occur during striping. Another improvement that should be considered is replacing the drainage grates along the service roads with bicycle-compatible designs. Concurrent with the construction of the shared use path, it is recommended that the driveway aprons be reconstructed to comply with the Americans with Disabilities Act (ADA).

From Veirs Mill Road (MD 586) to Randolph Road

Improvement Type: *Widen Sidewalks, Construct New Sidewalks, Reconstruct Driveway Aprons*

Priority: *High*

Timeframe: *Mid-term*

Cost: *\$\$\$*

There are also pedestrian improvements recommended for this segment of Connecticut Avenue (MD 185). First, the entire sidewalk from Veirs Mill Road (MD 586) to Randolph Road is recommended for widening on the west side of Connecticut Avenue (MD 185), while the sidewalk from Brightview Street to Delano Street should also be widened on the east side. These sidewalk widening projects provide a unique opportunity to reconstruct driveway aprons on these roads to ensure that they are ADA compliant. Other pedestrian recommendations include re-aligning and restriping crosswalks at each intersection along Connecticut Avenue (MD 185). This should occur at each intersection along Connecticut Avenue (MD 185) in the BiPPA study area, including Randolph Road, Delano Street, Carey Street, and Brightview Street. Additionally, this study documented the presence of trip hazards along the existing sidewalk on the east side of Connecticut Avenue (MD 185); any pedestrian treatment in this area should include a provision to repair these problem locations. Some sidewalk reconstruction is required on the east side of Connecticut Avenue (MD 185) between Brightview Street and Veirs Mill Road. It is recommended that Audible Pedestrian Signals (APS) be installed and crosswalk restriping be done at the intersection of Connecticut Avenue and Veirs Mill Road.



Randolph Road

From Selfridge Rd (BiPPA Boundary) to Connecticut Avenue (MD 185) (BiPPA Boundary)

Improvement Type: *Street Lighting*

Priority: *High*

Timeframe: *Short-term*

Cost: *\$*

The Randolph Road Pedestrian Road Safety Audit recommends improving lighting along the corridor in order to improve pedestrian safety. In order to do this existing street lighting must be surveyed and replaced if deemed non-functional or substandard, and additional street lighting should be installed to fill in where none yet exists.

From Selfridge Rd (BiPPA Boundary) to Connecticut Avenue (MD 185) (BiPPA Boundary)

Improvement Type: *Widen Sidewalks, Remove/Reconstruct Driveway Aprons, APS, Install Truncated Domes*

Priority: *Medium*

Timeframe: *Mid-term*

Cost: *\$\$\$\$*

Randolph Road crosses the Rock Creek Park Trail south of the Veirs Mill and Randolph Road BiPPA study area. In order to provide better connections to the trail as well as to Wheaton High School to the northeast of the study area, wider sidewalks and a shared use path (see next recommendation) are recommended on the portion of Randolph Road in the BiPPA area. Sidewalks should be widened along Randolph Road between Colie Drive and Connecticut Avenue. This will provide a high quality pedestrian facility to the Montgomery County Recreation area as well as to bus stops and commercial amenities.

During any sidewalk widening projects, addressing crosswalks and ADA compliance is also recommended. There are numerous driveway aprons that need to be reconstructed to the west of the Randolph Road and Connecticut Avenue (MD 185) intersection, while new crosswalks should be striped at Bushey and Atherton Drives. APS should also be considered at the intersection of Colie Drive and Randolph Road as well as cutting back the median and reconstructing the curb ramps to comply with ADA regulations at that location.

From Selfridge Rd (BiPPA Boundary) to Connecticut Avenue (MD 185) (BiPPA Boundary)

Improvement Type: *Shared-Use Path*

Priority: *Low*

Timeframe: *Long-term*

Cost: *\$\$\$\$*

Randolph Road is a six-lane divided roadway that is generally unfriendly to cyclists. The Countywide Bikeways Functional Master Plan recommends a shared use path be constructed along Randolph Road as part of a larger system. This path should run the entirety of the BiPPA.



As pedestrians and vehicles are reasonably accommodated along Randolph Road and in the Veirs Mill BiPPA generally, any proposed improvements should consider accommodating bicyclists, since relatively little infrastructure currently exists.

The shared use path at this location should be installed on existing sidewalk, upgrading the facility from a five to a 10-foot wide shared use path. The shared use path should be designed to avoid existing overhead utilities and any existing drainage structures. In order to successfully install this path, drainage improvements, lighting, storm water management, and erosion and sediment control measures should also be considered along Randolph Road. Conducting public outreach around this proposed improvement will be important and should include coordinating with the community, PEPCO, M-NCPPC, and the Department of Permitting Services.

From Selfridge Rd (BiPPA Boundary) to Connecticut Avenue (MD 185) (BiPPA Boundary)

Improvement Type: Sidewalk Connections

Priority: Medium

Timeframe: Mid-term

Cost: \$

Several commercial businesses are located around the intersection of Randolph Road and Veirs Mill Road. Although sidewalks are present along the corridor, many lack direct connections to the businesses the pedestrians are trying to reach. The Randolph Road Pedestrian Road Safety Audit recommended adding formal pathways that lead from the sidewalks and other spaces where pedestrians may originate from, to commercial properties along the corridor. Specifically, a staircase from the Stonemill Square to the sidewalk and crosswalk connections within the Dunkin Donut/Latin Bakery parking lot could be considered.

From Selfridge Rd (BiPPA Boundary) to Connecticut Avenue (MD 185) (BiPPA Boundary)

Improvement Type: Sidewalks

Priority: High

Timeframe: Short-term

Cost: \$\$

Although pedestrian crossings are placed at all major intersections along Randolph Road, many midblock crossings are still made along the corridor. These crossings run a large safety risk. The Randolph Road Pedestrian Road Safety Audit recommended the installation of a barrier or strategic landscaping in the median to prevent uncontrolled mid-block crossings. This recommendation is most pertinent to the block between Veirs Mill Road (MD 586) and Colie Drive.



From Selfridge Rd (BiPPA Boundary) to Connecticut Avenue (MD 185) (BiPPA Boundary)

Improvement Type: Crosswalk Encroachment/Median Crossing Islands.

Priority: High Timeframe: Short-term Cost: \$\$

Medians are present along Randolph Road throughout the BiPPA. Although these medians act as an important device, they often stretch into the crosswalks limiting space for pedestrians wishing to cross from one side of Randolph Road to another. The Randolph Road Pedestrian Road Safety Audit recommended removing the part of the median which encroaches into the crosswalks. This is a particular issue at the Colie Drive and Randolph Road intersection, though strategic implementation of median refuge islands should also be considered along the corridor, particularly at the crossing of Veirs Mill Road (MD 586) and Randolph Road.

From Selfridge Rd (BiPPA Boundary) to Connecticut Avenue (MD 185) (BiPPA Boundary)

Improvement Type: Crosswalk Enhancement

Priority: High Timeframe: Short-term Cost: \$

Crosswalks are very important for pedestrian safety and are particularly effective if striped using high visibility patterns and paint. Many of the crosswalks along Randolph Road use the Parallel Bars, while the intersection of Randolph Road and Connecticut Avenue (MD 185) uses the zebra strip pattern. The recommendation is to restripe all the crosswalks using the High Visibility Crosswalk pattern at the intersection of Randolph Road and Selfridge Road, Colie Drive, Bushey Drive, Atherton Drive, and Connecticut Avenue (MD 185).

Sampson Road

From Selfridge Road to Veirs Mill Road (MD 586)

Improvement Type: Shared Roadway, New Sidewalk, Signage

Priority: High Timeframe: Mid-term Cost: \$

The Countywide Bikeways Functional Master Plan recommends sharrow markings to be added to the surface of Sampson Road from Selfridge Road to Veirs Mill Road as part of a larger system. Additionally, it is also recommended that a sidewalk be constructed on the west side of Sampson Road between Selfridge Road and Veirs Mill Road. Sampson provides a good alternate route for pedestrians and bicyclists to avoid crossing Randolph Road at the busy intersection with Veirs Mill Road (MD 586). Improving this “back” access can improve safety both for neighborhood residents and people passing through this area.



Selfridge Road

From Edgebrook Road to Sampson Road

Improvement Type: Shared roadway, Signage & Markings

Priority: High

Timeframe: Mid-term

Cost: \$

The Countywide Bikeways Functional Master Plan recommends sharrow markings to be added to the surface of Selfridge Road from Edgebrook Road to Sampson Road. Selfridge Road currently serves as a traffic-calmed route for bicyclists and should be designated to indicate to drivers that bicyclists are likely to use the roadway.

Veirs Mill Road (MD 586)

From Sampson Road to Gail Street

Improvement Type: Shared-use Path

Priority: Medium

Timeframe: Mid-term

Cost: \$\$\$

Veirs Mill Road provides an important connection to travelers in the region, but has little infrastructure to make it accommodating to cyclists. While pedestrian accommodations are present, they do not provide a high level of comfort as the sidewalk is directly adjacent to the six lanes of Veirs Mill Road. The Countywide Bikeways Functional Master Plan recommends that a shared use path be constructed on Veirs Mill Road (MD 586) from Sampson Road to Gail Street. Providing a safe, comfortable, and high-quality facility for bicyclists and pedestrians to cross the Veirs Mill (MD 586) and Connecticut Avenue (MD 185) intersection will reduce crashes and facilitate access to bus stops.

Service Roads

Improvement Type: Shared roadway. Signage & Markings

Priority: High

Timeframe: short-term

Cost: \$

Veirs Mill Road provides an important connection to travelers in the region, but has little infrastructure to make it accommodating to cyclists. While pedestrian accommodations are present, they do not provide a high level of comfort as the sidewalk is directly adjacent to the six lanes of Veirs Mill Road. We recommend that the current service road be stripped to provide a shared roadway in either direction.



From Heritage Park Circle to Ferrara Avenue

Improvement Type: Widen Sidewalk

Priority: Medium

Timeframe: Mid-term

Cost: \$\$

Taking advantage of the right of way available on Atherton Drive, the recommendation is to widen the sidewalk between the Heritage Park Business Center and Ferrara Avenue. This section provides important linkage between multi-family housing developments, the Montgomery County Recreation Center, commercial amenities and other businesses. This improvement would also provide a safe and comfortable facility for people using the bus stop located at the corner of Ferrara Avenue and Veirs Mill Road (MD 586).

From Parkland Drive to Havard Street; Parkland to Gridley; Randolph Road to Gail Street

Improvement Type: Construct New Sidewalk

Priority: Medium

Timeframe: Mid-term

Cost: \$\$\$

This project recommends new 6' sidewalk construction along Veirs Mill Road (MD 586) on the north side between Parkland Drive and Havard Street. This area is largely devoid of development, likely making the construction of a sidewalk less costly. Sidewalks are also recommended on the south side of Veirs Mill Road (MD 586) between Parkland Drive and Gridley Street and Randolph Road and Gail Street. The Randolph-Gail section falls along the same alignment as a proposed shared use path originally recommended in the Countywide Bikeways Functional Master Plan. Only one facility will be necessary to accommodate bicyclists and pedestrians along this stretch of the Veirs Mill Road (MD 586) corridor.

From Sampson Road to Gail Street

Improvement Type: New Crosswalks, APS, Sidewalk Improvements

Priority: Low

Timeframe: Mid-term

Cost: \$\$

New high-visibility crosswalks are recommended at six locations along Veirs Mill Road (MD 586) at Parkland Drive, Gridley Road, Ferrara Drive, Connecticut Avenue, and Dalewood Drive. In addition to crosswalks, installing APS at major intersections is also recommended to bring the area into compliance with ADA. These signals are recommended at the intersection of Veirs Mill Road (MD 586) with Gridley Road and Connecticut Avenue (MD 185). The sidewalks should also be improved along Veirs Mill Road (MD 586) to a minimum of 6'.

VEIRS MILL RD – RANDOLPH RD



Along Veirs Mill Road (MD 586)

Improvement Type: Reduce Speed Limit, Signing

Priority: Low

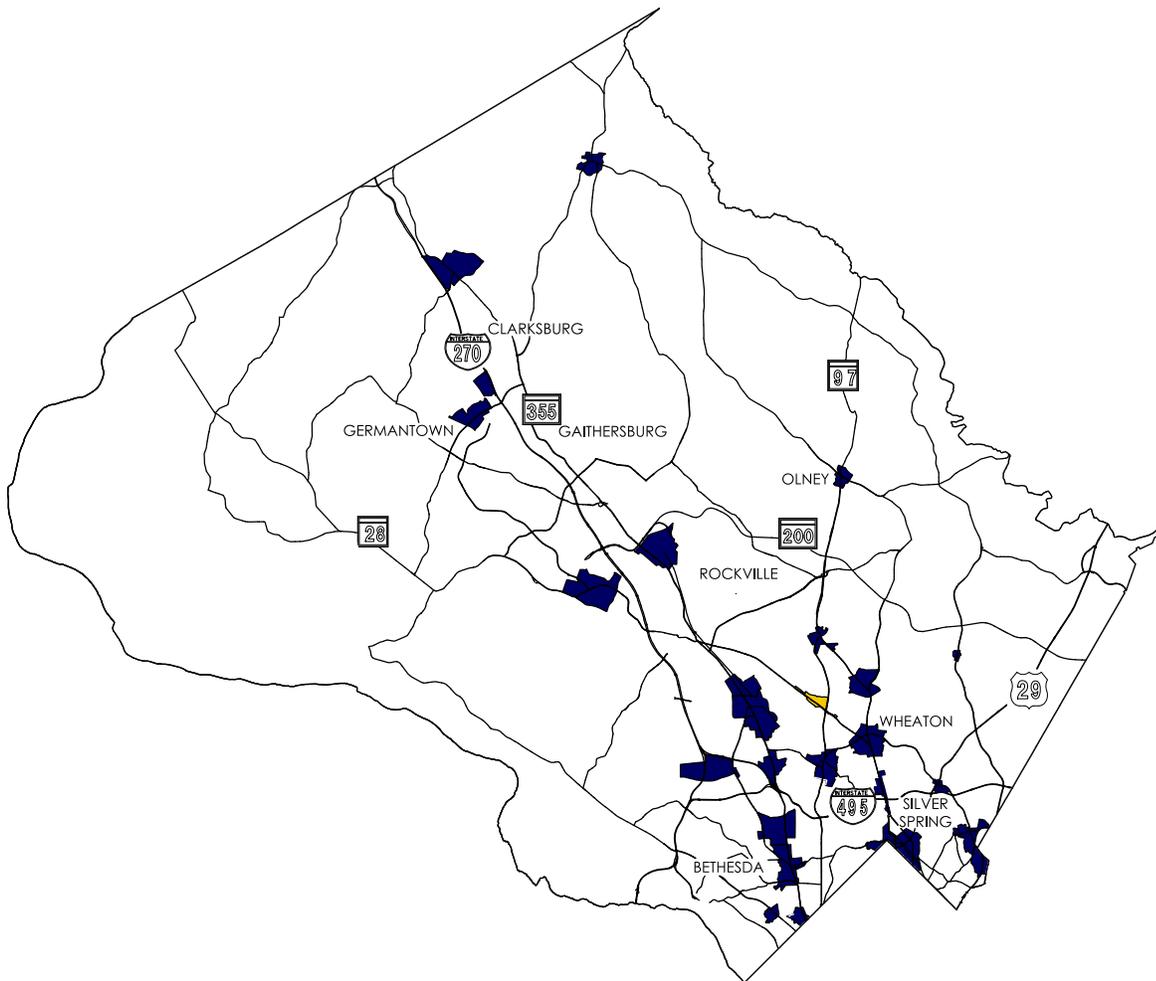
Timeframe: Short-Term

Cost: \$

By adding signs indicating that the Veirs Mill Road-Randolph Road BiPPA area is a high volume pedestrian, bicycle, and transit area and reducing the speed limit, motorists will give more attention to pedestrians and change their driving habits to accommodate pedestrians. The speed limit should be reduced to 35 mph through the BiPPA area and other indications that the roadway has changed, such as lane narrowings or transverse rumble strips, should be considered. Signs should be located at the entrances to the BiPPA area at approximately Veirs Mill Road (MD 586) and Claridge Road and Veirs Mill Road (MD 586) and Parkland Drive. Similar signs should also be installed at locations on Randolph Road and Connecticut Avenue.

Veirs Mill Road– Randolph Road

Conclusion





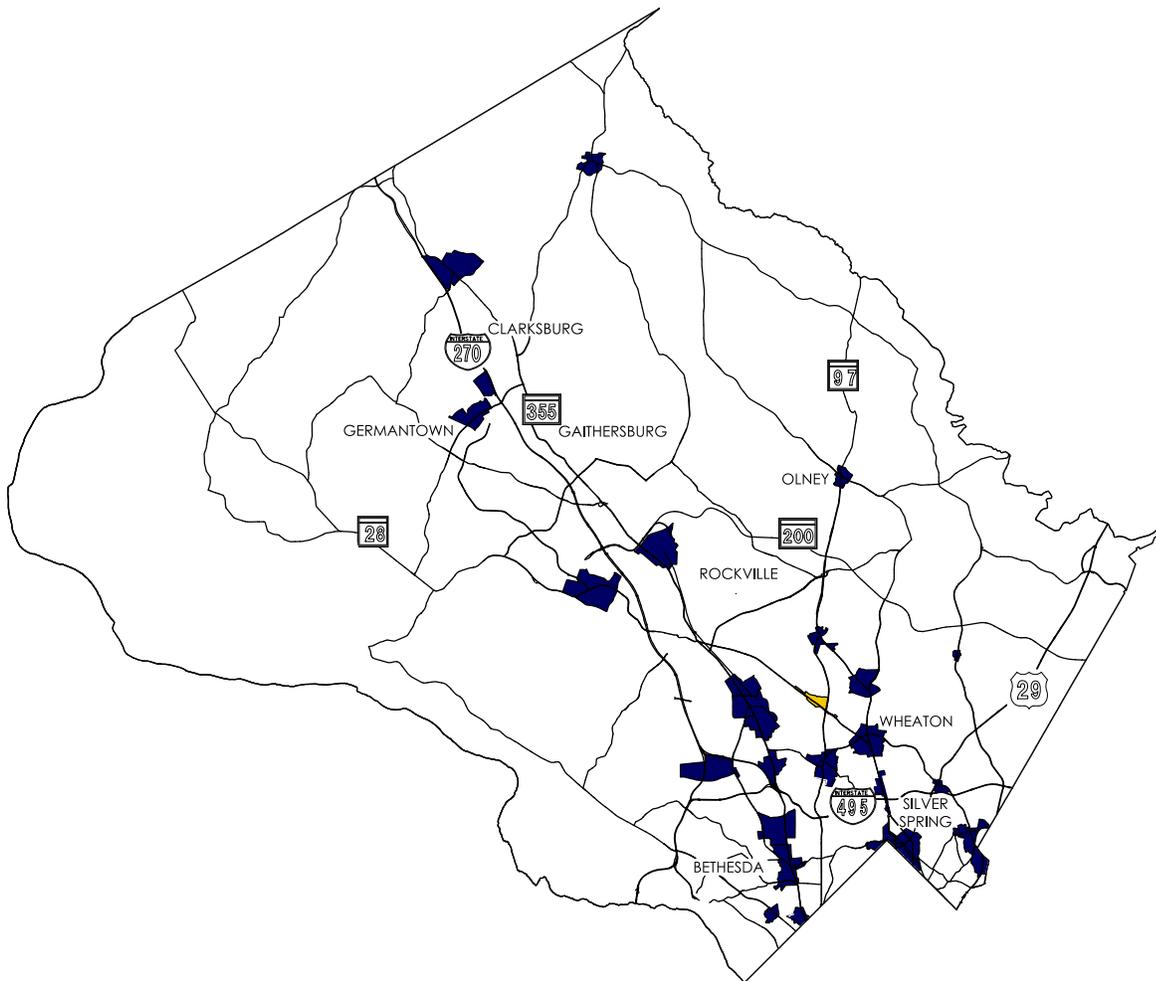
CONCLUSION

The Veirs Mill Road-Randolph Road BiPPA was constructed with infrastructure primarily designed to support the vehicular users. However, the study area has the potential to be a moderately to highly walkable and bikeable community if the right changes are implemented. The area is a suburban community with curvilinear streets and mostly single-family homes. Its wide residential streets include a well-connected network of existing sidewalks and diverse points of interest. Residents already are utilizing the eight bus stops in close proximity to its commercial core, and many of them are getting to and from the stops on foot or on bike. A few well-placed improvements could boost connectivity, improve safety, and reduce automobile dependency in the area.

One or two “cornerstone” improvements, such as implementing bike lanes on Sampson road and installing a shared roadway on the service roads for Connecticut Avenue and Veirs Mill Road, should be prioritized for short-term implementation. Targeted engagement of the residential and commercial development communities in the area should also be made a priority in the short-term. This outreach could have great influence on the area's priorities by providing insight into local wants and needs. There is no shortage of opportunities to upgrade infrastructure to current standards. The best strategy to achieve short-term results will be to undertake improvements that require little to no excavation, are located in Montgomery County right-of-way, and have established funding sources. This primarily includes signing & marking, curb ramps, APS/CPS, median refuge, curb extensions, and driveway aprons.

Veirs Mill Road– Randolph Road

References





REFERENCES

1. Accessibility Policy and Guidelines for Pedestrian Facilities along State Highways, Maryland State Highway Administration, June 2010.
2. Bicycle Policy and Design Guidelines, Maryland State Highway Administration, January 2015.
3. Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations, Federal Highway Administration, August 2005.
4. Guide for the Development of Bicycle Facilities, American Association of Highway and Transportation Officials, Fourth Edition, 2014.
5. Manual for Uniform Traffic Control Devices (Maryland version), Federal Highway Administration, 2009 Edition.
6. Urban Bikeway Design Guide, National Association of City Transportation Officials, Second Edition, 2014.
7. Urban Street Design Guide, National Association of City Transportation Officials, 2013.