CENTRAL AVENUE CONNECTOR TRAIL

FEASIBILITY STUDY AND IMPLEMENTATION PLAN

$15.00

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION
PRINCE GEORGE'S COUNTY PLANNING DEPARTMENT

Central Avenue
Metro Blue Line
TOD

DECEMBER 2015

ABSTRACT

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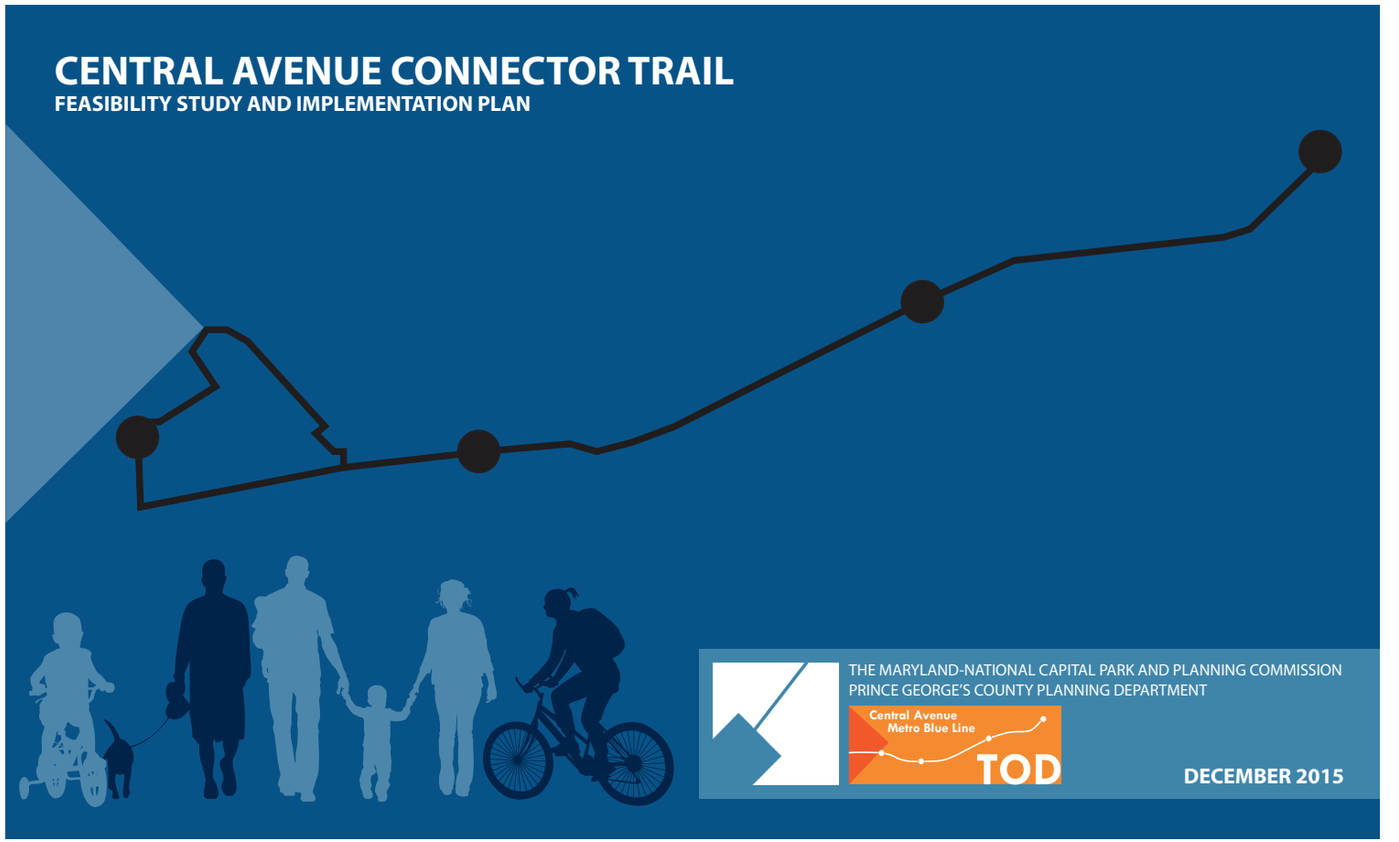
Abstract: The Central Avenue Connector Trail (Connector Trail) Feasibility Study and Implementation Plan was initiated in order to assist The Maryland-National Capital Park and Planning Commission (M-NCPPC), Prince George's County Planning Department in establishing a nonmotorized trail project in the Central Avenue Corridor to support the implementation of (recommendations made in) the 2010 *Subregion 4 Master Plan and Sectional Map Amendment* and 2014 *Central Avenue-Metro Blue Line Corridor Transit-Oriented Development (TOD) Implementation Project Mobility Study*. Developed with the assistance of the community, property owners, residents, elected officials, and state and County agency representatives, this document outlines a proposed trail alignment, provides a description of existing conditions, and illustrates an overall vision for the project. Additionally, this report explores various approaches to implementation including community engagement, phasing, cost-estimates for preliminary engineering, and potential funding opportunities. Detailed information on the Trail Alignment, Design, and Features, including maps and descriptions of the proposed trail alignment, alternative alignments, and information on key design elements such as Americans with Disabilities Act (ADA)-compliance and safety, and overall concepts relating to health & wellness, mobility, transit access, and economic development, can be found herein.



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EXECUTIVE SUMMARY

This report is divided into the following sections:

An **Introduction** that includes a description of existing conditions along the proposed trail alignment, a summary of stakeholder input and community engagement, a vision for the trail, information on best practices for trail design, and a case study of trails similar in vision or purpose.

Detailed information on the **Trail Alignment** and the **Trail Design and Features**, including maps and descriptions of the proposed trail alignment, alternative alignments, information on key elements of the Connector Trail's design such as ADA-compliance and safety, and proposed design concepts for the trail (10 cross-sections and 2 conceptual drawings)[1].

An **Implementation Plan** that presents trail phasing, implementation opportunities, planning-level costs for preliminary engineering (i.e., 30 percent design), a 12-month planning timeframe, and a table of potential funding sources.

EXECUTIVE SUMMARY

The Central Avenue Connector Trail (Connector Trail) is being planned to complement the ongoing economic, community, and cultural revitalization of the Central Avenue-Metro Blue Line Corridor, which includes four Metro stations: Capitol Heights, Addison Road-Seat Pleasant, Morgan Boulevard, and Largo Town Center. The Maryland-National Capital Park and Planning Commission (M-NCPPC) is in the implementation phase of the planning effort, which seeks to stimulate economic development and make the corridor a highly desirable location for commercial and residential development. The Connector Trail is envisioned as an important element of the revitalization effort, serving to improve transit access, link with the broader County/regional trail network, and improve connections between local destinations. The Connector Trail is also envisioned as an important recreation destination and a valued community asset.

This study, funded by the Metropolitan Washington Council of Government's Transportation-Land Use Connection (TLC) Program, explores the feasibility of the Connector Trail, presents recommendations related to the trail alignment and design, and provides a plan for phased implementation. This project builds off of an initial concept for the Connector Trail that was recommended in the 2014 *Central Avenue-Metro Blue Line Corridor TOD Implementation Project Mobility Study*.

The proposed alignment and the design of the trail were both developed with guidance from M-NCPPC staff, and with significant input from various stakeholders including residents, County agencies, landowners, the Washington Metropolitan Area Transit Authority (WMATA), the Maryland State Highway Administration (SHA), the Town of Capitol Heights, and the City of Seat Pleasant. The proposed alignment covers just over 8.603 miles, most of which is designed as a multi-use trail. Other designs, such as a combination of sidewalks and on-street bicycle facilities, are proposed in certain sections as appropriate.

The design of the trail will aim to maximize directness, access, and compliance with the American's with Disabilities Act (ADA). Furthermore, safety is of the utmost importance to the success of the Connector Trail, and was a prominent theme of the community and stakeholder input provided throughout the plan implementation process for this project. Recommended safety features include high-visibility crosswalks and other improvements at trail intersections, pedestrian-scale lighting, and emergency call boxes (or comparable tools for facilitating emergency responses). Trail programming and amenities—including educational signage, fitness stations, playgrounds, or similar attractions—are also recommended. These types of features can encourage more people to use the trail, increasing the potential for "natural surveillance" and improving users' sense of safety.

Trail implementation is recommended in five phases, beginning with the trail portion east and west of the Addison Road-Seat Pleasant Metro Station. The implementation plan includes planning-level cost estimates for preliminary engineering (30 percent design) for all five phases of the trail. It is estimated to take approximately 15 months to complete environmental permitting and preliminary engineering (30 percent design) for any given phase or sub-phase. This estimated schedule is dependent on timely review of preliminary plans and permit documents by participating agencies. In addition, the implementation plan recommends that M-NCPPC and its partners take advantage of implementation opportunities, such as those related to development of adjacent land parcels, as they arise.

The project team site visit to M-NCPPC property west of the Morgan Boulevard Metrorail station

Key Opportunities and Challenges

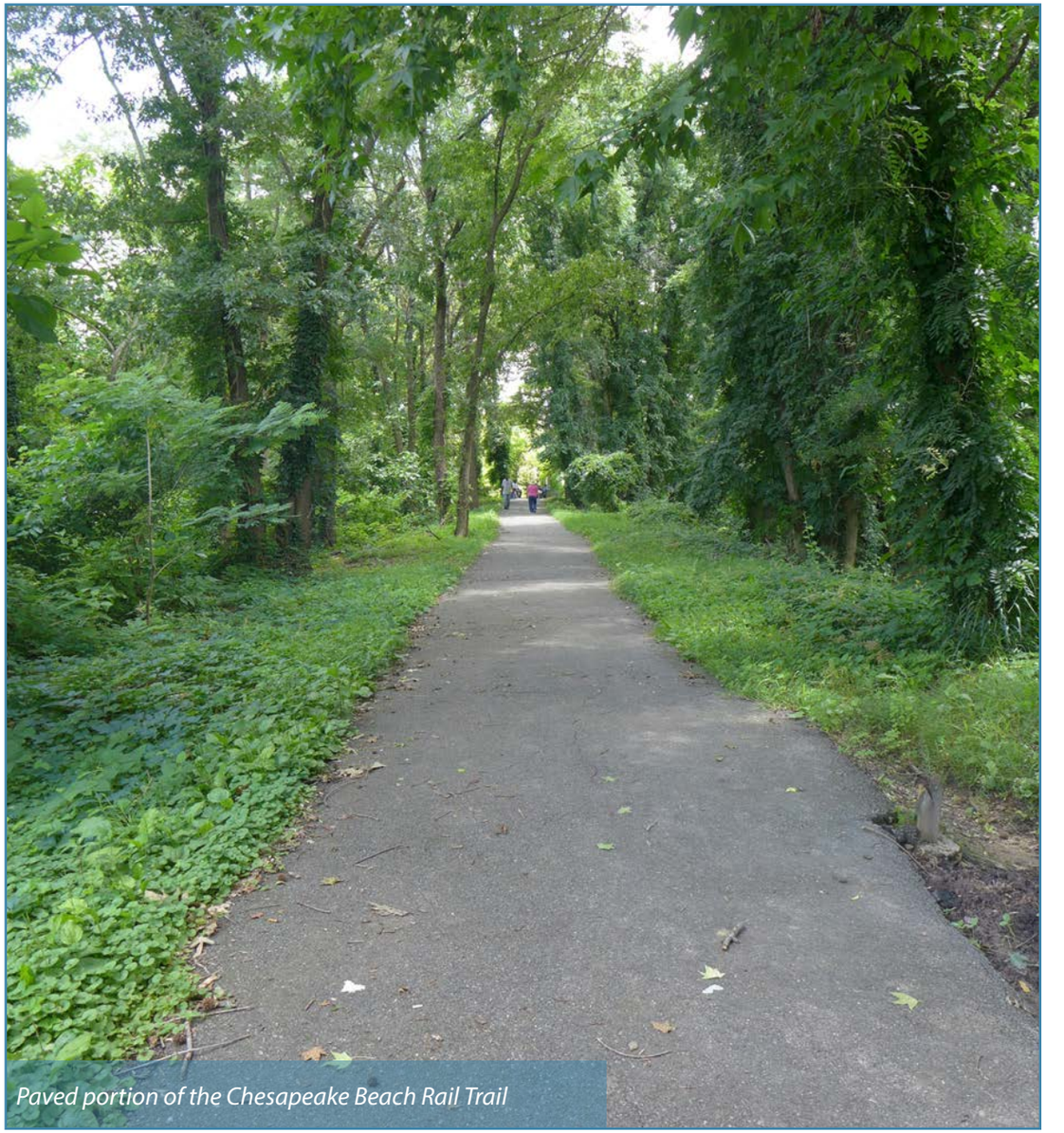
Key opportunities and challenges related to the implementation of the proposed alignment include:

Opportunities

- The majority of the alignment runs along property owned by WMATA, M-NCPPC, and SHA.
- Significant sections of the proposed alignment exist on undeveloped lands that offer open site lines, provide a direct path of travel to Metro stations, and could accommodate a 12-foot-wide, multi-use trail.
- The Central Avenue-Metro Blue Line Corridor's rich history is, in part, untold; the trail can include educational kiosks and other elements that celebrate the history, ecology, and culture of the area.
- Several locations exist for complementary programming or amenities alongside the trail (e.g., immediately west of the Morgan Boulevard Metro Station and west of Cindy Lane on the south side of Central Avenue), including locations on M-NCPPC and WMATA property.

Challenges

- There are environmental concerns along some portions of the proposed trail alignment, especially along Old Central Avenue and the Chesapeake Beach Rail Trail.
- Several stream valley crossings will require bridges, which is likely to increase construction costs.
- Some portions of the proposed alignment travel along private property.
- The proposed alignment would necessitate a bridge across I-495 (Capital Beltway) near Largo Town Center Metro Station, which will require a significant level of effort and cost. An alternative alignment which would not require a bridge is provided; however, this alternative is more circuitous for users.



Paved portion of the Chesapeake Beach Rail Trail

INTRODUCTION

M-NCPPC has worked for several years to plan and bring about implementation of the recommended strategies to revitalize the Central Avenue-Metro Blue Line Corridor in Prince George's County, Maryland. Previous studies identified a new trail as part of the overall strategy for revitalization, complementing other efforts such as the area's designation as a Sustainable Community and a Health Enterprise Zone (HEZ)[2]. Several key stakeholders have been assisting in this effort to develop an implementation plan for the Central Avenue Connector Trail (Connector Trail) .

This report provides information on the Connector Trail alignment, design and funding opportunities that can be used to make the project a reality. The development of the proposed trail alignment was led by staff members from M-NCPPC, Strategy and Implementation Office, with support from the consulting firm Toole Design Group.

INTRODUCTION

Study Background and Purpose

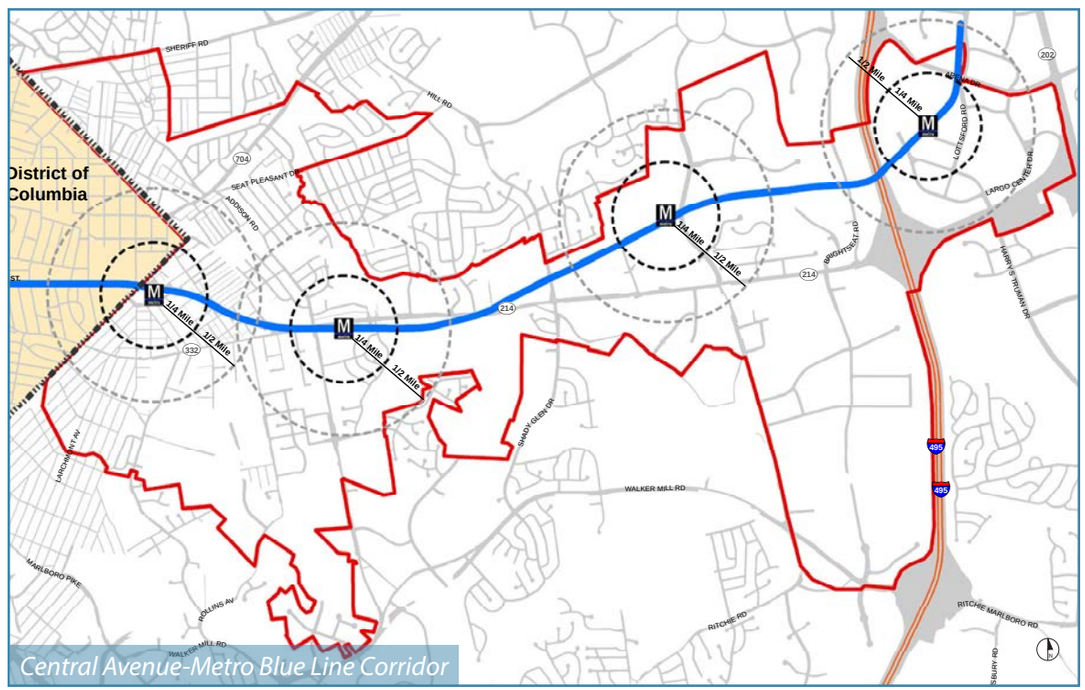
The Central Avenue-Metro Blue Line Corridor Project area is located in Prince George's County, adjacent to the District of Columbia. The corridor is approximately four miles long and includes four Metro Blue Line stations. From west to east, the stations are Capitol Heights, Addison Road-Seat Pleasant, Morgan Boulevard, and Largo Town Center.

The Central Avenue Connector Trail Feasibility Study and Implementation Plan is an outgrowth of multiple planning and implementation efforts led by the Prince George's County Planning Department of M-NCPPC. The Central Avenue Connector Trail is one of the top implementation priorities identified in the 2014 *Central Avenue-Metro Blue Line Corridor TOD Implementation Project Mobility Study*. Elements of the Central Avenue Connector Trail were recommended in the 2000 *Approved Sector Plan and Sectional Map Amendment for the Addison Road Metro Town Center and Vicinity*, the 2004 *Approved Sector Plan and Sectional Map Amendment for the Morgan Boulevard and Largo Town Center Metro Areas*, the 2013 *Approved Largo Town Center Sector Plan and Sectional Map Amendment*, the 2010 *Approved Subregion 4 Master Plan and Sectional Map Amendment*, the 2009 *Approved Countywide Master Plan of Transportation*, the 2014 *Plan Prince George's 2035 Approved General Plan*, *Formula 2040: Functional Master Plan for Parks, Recreation and Open Space*, the *Sustainable Communities Application/Action Plan*, the *Subregion 4 Transit-Oriented Development Implementation Project*, and the *Central Avenue-Metro Blue Line Corridor Consolidated Report*.

The overarching objective of the revitalization effort, as stated in the Central Avenue-Blue Line Corridor TOD Implementation Project Mobility Study (May 2014), is to "…put into effect the vision and goals for the Central Avenue Corridor as presented in the 2010 *Approved Subregion 4 Master Plan and Sectional Map Amendment*, and [advance] the recommendations of the 2008 *Approved Capitol Heights Transit District Development Plan and Transit District Overlay Zoning Amendment*. These plans envision mixed-use, transit-oriented development and promote housing and neighborhood conservation, public facility and infrastructure improvements, and commercial revitalization."[3] The full 2014 TOD Mobility Study is available on the County website at this link:

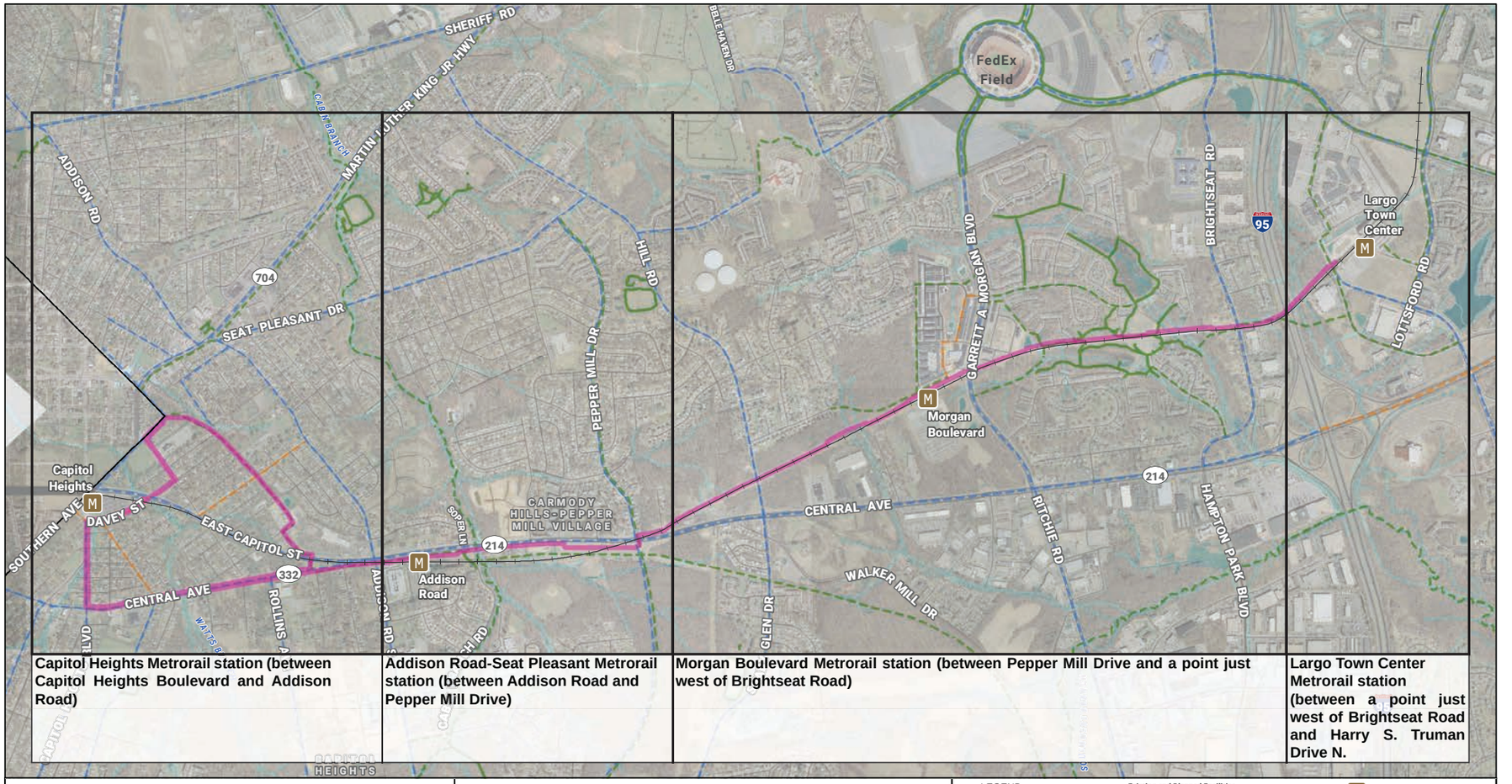
http://www.mncppcapps.org/planning/Publications/PDFs/282/CAMBLC%20Mobility%20Study%205.20.14_web.pdf

This report builds upon the original trail concept presented in the 2014 TOD Mobility Study and presents a feasibility analysis and implementation plan for the Central Avenue Connector Trail. M-NCPPC applied for and was awarded funding for this study from the Metropolitan Washington Council of Government's Transportation/Land-Use Connections Program (TLC Program).



Central Avenue-Metro Blue Line Corridor

Map 1 - Existing conditions along the proposed trail alignment were grouped into four sections.



Existing Conditions

In order to develop a recommended design and implementation strategy for the Connector Trail, the project team conducted field work and gathered input from M-NCPPC staff about existing conditions along the alignment. Because transit access is a key objective of the Connector Trail, findings from the existing conditions analysis are grouped into sections based on the nearest Metro station.

General Conditions by Section of the Proposed Alignment

The following is a brief summary of the key conditions observed during field work in areas near the proposed trail alignment. More detail is provided in a set of 200-foot scale plan sheets in Appendix B and an accompanying table in Appendix C. For each section, the table provides information on the Metro station served, its length in miles, eastern and western limits, current pedestrian and bicycle facilities (if present), property ownership, topography, vegetation, and obstructions (including some topographical and vegetation). Within each of these sections conditions were documented for smaller segments in cases where a change in property ownership, topography, or other local conditions would necessitate a different design approach.

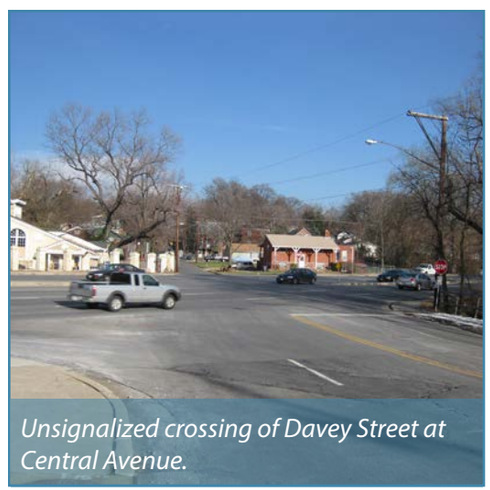
Capitol Heights Metro Station

Between Capitol Heights Boulevard and the Addison Road-Central Avenue intersection

A half-mile trail—the Chesapeake Beach Rail Trail—exists in this section of the proposed alignment and could serve as part of the Connector Trail if it were widened and paved. A small portion of the Chesapeake Beach Rail Trail is currently paved; the remainder is a narrow footpath with periodic connections to nearby neighborhood streets. There are also existing plans to add on-street bicycle facilities and widened sidewalks in the Town of Capitol Heights along Old Central and Chamber Avenues. Several neighborhood streets were evaluated as potential connections between Davey Street and the Chesapeake Beach Rail Trail, in order to explore topography, directness, and available right-of-way. Most intersections within this section of the proposed alignment need signalization improvements to address pedestrian and bicycle safety concerns.

Chesapeake Beach Rail Trailhead in Addison Plaza.

Old Central Avenue looking west toward Capitol Heights Boulevard.



Unsignalized crossing of Davey Street at Central Avenue.

Addison Road-Seat Pleasant Metro Station

Between the Addison Road-Central Avenue intersection and the north side of Pepper Mill Drive

Direct access to the Addison Road-Seat Pleasant Metro Station for this portion of the Connector Trail would be provided along Central Avenue. A combination of public right-of-way and WMATA-owned property on the southern side of the roadway offers space for the trail. Key crossings where concerns exist about trail user safety include Addison Road (the southern leg of the intersection with Central Avenue), the Addison Road Metro Station driveway on Central Avenue, Cabin Branch Road (the southern leg of the intersection with Central Avenue), and Pepper Mill Drive (the eastern leg of the intersection with Central Avenue). The only signalized intersection is at Addison Road and Central Avenue. Cabin Branch stream travels under Central Avenue just east of Cabin Branch Road; any sidewalk widening to accommodate the trail would necessitate a widened bridge or similar structure across the stream.

WMATA property on south side of Central Avenue west of Pepper Mill Road.

Right-of-way along Central Avenue west of Addison

Space on WMATA property along Addison Road-Seat Pleasant Metro Station.

Morgan Boulevard Metro Station

Between Pepper Mill Drive and a point just west of Brightseat Road

Access to the Morgan Boulevard Metro Station from the west is most direct via an off-road connection using existing M-NCPPC and WMATA property, which has the fewest trees and topographical barriers. The alignment may need to work around some private property. A significant change in topography just west of the Morgan Boulevard Metro Station would need to be mitigated; the connection would tie into an existing 14-foot-wide sidewalk that runs along the station property north of the platform and associated building. This sidewalk also ties into a trail connection to residential neighborhoods north and west of the station. East of the Morgan Boulevard Metro Station the trail would continue across Garrett Morgan Boulevard as an off-road trail and connect to the existing trail network in the Summerfield Community Park. Several stream valleys would need to be crossed. There are currently no pedestrian crossing facilities where the 14-foot existing sidewalk meets Garrett A. Morgan Boulevard.

Existing trail in Summerfield Community Park

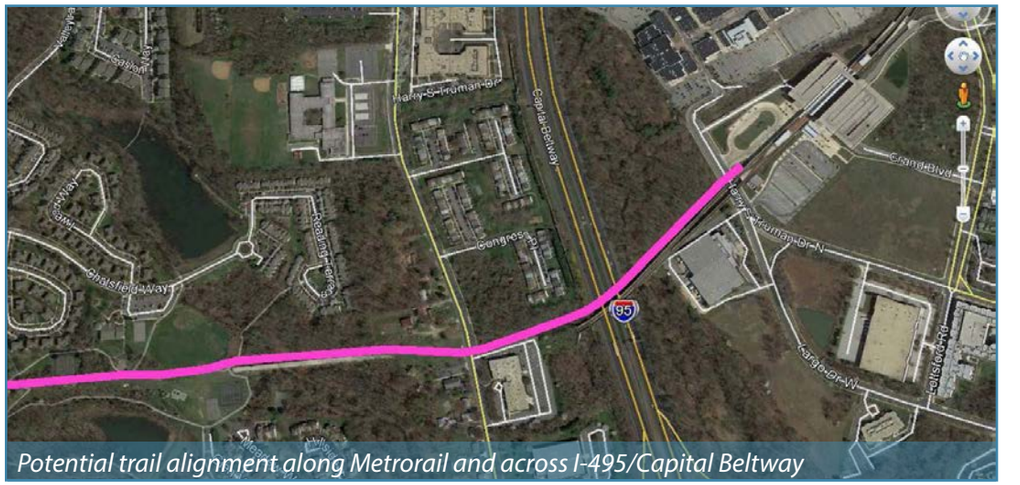
Potential location for pedestrian crossing on Garrett A. Morgan Boulevard

Hill to the west of Morgan Boulevard Metro Station

Largo Town Center Metro Station

Between a point just west of Brightseat Road and Harry S Truman Drive N.

Most of this portion of the proposed alignment consists of undeveloped fields owned by WMATA and SHA (SHA owns the air rights needed for a bridge crossing). The alignment would include roadway crossings at Brightseat Road and Harry S Truman Drive N, neither of which currently feature intersections or pedestrian crossing accommodations in this area. In addition, there is no access across I-495 (Capital Beltway) in this area.[4]



Potential trail alignment along Metrorail and across I-495/Capital Beltway

Space for trail to cross Harry S Truman Drive N.

Undeveloped field west of Brightseat Road

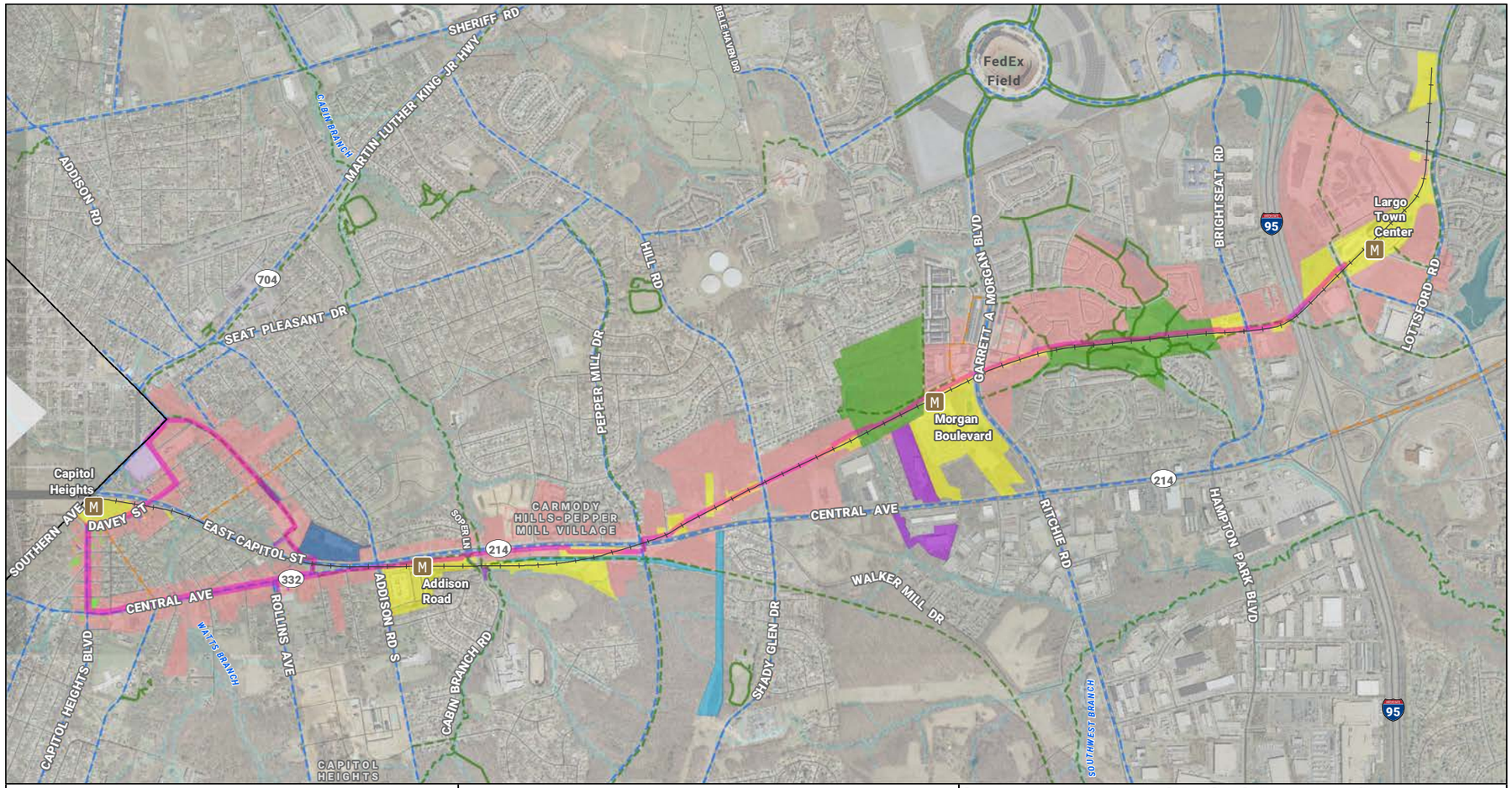
Specific Existing Conditions Along the Proposed Alignment

As part of the assessment of existing conditions along the proposed trail alignment, the project team evaluated several key topics for the entire alignment including property ownership, connections and crossings, potential environmental impacts, and potential utility conflicts. Each of these is described below and shown on a referenced map.

Property Ownership

A large portion of the proposed trail alignment can be accommodated within public property. This includes sufficient right-of-way along Central Avenue, Old Central Avenue, Capitol Heights Boulevard, Davey Street, and Maryland Park Drive. It also includes off-road portions between Pepper Mill Road and Harry S Truman Drive N (see Map 2). SHA owns MD 214 (Central Avenue) and adjacent Right-of-Way.

Map 2 - Property Ownership along trail alignment.



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Central Avenue Connector Trail

Focus
- Connector Trail Alignment

Major Property Holders
- WMATA
- M-NCPPC
- Prince George's Co.
- Town of Capitol Heights
- City of Seat Pleasant
- Potomac Electric Power Co.
- Redevelopment Authourity of Prince George's Co.
- Private

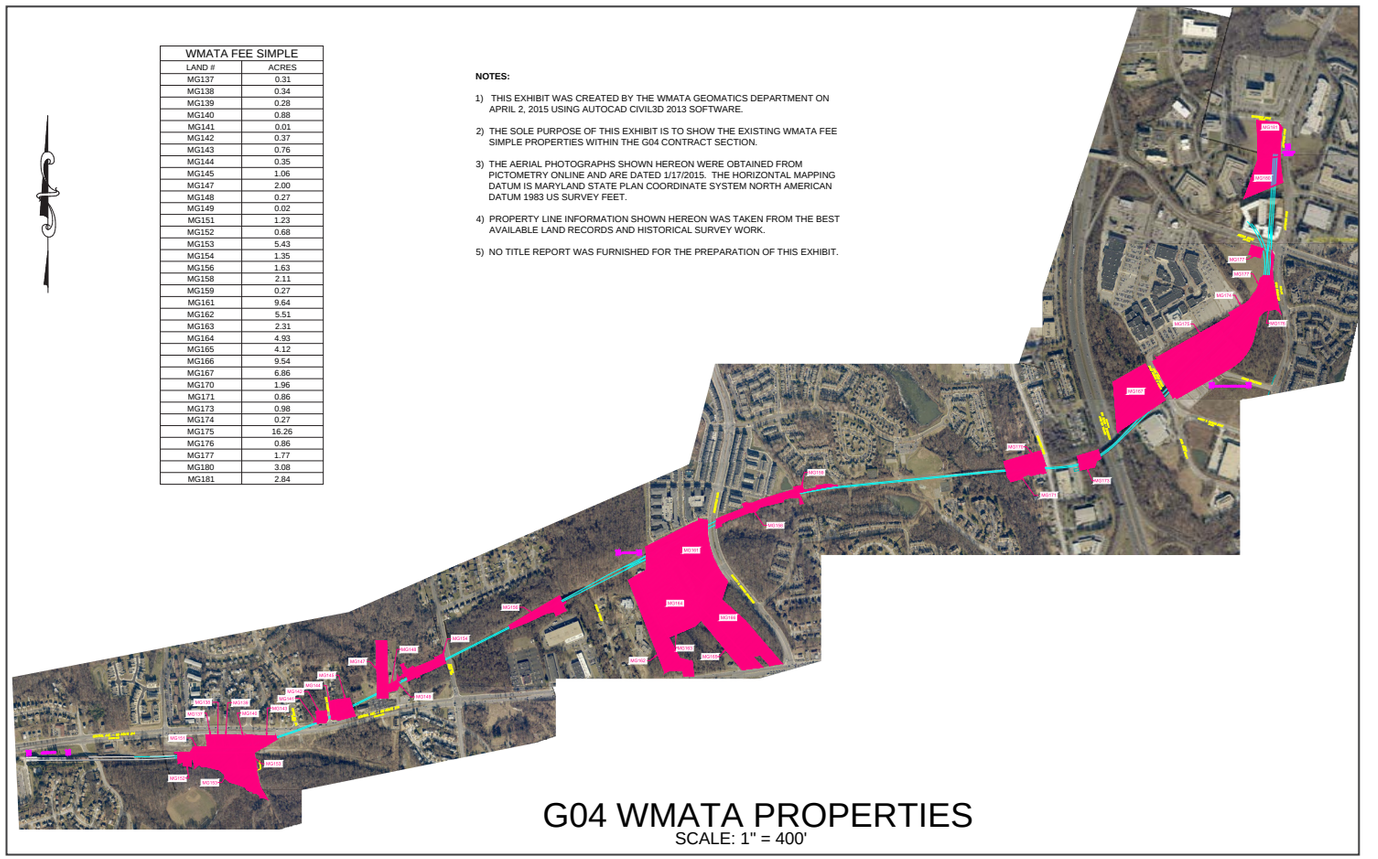
Existing and Planned Facilities
- Existing Hard Surface Trail; Existing Side Path
- Planned Hard Surface Trail; Planned Side Path
- Planned Bike Lane
- Planned Shared Roadway

Other
- Metro Stations
- Railroads

0 500 1,000 2,000 Feet

N

Date: 9/10/2015



WMATA Fee Simple Properties along the Metro Blue Line Corridor

WMATA

One of WMATA's key *Momentum* strategic plan goals is to link communities in order to ensure people are able to walk and bicycle safely and conveniently from their homes or places of work to nearby Metro stations. WMATA is excited about the Central Avenue Connector Trail project as it will significantly improve station access, provide better connectivity between the Blue Line Metro stations and surrounding communities, and promote transit-oriented development concepts, which will act to revitalize neighboring communities. WMATA's enthusiastic support completely changed the trajectory of this project from a circuitous route utilizing neighborhood streets, to a more direct route that takes advantage of WMATA's significant inventory of fee-simple property along their Metro alignment.

WMATA owns or has fee simple ownership of the majority of the properties along the alignment. The design and construction of the trail must comply with the requirements of the WMATA "Adjacent Construction Program." The WMATA Office of Joint Development and Adjacent Construction (JDAC), within the Office of Track Structures & Facilities (TSFA) in the Office of Chief Engineer, Infrastructure Services (CENI) has the lead responsibility to review, approve, and oversee implementation for compliance with WMATA requirements for all construction adjacent to and/or impacting WMATA interests. JDAC will review the 30 percent design plan to ensure that Metro facilities and operations are not damaged or affected by the project, that Metro operations (including Metrobus) are not affected during and after the project construction, and that Metro station capacity is not affected by the ridership generated by the project. Detailed procedures, requirements, and design criteria can be found at the WMATA website:

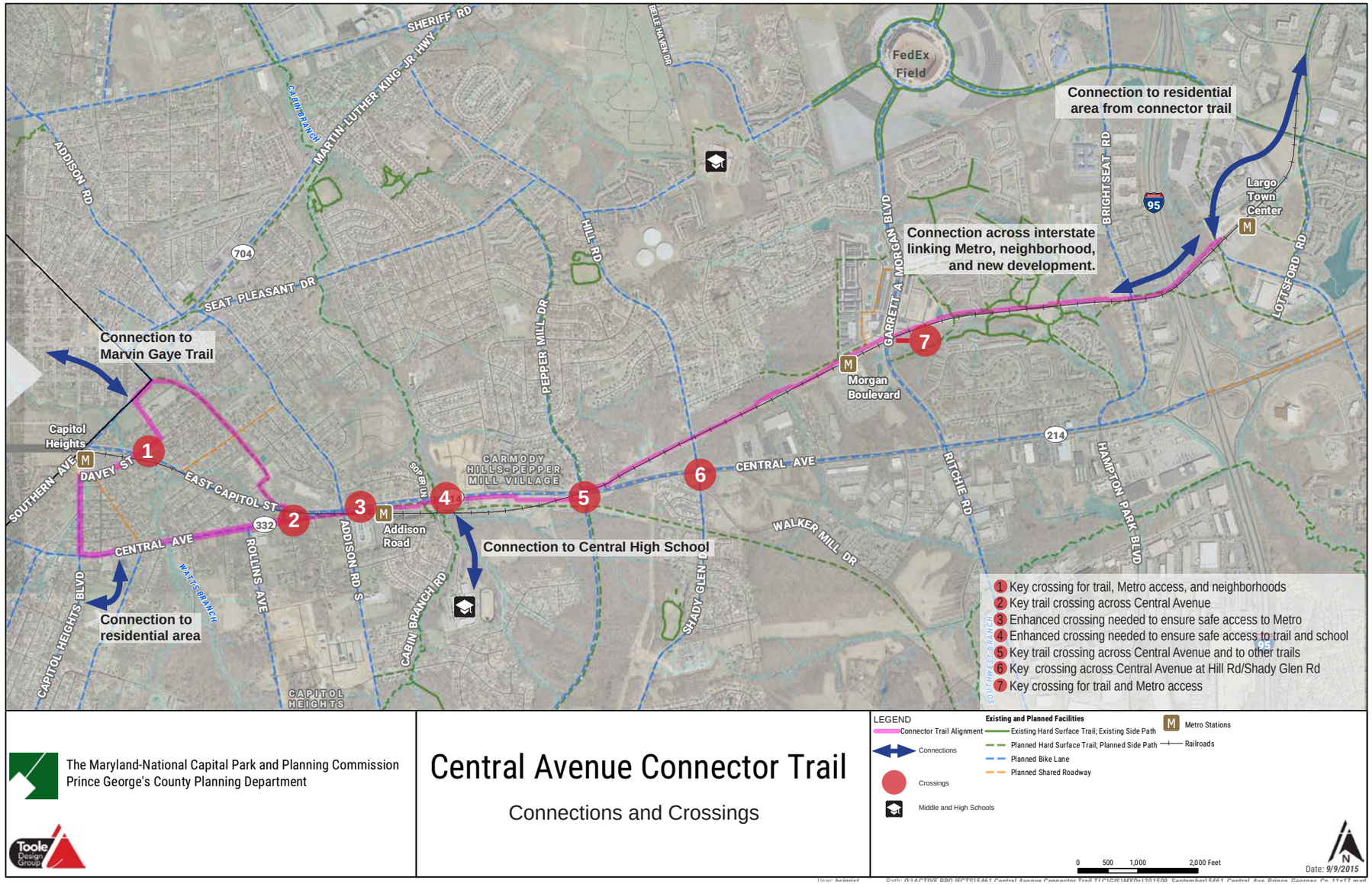
http://www.wmata.com/business/joint_development_opportunities/adjacent_construction_information.cfm

http://www.wmata.com/pdfs/business/Adjacent%20Construction%20Project%20Manual%20(ACPM).pdf

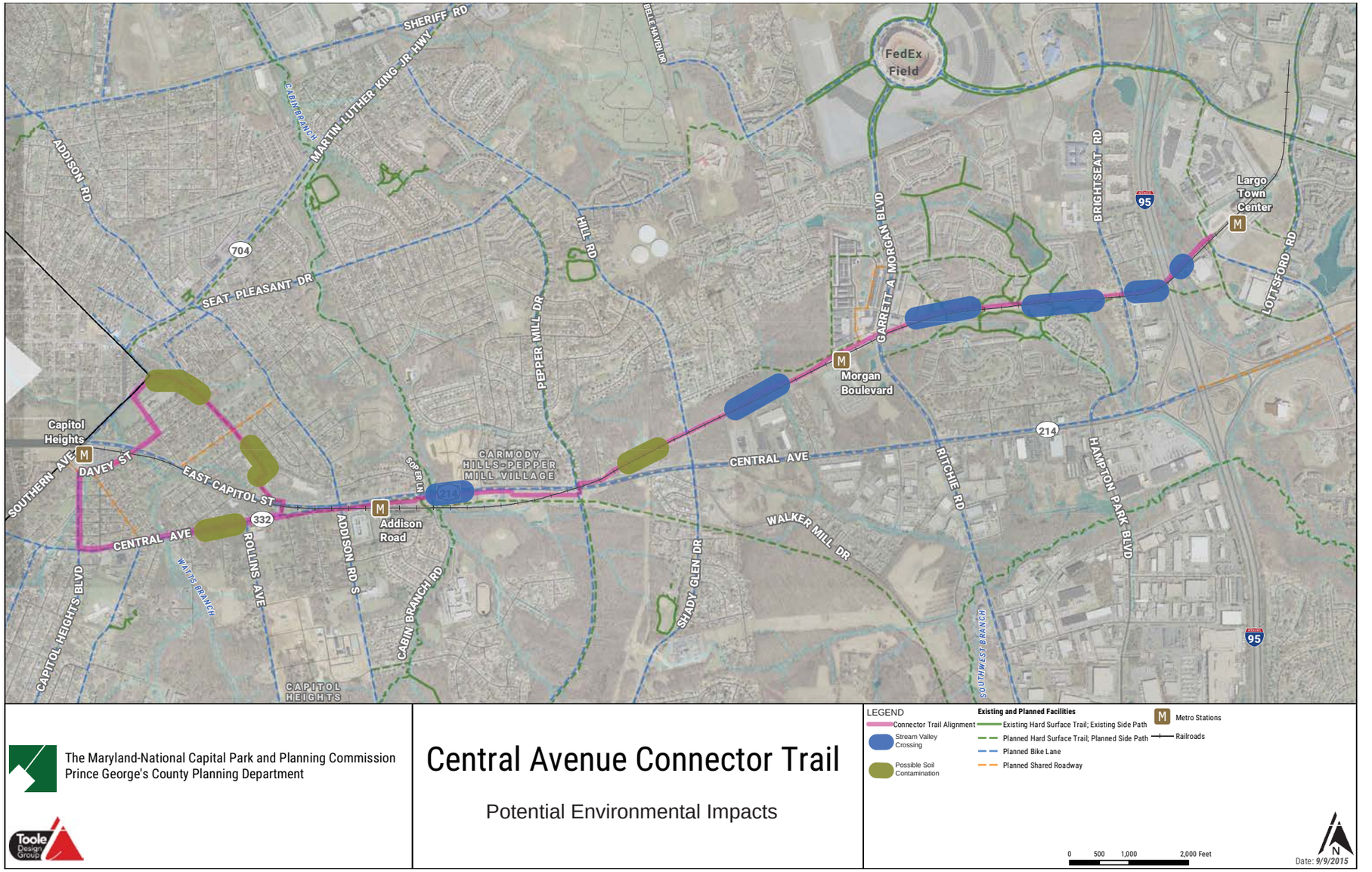
Crossings and Connections

Envisioned as a regional trail with local connections, the success of the trail would depend on the presence of safe and comfortable connections to destinations along the Central Avenue-Metro Blue Line Corridor. This includes safe roadway crossings along the proposed trail alignment and at locations leading to the trail. Map 3 shows these important crossings and the places where the trail offers connections for adjacent neighborhoods.

Map 3 - Connections and Crossings.



Map 4 - Potential Environmental Impacts.



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Central Avenue Connector Trail

Potential Environmental Impacts

LEGEND

Connector Trail Alignment
Stream Valley Crossing
Possible Soil Contamination

Existing and Planned Facilities
Existing Hard Surface Trail; Existing Side Path
Planned Hard Surface Trail; Planned Side Path
Planned Bike Lane
Planned Shared Roadway

Metro Stations
Railroads

0 500 1,000 2,000 Feet

N

Date: 9/9/2015

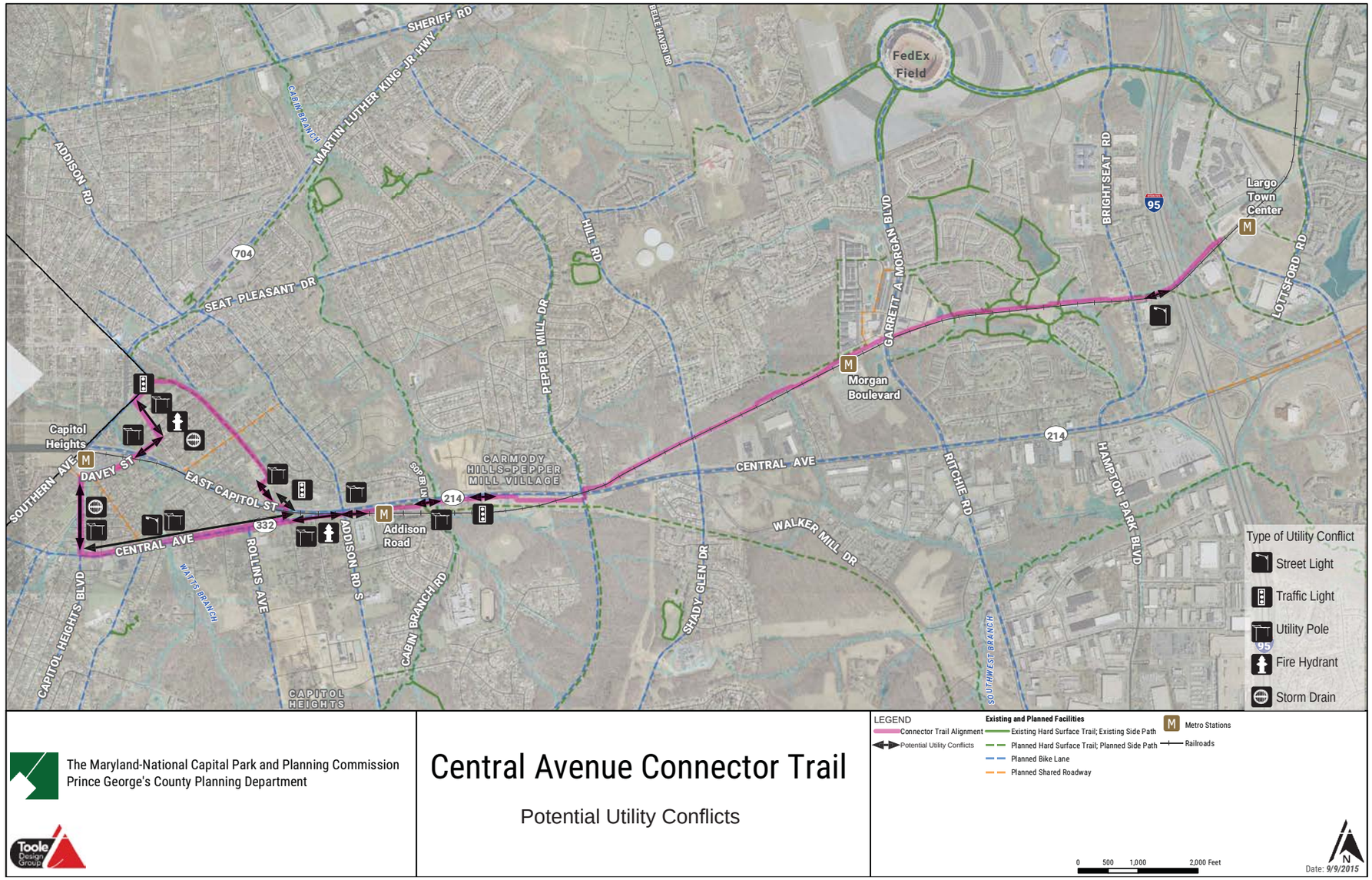
Potential Environmental Impacts

The project field work included the identification of locations of potential impact to the environment. These impacts include stream valley crossings and possible soil contamination. The stream valley crossings may be short, such as the one across the portion of the Cabin Branch Stream that crosses under Central Avenue just east of Cabin Branch Road, or longer such as those that parallel existing Metro caissons east and west of the Morgan Boulevard Metro Station. Possible soil contamination exists along portions of both the Chesapeake Beach Rail Trail and Old Central Avenue due to current land uses along and adjacent to the proposed alignment. Map 4 shows the locations of these potential environment impacts.

Potential Utility Conflicts

Potential utility conflicts exist along the proposed alignment, especially in the Capitol Heights Metro Station area. While there are existing Metro exhaust vents and other utilities along the off-road portion of the proposed alignment, it is likely that the trail can be designed to avoid these utilities. Map 5 shows potential utility conflicts that need further consideration and assessment.

Map 5-Potential Utility Conflicts.



Existing Conditions Along Proposed Trail Alignment


Trail near Morgan Boulevard


WMATA R-O-W along trail alignment


Undeveloped portion of Chesapeake Beach Rail Trail


MD 214 (Central Avenue)


MD 214 (Central Avenue)


Pedestrians walking in the road on MD214 due to lack of sidewalk

Signage indicating access to Central High School

Stakeholder Input and Public Engagement

Stakeholder engagement was an important part of the development of the Central Avenue Connector Trail alignment and vision. Two agency stakeholder meetings and two community meetings occurred during the study period between February and June 2015.

Initial stakeholder and community engagement

The project team met with agency stakeholders on February 26, 2015 to review the alignment included in the 2014 *Central Avenue-Blue Line Corridor TOD Implementation Project Mobility Study* and to discuss the approach for refining the alignment. See Table 1 for a list of participants in this initial meeting. Stakeholders provided the project team with direction on how to determine the proposed trail alignment, which was incorporated into the following design principles. These design principles are discussed in more detail in the Design Principles and Methodology section (see page 22).

The first community meeting was held on the evening of February 26, at St. Margaret's Church on Addison Road. Over 200 community members attended the meeting, which included a project update, a session for questions and answers, and briefings from Council Members Andrea Harrison (District 5), Derrick L. Davis (District 6), and Karen Toles (District 7).

The initial community meeting was followed by individual meetings with WMATA, SHA, the Capitol Heights Town Administrator, and the Seat Pleasant City Administrator.

Key Comments (from stakeholder meeting)

Alignment

- The trail should offer the shortest and safest connection to Metro stations.
- The trail should use the existing right-of-way where possible.
- The trail should connect to parks and other existing or planned trails.

Design and Safety

- Roadway crossings should be safe and comfortable for pedestrians and bicyclists, especially those across Central Avenue.
- Lighting should allow for safety and 24-hour access to the trail.
- The trail should have open sight lines for visibility.

Implementation

- Trail planning and implementation should take advantage of funding opportunities.
- The trail should be built in segments.
- The trail should be realistic and constructible.

A total of 230 community members attended the February 26, 2015 Open House.

Table 1. Participants in February 26, 2015 Stakeholder Meeting

Name	Title, Organization
Agency Stakeholders	
Venu Nemani, P.E.	*Assistant District Engineer*, District 3 Traffic State Highway Administration
Dustin Kuzan	*Bicycle and Pedestrian Coordinator* State Highway Administration
Kate Sylvester	*Community Planner*, Office of Planning and Capital Programming Maryland Department of Transportation
Victor Weissberg	*Special Assistant to the Director* Prince George's Department of Public Works and Transportation
Tom Masog	Planning Supervisor, Countywide Planning Division Prince George's County Planning Department
Faramarz Mokhtari	*Planner Coordinator*, Countywide Planning Division Prince George's County Planning Department
Eileen Nivera	*Planner Coordinator*, Park Planning and Development Division Prince George's Department of Parks and Recreation
Carol Binns	*Planner Coordinator*, Park Planning and Development Division Prince George's Department of Parks and Recreation
Darion E. Percy	*Constituent Service Specialist* Council member Karen R. Toles' office
Stevie Cox	*Town Administrator* Town of Capitol Heights

Table 1. Participants in February 26, 2015 Stakeholder Meeting (continued)

Name	Title, Organization
Project Team	
Vanessa Akins	*Chief*, Strategy and Implementation Office Prince George's County Planning Department
Jordan Exantus	*Planner Coordinator*, Strategy and Implementation Office Prince George's County Planning Department
Yang Chen	*Senior Planner*, Strategy and Implementation Office Prince George's County Planning Department
Fred Shaffer	*Planner Coordinator*, Countywide Planning Division Prince George's County Planning Department
Dena Kennett	*Landscape Architecture Practice Leader* Toole Design Group
Carol Kachadoorian	*Senior Planner* Toole Design Group
Lamont Cobb	*Transportation Planner* Metropolitan Washington Council of Governments

Second stakeholder meeting and community engagement

Agency stakeholders attending a second meeting on May 20, 2015 reviewed the revised proposed alignment and identified remaining items for consideration. See Table 2 for a list of participants in the second agency stakeholder meeting.

Nearly 100 community members attended the second public meeting held on June 16, 2015 to learn about the revised proposed trail alignment and design considerations, and to offer comments on the plan. Vanessa Akins, Chief of the Strategy and Implementation Office of the Prince George's County Planning Department, welcomed community members, provided opening remarks, and gave an overview of the project implementation, its goals, its relationship with previous plan recommendations, and next steps. Fred Shaffer, Planner Coordinator for the Countywide Planning Division of the Prince George's County Planning Department, provided an overview of the project study area, objectives, and proposed outcomes. Carol Kachadoorian, Senior Planner from Toole Design Group, spoke about the trail's proposed alignment, including safety features, key connections, and crossings. Ms. Kachadoorian also spoke on project phasing, vision, and case studies.

Key Comments

Working in small groups with a facilitator, participants discussed the Connector Trail's design characteristics and value to the community. Participants' key concerns and recommendations for programmed space along the trail included:

Design Considerations

- Ensure accommodation for all users, especially youth and seniors.[5]
- Ensure compliance with the American's with Disabilities Act (ADA).
- Connect to Walker Mill Park, the Sports and Learning Center, Millwood Park, Peppermill Recreation Center, and other local destinations.
- Improve the streetscape along Central Avenue.

Safety Needs

- Minimize user conflicts between bicyclists and pedestrians.
- Include cameras as part of the safety features of the trail.
- Consider and address the privacy of those living adjacent to the trail.
- Use Crime Prevention Through Environmental Design (CPTED) and natural surveillance (i.e., "Eyes on the Street") principles to ensure safety and visibility.

Programming Recommendations

- Include space for outdoor performances.
- Include bicycle parking.
- Include attractions for people of all ages and abilities.

Other Concerns and Recommendations

- Engage with private property owners directly affected by the proposed trail alignment as part of the implementation process.
- Encourage more young people to attend the public meetings and get their buy-in.

Community Members listen to a presentation by Toole Design Group

Table 2. Participants in May 20, 2015 Stakeholder Meeting

Name	Title, Organization
Agency Stakeholders	
Venu Nemani, P.E.	*Assistant District Engineer*, District 3 Traffic State Highway Administration
David L. Rodgers	*Regional Planner*, Regional and Intermodal Planning Division State Highway Administration
Anabela Talaia	*Program Manager*, Office of Real Estate and Station Planning Washington Metropolitan Area Transit Authority
Bruce Bourque	*Senior Realty Specialist*, Office of Real Estate and Station Planning Washington Metropolitan Area Transit Authority
Catherine Jones	*Senior Transportation Planner*, Office of Real Estate and Station Planning Washington Metropolitan Area Transit Authority
Victor Weissberg	*Special Assistant to the Director* Prince George's Department of Public Works and Transportation

Small group discussions at the June 16, 2015 public meeting.

Table 2. Participants in May 20, 2015 Stakeholder Meeting (continued)

Name	Title, Organization
Agency Stakeholders (continued)	
Faramarz Mokhtari	*Planner Coordinator*, Countywide Planning Division Prince George's County Planning Department
Carol Binns	*Planner Coordinator*, Park Planning and Development Division Prince George's Department of Parks and Recreation
Nell Johnson	*Chief of Staff/Legislative Aide* Councilmember Derrick Leon Davis' office
Dwayne Mingo	*Legislative Aide* Councilmember Karen R. Toles' office
Rodney Streeter	*Chief of Staff/Legislative Aide* Councilmember Andrea C. Harrison's office
Chris Cotillo	*Chief* Seat Pleasant Police Department
Aaron Forster	*Sergeant* Seat Pleasant Police Department
Project Team	
Vanessa Akins	*Chief*, Strategy and Implementation Office Prince George's County Planning Department
Jordan Exantus	*Planner Coordinator*, Strategy and Implementation Office Prince George's County Planning Department
Yang Chen	*Senior Planner*, Strategy and Implementation Office Prince George's County Planning Department
Fred Shaffer	*Planner Coordinator*, Countywide Planning Division Prince George's County Planning Department
Carol Kachadoorian	*Senior Planner* Toole Design Group
Lamont Cobb	*Transportation Planner* Metropolitan Washington Council of Governments

Vision

Input from the M-NCPPC project team, Prince George's County residents, elected officials, and agency officials was used to develop the following vision statement for the Central Avenue Connector Trail. The trail alignment was carefully conceived to achieve this vision.

> ***The Central Avenue Connector Trail is a safe and comfortable connection to four Metro stations, neighborhoods, employment locations, shopping and entertainment venues, and to existing or planned trails, especially those that lead to parks and recreation facilities. The trail improves the overall public well-being and economy of the Central Avenue-Metro Blue Line Corridor and promotes bicycling culture within it. Community members feel safe using the trail and consider it an important asset to the neighborhood.***

Design Principles and Methodology

Discussions with the trail's stakeholders also led to the development of a set of design principles, which are intended to guide the design, construction, maintenance, and operation of the trail.

The trail serves as a major connection for regional mobility

The Connector Trail will serve as a major trail (or "spine" facility) as part of the broader County/regional trail system. This designation is based on the trail typology developed for the 2014 *Central Avenue-Metro Blue Line Corridor TOD Implementation Project Mobility Study*.[6]

The trail will be part of the neighborhood walking and bicycling networks

A complete pedestrian and bicycle network is comprised of several facility types such as trails, low-volume streets, and streets with sidewalks and off-road connections. While these facilities are designed and built at different times and have varying ownerships, collectively they form a critical part of the transportation system—the pedestrian and bicycle network. The trail will be part of this network. To better serve communities around the Capitol Heights Metro Station, the trail will form a loop around the station, running along Old Central Avenue, Capitol Heights Boulevard, Davey Street, Maryland Park Drive, and the Chesapeake Beach Rail Trail. A similar neighborhood connection will be available at the Largo Town Center Metro Station. The trail is planned to end at Harry S Truman Drive N., which will be reconstructed as a complete and green street.

The primary facility type will be a multi-use trail

The primary facility type will be a multi-use trail, with other designs used in certain sections as appropriate. To the extent possible, the Connector Trail will follow the Metro alignment and connect to current or planned trails that lead to valued community destinations. The trail will be designed as a multi-use trail along MD 214 (Central Avenue) where the existing public right-of-way allows.

The alignment and design will aim to maximize directness, access, safety, and ADA-compliance

Each of these elements will contribute to a trail that is usable by those living, working, and visiting the Central Avenue-Metro Blue Line Corridor. Safety and ADA-compliance are the most important factors in designing the trail, and will be particularly important at roadway crossings. There may be instances where these objectives—directness, access, safety, and ADA-compliance—are at odds with one another, or instances where meeting all of these objectives will be extremely costly. For example, in spanning a stream valley, a crossing that maintains a fairly level trail may be more expensive than a shorter crossing that requires trail users to navigate up and down a series of switchbacks. Likewise, a wider trail parallel to but separate from a roadway may offer a higher level of safety and comfort that will attract more users, but may be more costly than widening an existing sidewalk along the road. In these instances, it will be critical to work with local stakeholders to identify a final design that provides a high-quality experience for users while maximizing project resources.

Encourage natural surveillance for trail safety

The trail's design and operation will serve community needs for transportation and recreation, while also supporting an improved sense of place. Regular maintenance and police patrols will lead to an improved sense of safety, which in turn will help contribute to increased trail usage. Thoughtful design can be used to create places for people to gather, socialize, and relax. In short, the vision for the trail is to create a valued community asset that serves many functions and appeals to a broad cross section of the community.

Specific design recommendations related to each of these principles are included in the Trail Design and Features section.

Case Study: Potomac Yard Park Trail

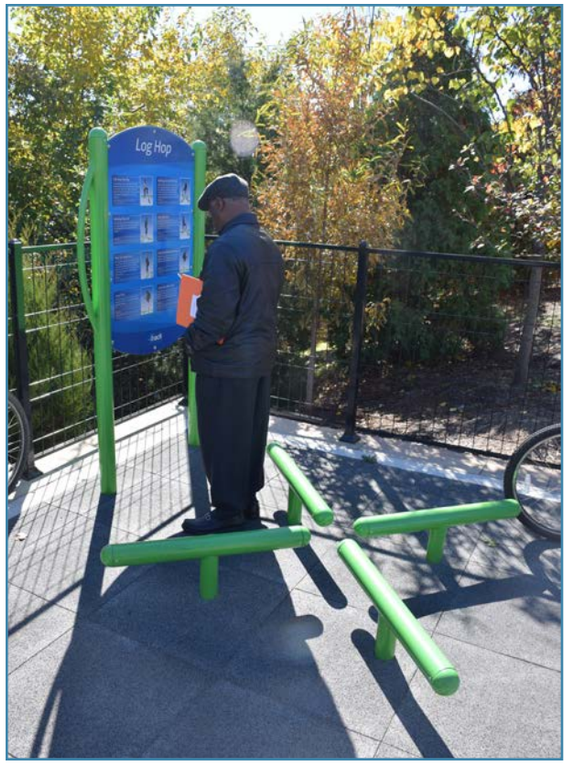
The Potomac Yard Park Trail, a three-mile, multi-use path recently constructed in Alexandria, Virginia, offers a model for the design of the Central Avenue Connector Trail. While this project is not perfectly comparable to the Connector Trail, it features several elements that are relevant to this effort. Similar to the Central Avenue Connector Trail, the Potomac Yard Park Trail connects multiple Metro stations and other regional trails that offer a broader reach, especially for those traveling by bicycle. The Potomac Yard Park Trail also includes attractions for users such as quiet spaces for passive activities (e.g.,interpretive signs that explain environmental and historical features along the trail) and active spaces (e.g., fitness stations and playgrounds). The photographs on the following page show typical trail amenities and features of the Potomac Avenue Trail, all of which could be used to support the success of the Central Avenue Connector Trail.

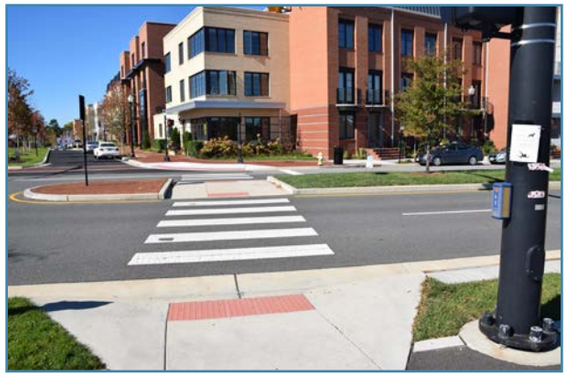
Quick Facts

Park Area:	24 acres (approximately
Bid Award:	$12,000,000 (estimate)
Maintenance:	Maintenance will be the responsibility of RPCA's Park Operations Staff
Operating Cost:	$469,794 (2013 estimate)
Programming:	Special events will be programmed by RPCA's Special Events Division. The park is anticipated to be used year round.
Green Building Components:	Recycled materials, energy efficient fixtures, satellite controlled/ energy efficient court lights, central controlled irrigation system, reforested slope/native plantings

Potomac Yard Park Trail (shown in orange).

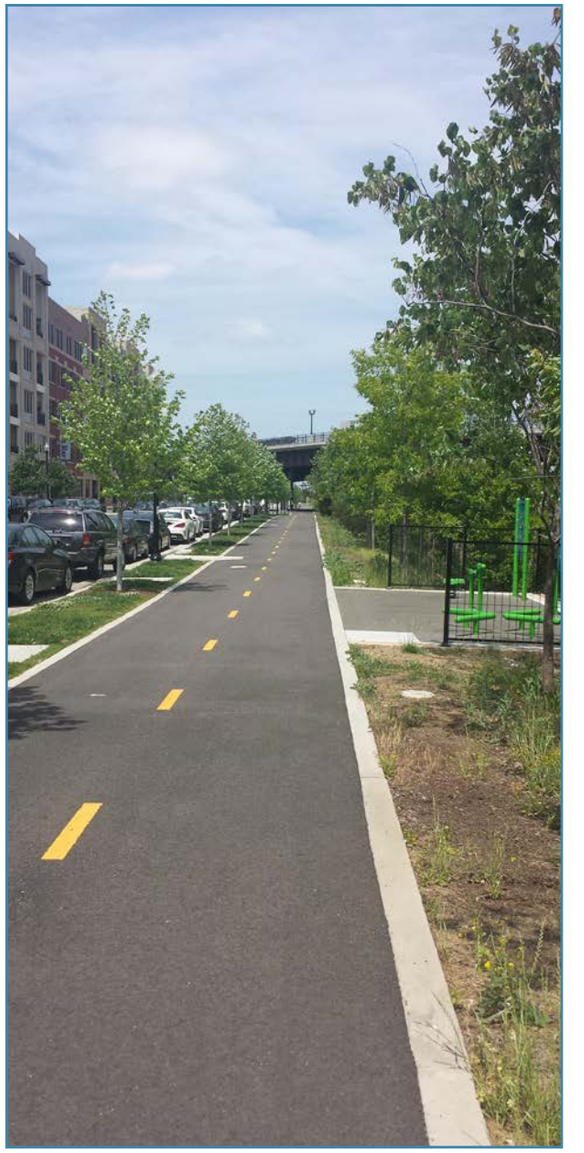
Photos of Potomac Yard Park Trail

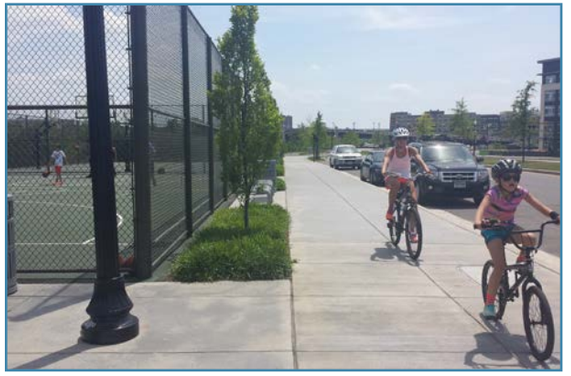




Photos of Potomac Yard Park Trail (continued)





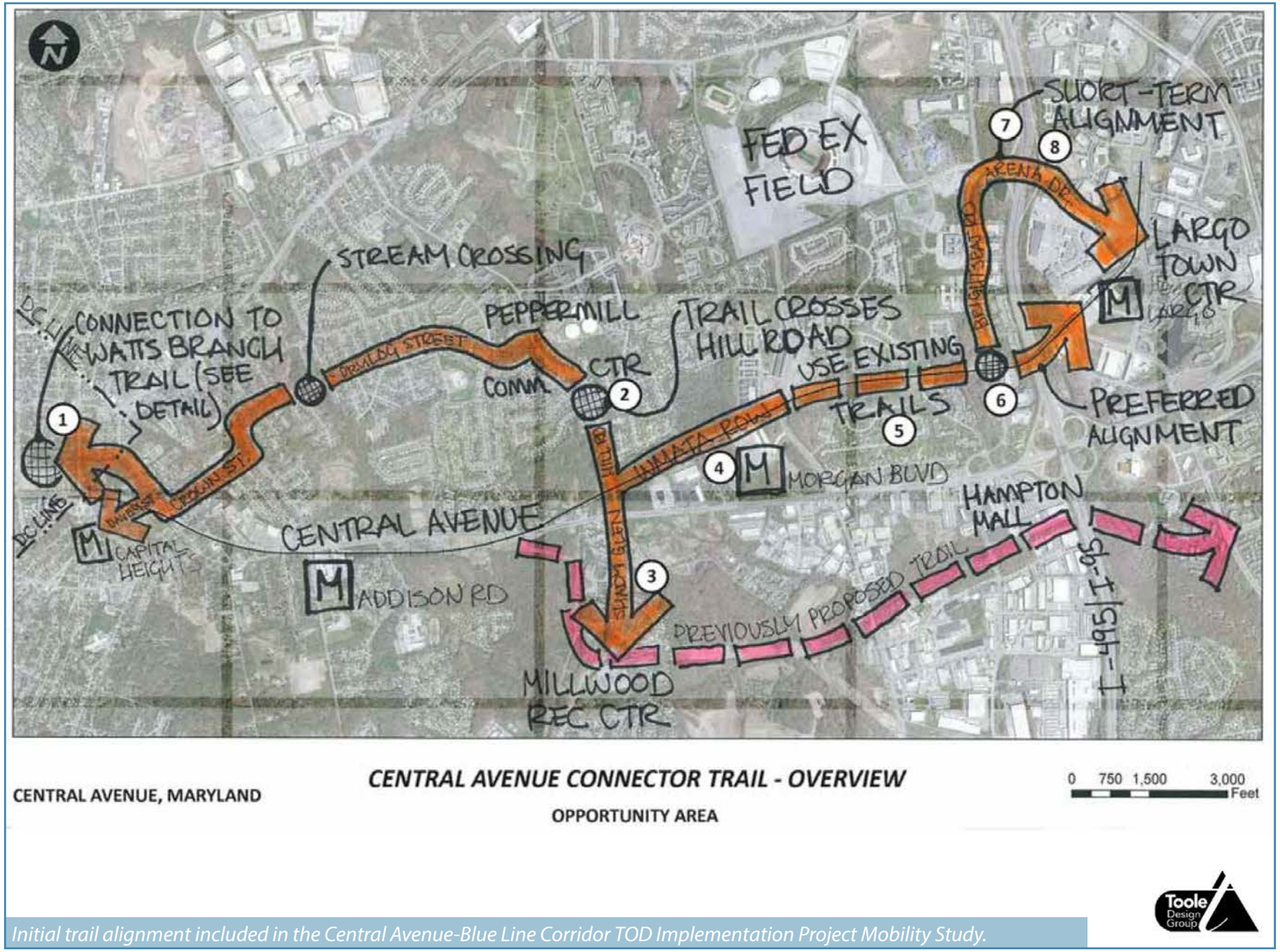
TRAIL ALIGNMENT

This section of the report provides a detailed description of the proposed trail alignment and discusses an alternative alignment that may be considered. The initial trail alignment was identified as part of the 2014 *Central Avenue-Metro Blue Line Corridor TOD Implementation Project Mobility Study* (see the image on page 28). The original alignment concept did not offer a direct route between Metro stations, it used a more circuitous route of local streets and off-road trails instead.

TRAIL ALIGNMENT

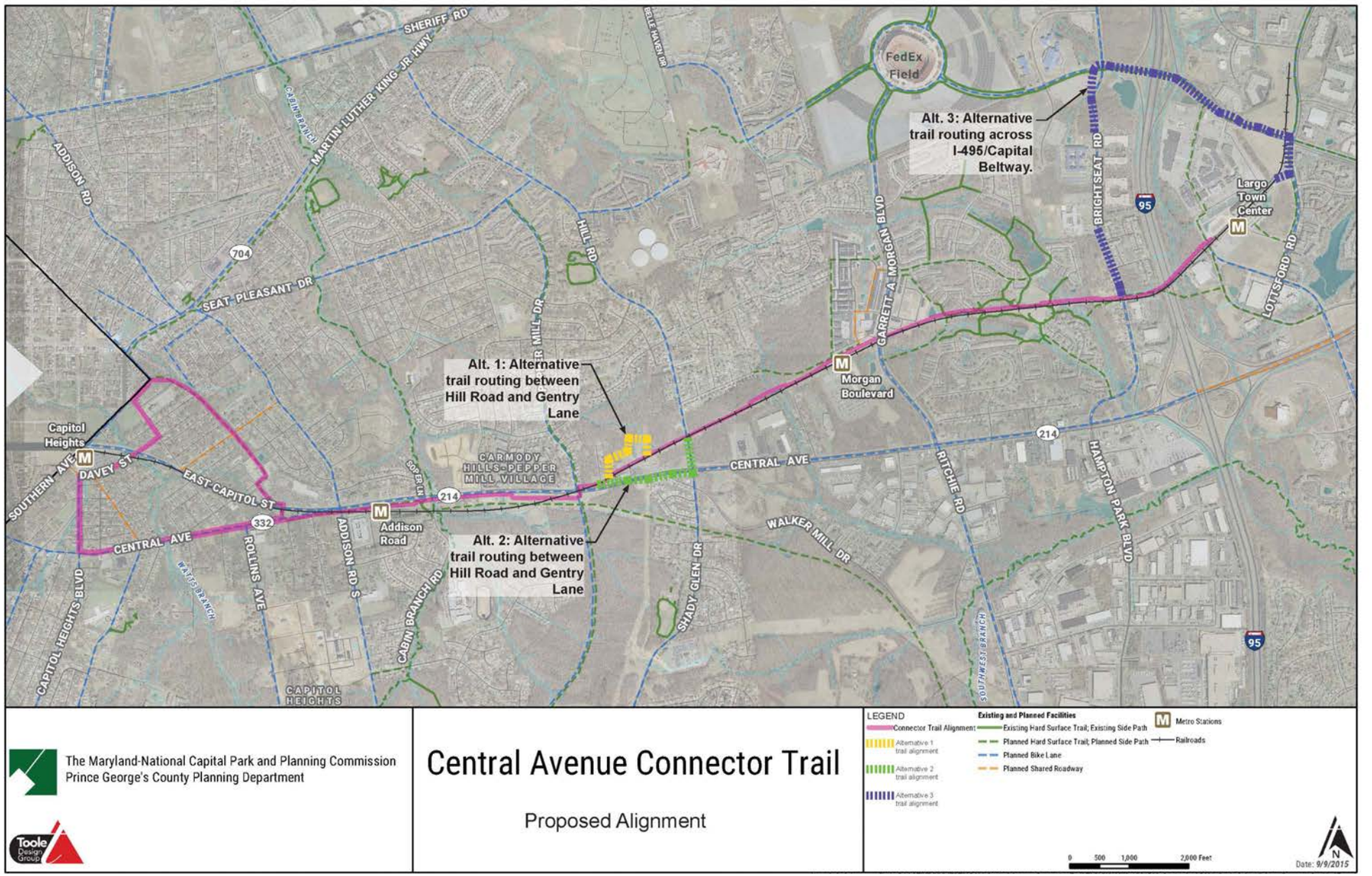
Trail Alignment

At the initial stakeholder meeting for this project in February 2015, M-NCPPC staff and agency stakeholders provided guidance that resulted in the proposed alignment included in this report (see Map 6). The proposed alignment provides a more direct route to all four Metro stations, takes advantage of the Washington Metropolitan Area Transit Authority (WMATA) and M-NCPPC-owned property for the off-road trail, improves pedestrian conditions along and across short portions of Central and Old Central Avenues, includes a portion of existing trails in the Summerfield Community Park, and leverages planned street improvements near the Largo Town Center and Capitol Heights Metro stations. The proposed alignment also provides a connection for Washington, D.C. residents to the Capitol Heights Metro Station and other destinations to the east, and creates a connection for County residents living east of Harry S Truman Drive N. to travel west toward Capitol Heights.



Initial trail alignment included in the Central Avenue-Blue Line Corridor TOD Implementation Project Mobility Study.

Map 6 - Proposed Alignment.



Alternative Alignment

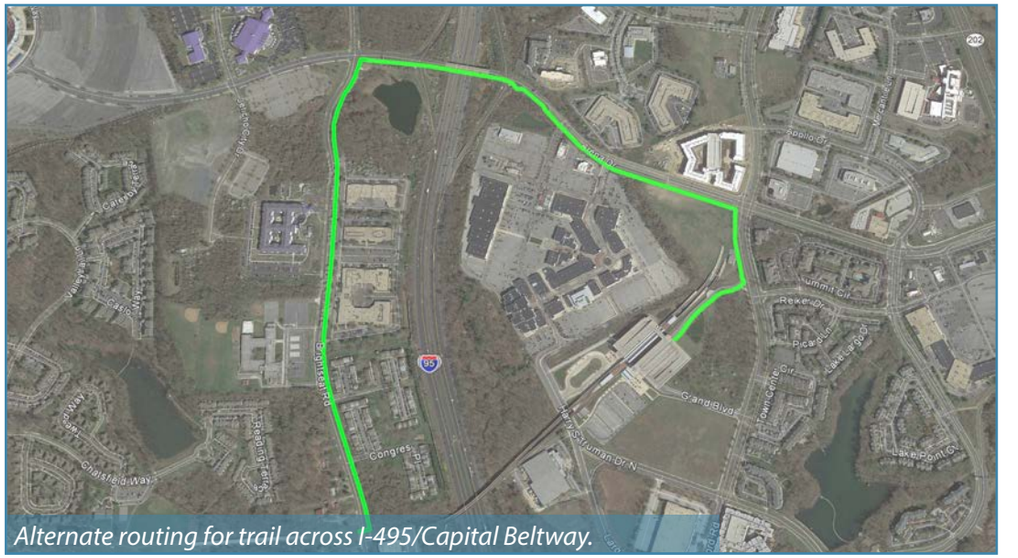
The off-road trail just east of Pepper Mill Drive
Two alternative routings were identified for this portion of the trail. The alternatives would be considered if it is not feasible for the trail to travel on private property. The first alternative route keeps the trail on WMATA-owned property. This alternate route does not significantly affect the trail length through this section. The second alternate route brings the trail along Central Avenue and would require widening the existing sidewalk and mitigating the effect of multiple driveways.

First alternate routing for the Trail between Hill Road and Gentry Lane.

Second alternate routing for the Trail between Hill Road and Gentry Lane.

Alternative Alignment

The multi-use trail bridge over I-495 Capital Beltway
This alternative route takes trail users across the Capital Beltway via Brightseat Road, Arena Drive, and Harry S Truman Drive N. This alternative route adds just over 1.5 miles to the trail. The trail would consist of sidewalks for pedestrians and on-road bicycle facilities for bicyclists. If this alternative alignment is selected, specific bicycle and pedestrian infrastructure improvements along these routes will need to be identified and implemented.



Alternate routing for trail across I-495/Capital Beltway.

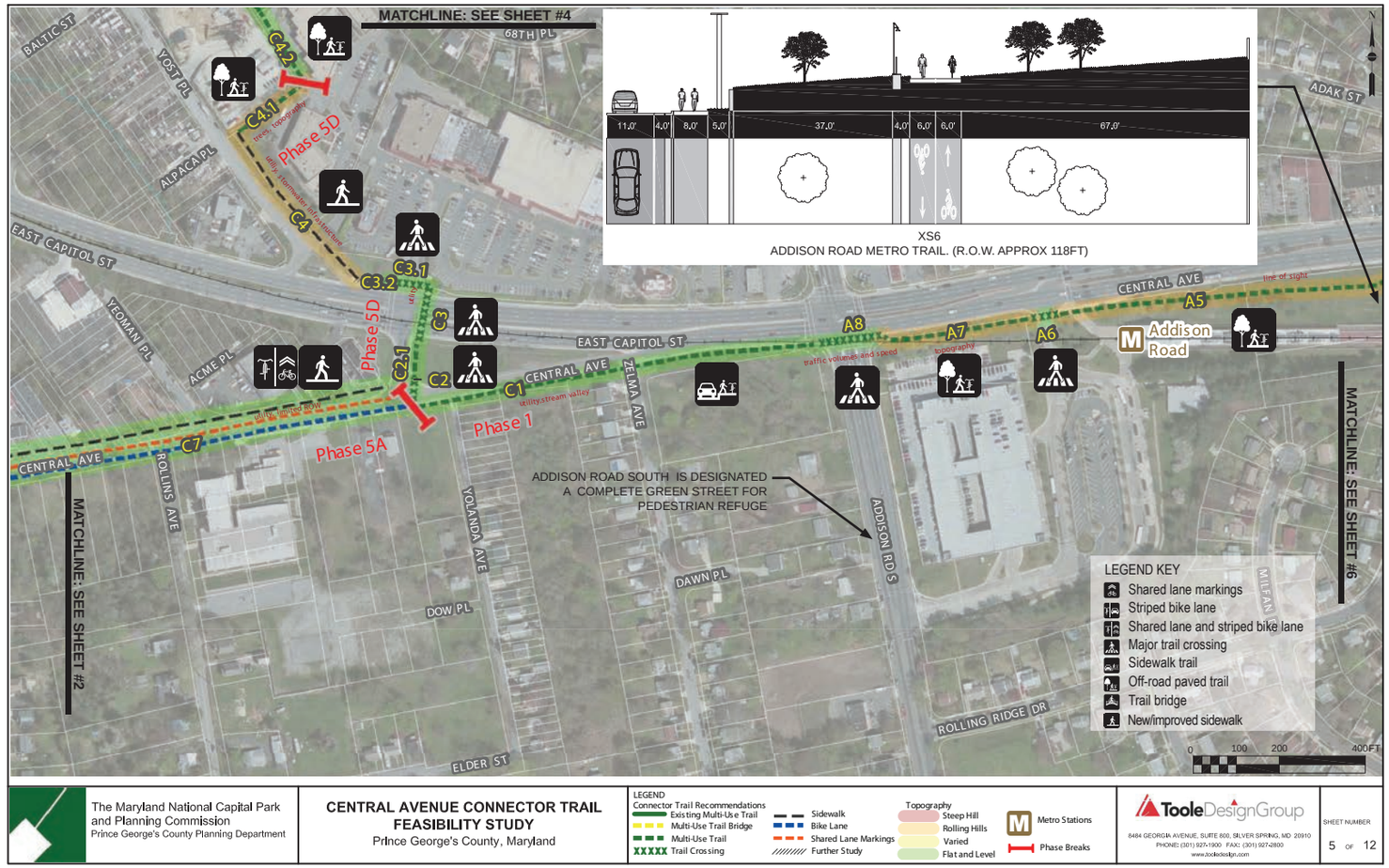
TRAIL DESIGN AND FEATURES

This section presents greater detail on several design elements that are recommended for the Central Avenue Connector Trail. The trail design will provide a continuous, multi-use pathway with sufficient width to comfortably and safely accommodate users walking, jogging, and bicycling in both directions. The trail design varies along the alignment based on available land, right-of-way and other conditions.

Trail Design and Features

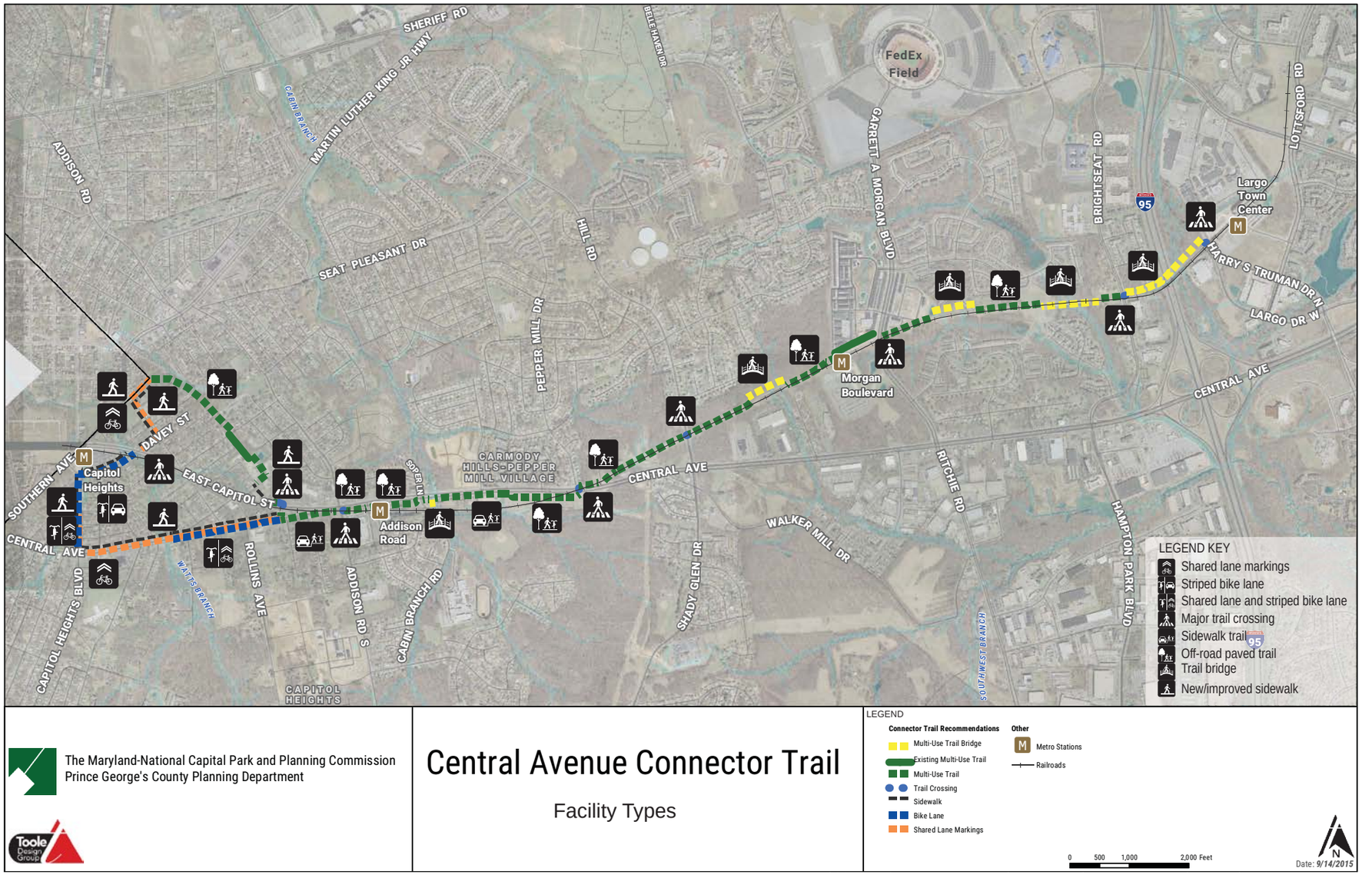
The following four facility types are used along the corridor:

- Twelve-foot, multi-use trail with two-foot buffer on each side.
- Ten- to 12-foot sidewalk with buffer where possible.
- Six-foot sidewalks with parallel, on-street bicycle facilities (shared lane markings, wide bike lanes or bike lanes).
- Twelve- to 16-foot, multi-use trail bridge, used where needed to bridge stream valleys and wetlands. Twelve-foot boardwalks with railings may also be used in or near these areas



Example of 200-foot scale plan sheet (see Appendix B).

Map 7 - Facility types along the proposed trail alignment.



Facility Types

Map 7 shows where each of these facility types is recommended along the trail length. More detail on the locations of each trail facility type is shown on the 200-foot scale plan sheets included in Appendix B and the companion table in Appendix C. See image on page 34 for an example of the 200-foot scale plan sheet.

Specific Design Elements

In addition to determining the facility type for each section of the trail, it is important to explore more specific design elements that will influence how much the trail is used and the degree to which it is viewed as a community asset. This section provides more information on the five key design topics of programming, trail furniture, signage and promotional materials, ADA compliance, and safety features. The recommendations related to each of these topics align with the design principles discussed earlier in this report.

Trail Programming

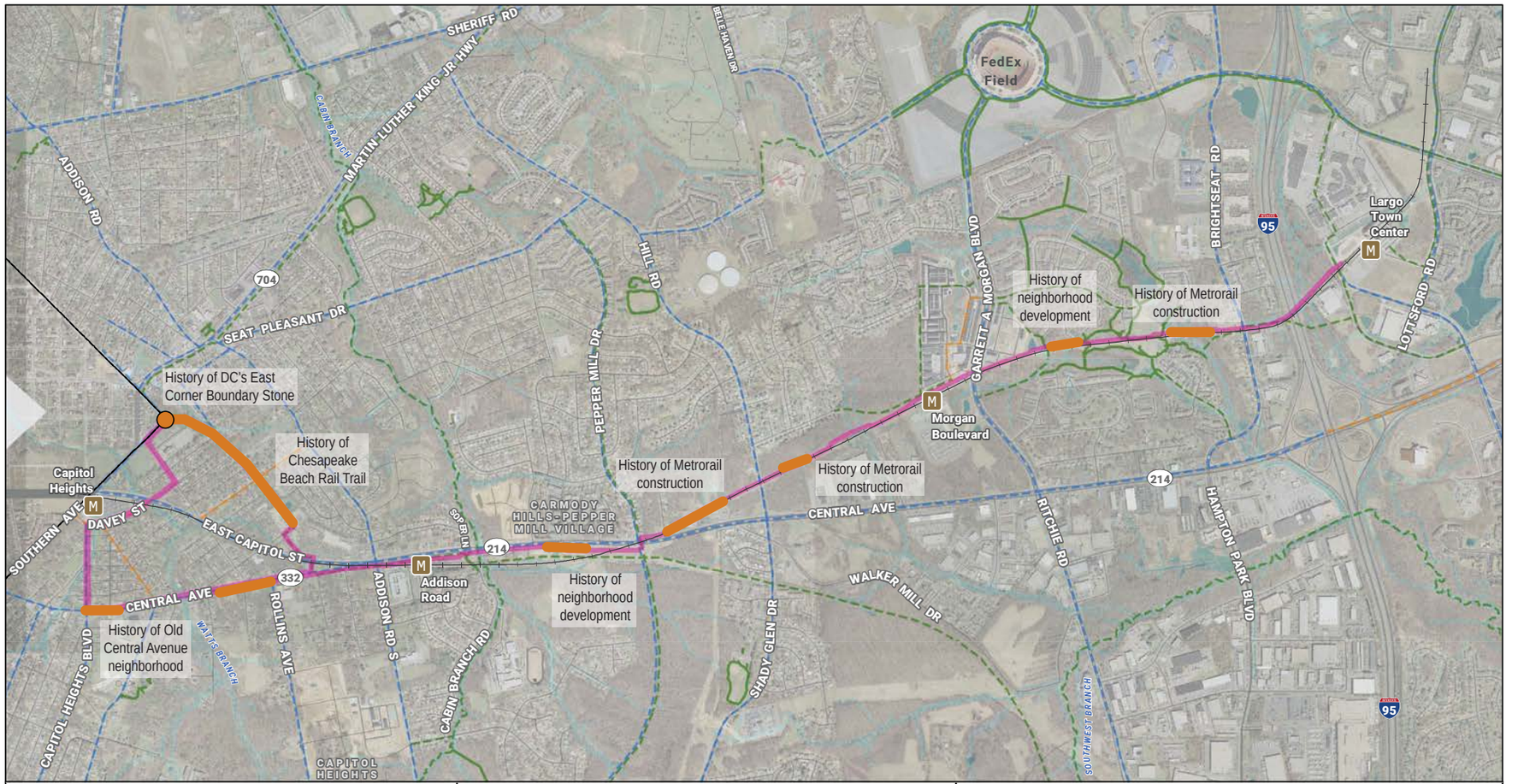
Several locations along the Connector Trail offer opportunities to provide attractions that will help transform the trail into a unique and memorable destination. These features, referred to as trail programming, can be divided into two types—active and passive. Ideally, the Connector Trail would include a mixture of both. Active programming spaces offer trail users opportunities for solitary activity (e.g., at a fitness station), or provide social spaces such as theatres, playgrounds, or tennis courts. Community members attending the second open house in June 2015 suggested several types of active programming space that they would like to see along the Connector Trail, including pavilions, playgrounds, nature areas, exercise stations, and performance and gathering spaces.

Spaces designed for passive programming might include information about the areas in which the trail travels (also called interpretive signs), or provide places for rest and reflection. Community members attending the June 2015 open house requested water fountains, benches, and other rest stops. In addition, several locations along the recommended trail alignment offer opportunities to learn about the corridor's history through interpretive visual displays. Interpretive and decorative features can be built into the trail design, such as those already present along Garrett A. Morgan Boulevard.

Boundary marker between Prince George's County and Washington, D.C.


Visual display in sidewalk along Garrett A. Morgan Boulevard.

Map 8 - Opportunities for interpretation along the trail.



Opportunities for Interpretation

The Prince George's County Historical Society may be well-positioned to help develop interpretive elements as part of the Connector Trail, emphasizing themes including the area's evolving development characteristics, the role of Metro in the community, the Chesapeake Beach Rail Trail, the East Corner Boundary Stone (shown on page 36), and others. Map 8 shows these locations and suggestions for a potential historical theme for each. Over time, these locations could also serve as outdoor classrooms for nearby schools, helping local students learn more about their community.

Trail Furniture and Related Amenities

Benches and water fountains can help create pleasant stopping points that enhance the trail user's experience. Other trail furniture that is recommended includes trash cans and bicycle parking, both of which should be concentrated near trail access points, and provided periodically along the trail. Lighting and emergency call boxes are also recommended and are discussed in the Safety Features and Considerations section on page 46.

Signage and Promotional Materials

Signage is a critical element of any successful trail and can serve several purposes including providing maps, wayfinding, and mile markers for users; promoting the trail to people walking or driving by entrances; explaining trail rules and etiquette; or making note of cultural or historical points of interest. Regulatory signage is also critical, for example to alert drivers and trail users of upcoming intersections. A comprehensive trail signage program should be developed to include both informational and regulatory signage and to avoid "sign clutter," which can become distracting and unattractive.

Other promotional materials that may be considered in the future include a trail logo, brochures, and a website. As an example, the Legacy Trail in Lexington, Kentucy was developed to serve as a community asset and offers a full suite of user amenities. The image from its website home page, shown in the image on the right, demonstrates many of the trail's features, including street furniture and signage.

Benches, bicycle parking, interpretive signs and landscaping in a pocket park along the Bethesda Trolley Trail.

Case Study: Lexington, KY - Legacy Trail

Lexington, Kentucky's Legacy Trail offers the 'complete package' of signage and other trail elements to encourage use.

The Legacy Trail's gateway sign helps establish the overall brand and design.

Signs direct trail users to nearby services.

Bicycle parking along the Legacy Trail fits with the trail's overall branding.

ADA Compliance

Trails that comply with the Americans with Disabilities Act provide a high-quality experience for all community members, regardless of their abilities. Ensuring ADA compliance along the Connector Trail will improve access to the four Metro stations within the Central Avenue-Metro Blue Line Corridor. The U.S. Access Board, a federal agency that promotes equity for people with disabilities through leadership in accessible design, develops guidelines and standards for travel on various facilities, including shared-use paths and within the public right-of-way. Several documents available on the Access Board website provide ADA compliance information for the trail.[7]

Four categories of ADA design considerations that are recommended for the Central Avenue Connector Trail—trail width and surface, topographical changes, trail crossings, and other related features—are discussed below.

Trail Width and Surface

The trail will accommodate travelers in both directions, whether on foot or using a wheeled vehicle or mobility device. The 12-foot width recommended for the trail is intended to allow for sufficient passing space. There are no sections of the trail where a soft surface or hard-packed natural material is recommended. Soft surface or hard-packed natural material surfaces may not be smooth enough for those using mobility devices and they are susceptible to the effects of rain, often reducing a trail's usability.

Topographical Changes

Two types of topographical changes need to be designed with ADA compliance in mind: travel across stream valleys and travel up and down the trail section just west of the Morgan Boulevard Metro Station.

The stream valley crossings along the proposed trail alignment do not have nearby alternative routing options for people with disabilities to use, so maintaining ADA access at those crossings is critical. Stream valley crossings require the trail to transition onto a bridge or other raised structure. The design of each bridge or structure will depend on the severity of the grade on either side of the stream. While a shorter structure is often less-costly to construct, it may require steep switchbacks that affect the ability of someone with a disability to use the trail.

The trail portion just west of the Morgan Boulevard Metro Station is anticipated to be the only significant challenge to ADA compliance. A switchback system, combined with an optional set of stairs, may be the best option for dealing with the change in topography. Consideration must be given to the slope of the switchbacks so that they meet standards for transit station access due to the proximity of the Metro station. An example from the Potomac Yard Park Trail connection to the Four Mile Run Trail can be seen in the image below.

Vertical Connection includes ADA-compliant switchback and steps along the Potomac Yard Park Trail

Trail Crossings

The recommended design for all trail crossings (i.e., intersections with roads) is for a 12-foot-wide crosswalk with high-visibility stripping and a curb ramp of equal width with the required detectable warning strip. See the image to the right for an example. Other design considerations for trail crossings that support safe access for all users, regardless of abilities, include the following:

- Trails crossings should avoid a diagonal path of travel and complex intersections.
- Trail crossings should provide appropriate traffic controls, based on an evaluation of vehicle speeds and sight-lines.
- Signs and pavement markings/striping alerting road and trail users of approaching crossings.

Particular attention should be given to locations where the trail crosses roads with more than one motor vehicle travel lane in each direction, speeds greater than 35 miles per hour, and average daily traffic volumes of more than 20,000.

Other Features

Features such as benches, lighting, and call boxes that are included in the trail would address several needs, including providing an added level of comfort for trail users with disabilities. Benches provide places for rest, lighting helps trail users with low vision see during times of low natural light, and call boxes connect trail users to assistance in times of need. More information on lighting and call boxes is included in the next section.

Trail crossing in College Park, MD includes desired ADA features. The center split helps reduce congestion between trail users traveling in each direction.

Safety Features and Considerations

Trail user safety has been identified as a high priority by those participating in stakeholder meetings and open houses. Perceived safety is just as important to the success of a trail as actual safety (based on crime and injury/collision rates). Perceived safety may be related to actual incidents on a trail or it may simply reflect poor design that creates an uncomfortable environment. Regardless, safety considerations must be incorporated into all aspects of trail planning, design, and operation.

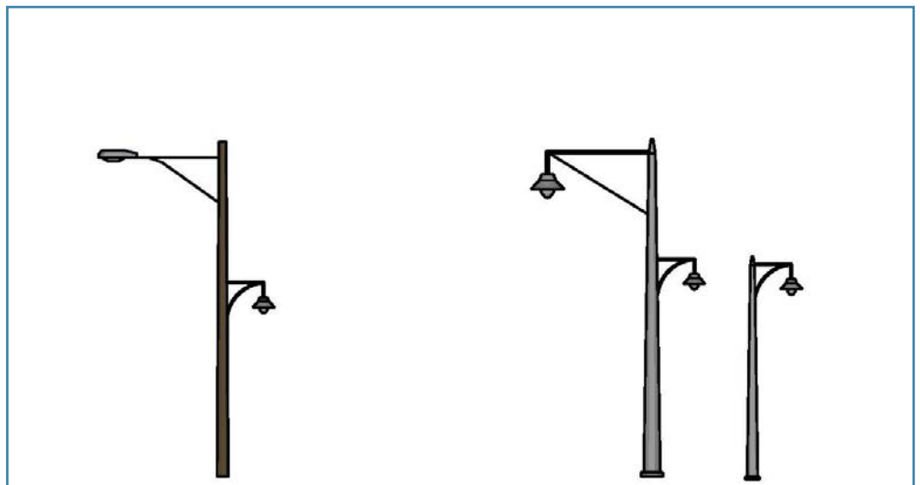
There are two types of safety that must be considered:

- **Personal safety.** Is there a low rate of personal harm to trail users from malicious or criminal actions on the trail? Enforcement is important, but good design can be used to create safer spaces. Good design that emphasizes visibility and encourages activity, combined with proper enforcement, can be used to create safer spaces.
- **Safety from injury.** Is there a low risk for injury along the trail and at trail crossings? Trails that provide ample space for travelers and appropriate facilities at crossings can reduce the potential for conflicts.

There is an emerging field of practice known as Crime Prevention Through Environmental Design (CPTED) that should continue to inform the design and operation of the Connector Trail. CPTED refers to a multidisciplinary approach of deterring criminal behavior through environmental design, which is accomplished through collaboration between planners, community members, and law enforcement officials during the planning, building, and programming of public spaces.[8] When applied to trail design, CTPED takes into account all potential users' perceptions of safety and pairs it with proven design and programming standards that reduce the risk of criminal behavior, including:

- Maintaining open sight lines along the trail.
- Providing adequate lighting.
- Establishing connections to well-used community destinations.
- Providing clear signage so trail users know, and can report, their location in an emergency.
- Using call boxes as part of the overall "safety net" for trail users.

While the focus of CPTED is personal safety, the same strategies can be used to reduce collision and injury rates on trails. Many strategies related to trail safety have been discussed in previous sections, including providing adequate trail width and using appropriate signage along the trail—particularly at road crossings. The section below provides details on additional, specific design recommendations that are based on CPTED principles and will help provide a safer experience for users of the Central Avenue Connector Trail.



Lighting configurations: On the left - for trail within existing public right-of-way; on the right - for trail running parallel to an existing road and sidewalk.

Lighting

Adequate lighting extends trail use at the beginning and end of the day and increases visibility during cloudy days when there is low natural light. Equally important for trail users is the sense of safety that a well-lit trail provides—neither they nor other trail users are "hidden" in the dark. The appropriate spacing for light poles is determined by the balance of light intensity with pole height. Each of these factors affects the cost of installing and maintaining lighting. More information on trail lighting is provided in Appendix D. This appendix includes an example from the Montgomery County Planning Department's changes to the Capital Crescent Trail in anticipation of the Purple Line.

Three basic lighting configurations are recommended:

- Portions of the Connector Trail within the existing public right-of-way would include lighting oriented toward the roadway and lighting oriented to the trail, as shown in the image on page 42.
- Portions of the trail that are parallel but separated from an existing roadway and sidewalk would have lighting for the roadway, the sidewalk, and the trail, as shown in the image on page 42.
- Portions of the trail that are not along a roadway would have pedestrian-oriented trail lighting, similar to the examples shown in the images to the right.

Solar-powered lights along a trail.

Lighting along the Metropolitan Branch Trail in Washington, DC.

Emergency Call Boxes

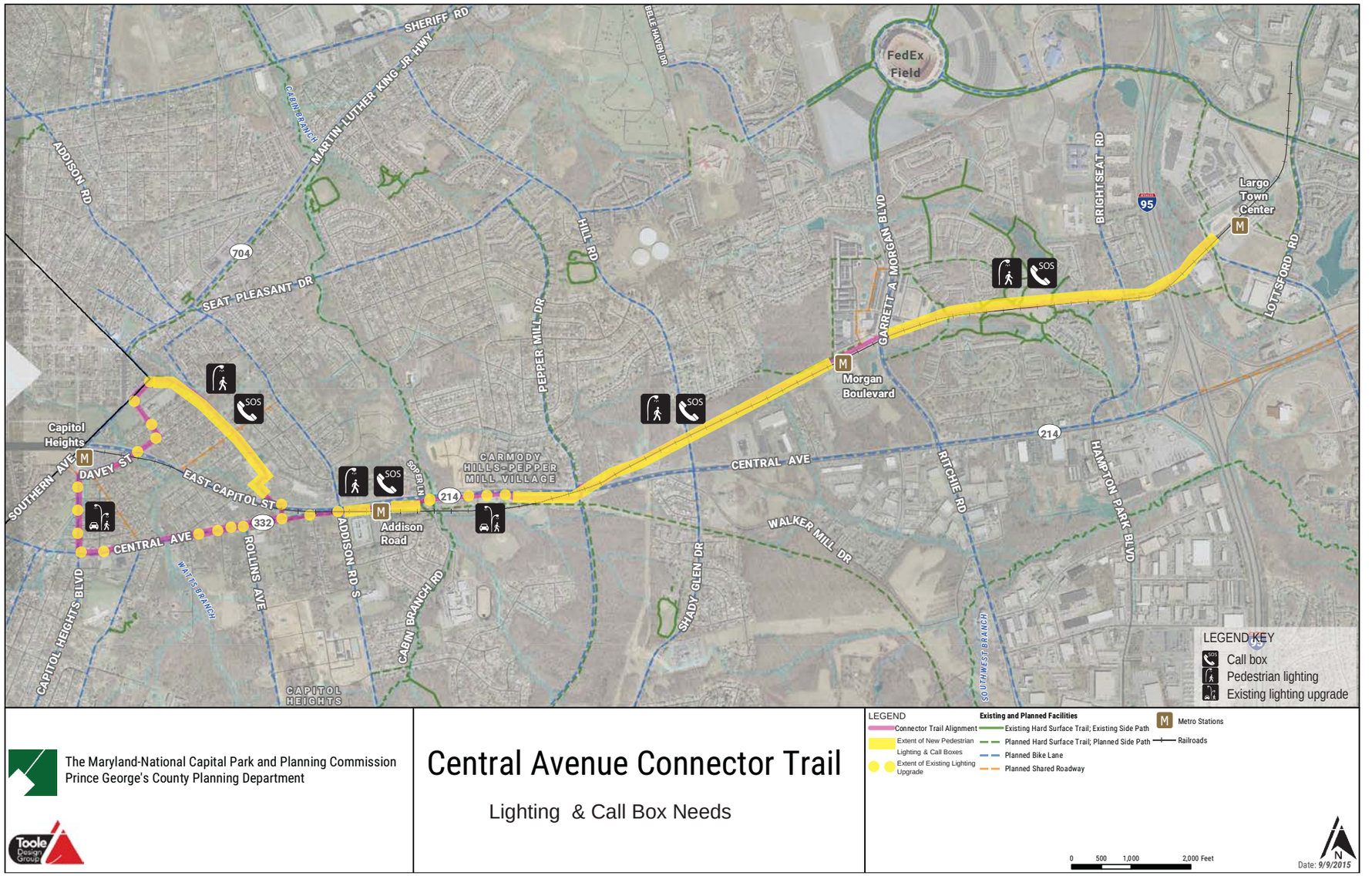
Emergency call boxes are a valuable component of trail safety in that they facilitate an emergency response when needed, increase the trail user's perceived safety, and may deter crime. Call box placement should be frequent enough so that trail users can reach the call box relatively quickly. However, they can also be costly, and with the rise of cell phones, they may become increasingly unnecessary (this is not true in rural locations where cell service is unreliable). The number of call boxes, and their distance apart, depend on the length of the trail and various at-risk locations on the trail. Generally, they are placed at one-mile or half-mile intervals from each other, as well as at the trail head.

Before committing to call boxes, it is important to consider all the options. One alternative to call boxes is a trail watch program, where volunteers and "friends of the trail" serve as extra eyes and ears for local police forces. Some trails have also implemented successful trail marker systems. The Upper Tampa Bay Trail uses an emergency response numbering system with bright yellow decals placed every 200 feet with individual trail numbers (see bottom image to the right). These numbers allow emergency response teams to know the exact location of trail users who report an incident, and also allow for better data collection about high-crime locations. The Cedar Valley Trails 911 Signs Project in Iowa uses GPS, mapping tools, and emergency response software to help dispatchers guide responders to the site by providing them with a written description of the location and how emergency vehicles can gain access to the trail.

Call boxes need to be highly visible.

Upper Tampa Bay Trail uses stickers to help with emergency calls.

Map 9 - Recommended locations for new or additional lighting and call boxes.



The Maryland-National Capital Park and Planning Commission
Prince George's County Planning Department

Toole Design Group

Central Avenue Connector Trail

Lighting & Call Box Needs

LEGEND

Connector Trail Alignment
Extent of New Pedestrian Lighting & Call Boxes
Extent of Existing Lighting Upgrade

Existing and Planned Facilities

Existing Hard Surface Trail; Existing Side Path
Planned Hard Surface Trail; Planned Side Path
Planned Bike Lane
Planned Shared Roadway

Metro Stations
Railroads

0 500 1,000 2,000 Feet

N

Date: 9/9/2015

Lighting and Call Box Needs

Map 9 shows recommendations for lighting needs and potential call box installations. The map indicates where existing lighting should be enhanced and new lighting is needed. Locations where existing lighting is recommended to be enhanced are typically locations where the trail travels along an existing roadway such as Central Avenue, Old Central Avenue, Capitol Heights Boulevard, and Davey Street. Existing lighting in these locations is oriented towards motor vehicles traveling along the roadway and may not be sufficient to meet safety needs identified for the trail.[9]

Safety Features and Considerations

Community Outreach and Trail Programming

Engaging the community to take part in safety efforts and maintain an active environment near the trail can be the most effective deterrent to crime and negative perceptions of safety. When communities host events on trails they become shared and valued spaces. Volunteer trail service days, neighborhood picnics, and educational tours are just some of the programming and outreach elements that help foster a sense of ownership of the trail. This sense of ownership can lead to greater use over time, and more "eyes on the street" may lead to a safer environment for everyone.

Trail Maintenance

Trail maintenance begins immediately following trail construction and is a continuous process. According to the *Handbook for Trail Design, Construction and Maintenance* by the National Park Service, most trail segments need maintenance at least three times per year. Trail maintenance needs can be summarized into six categories: 1) Trail Maintenance—Vegetation, 2) Sign Maintenance, 3) Drainage Maintenance, 4) Structure Maintenance, 5) Tread Maintenance, and 6) Litter Clean-up.

Trail Maintenance—Vegetation

- Brush/clear areas
- Remove fallen trees/branches
- Remove hazard trees
- Revegetate slopes
- Groom backslopes
- Maintain vistas
- Remove poison ivy (herbicide)

Sign Maintenance

- Sign repair/rehabilitation
- Sign replacement
- Blaze repainting and maintenance
- Cairn repair
- Barricade/closure device repair

Drainage Maintenance

- Cleaning/repairing structures such as culverts, waterbars, cowetta dips, drainage ditches
- Replacing existing structures: culverts/underdrains
- Installing additional drainage structures: waterbars, culverts, grade dips

Structure Maintenance

- Bridge repair
- Cribbing/retaining wall repair
- Barrier/guardrail repair
- Steps/perron repair
- Fence/gate/stile repair
- Shelter repair

Tread Maintenance

- Grading tread: slough and slide removal, slump repair, filling erosion ditches, grubbing rocks/roots/stumps
- Spot surfacing
- Turnpike section repair
- Surface replacement (similar material)
- Surface repair
- Loose rock removal

Litter Clean-up

- Old dumps near trail
- Current discarded litter


Community event for Metropolitan Branch Trail in Washington, DC.

Maintenance Agencies

As this project moves towards implementation, a determination will have to be made concerning who will maintain the trail. Since the trail spans several diverse settings, a multiagency approach may become necessary. The Prince George's County Department of Parks and Recreation (DPR), M-NCPPC, the Prince George's County Department of Public Works and Transportation (DPW&T), and citizen groups may become maintenance and enforcement entities tasked with maintaining segments of the Central Avenue Connector Trail once it is constructed.

DPW&T is responsible for maintaining nearly 2,000 miles of County road and any infrastructure on County roads including trails, bicycle lanes, sidewalks, and stormwater management facilities. DPR operates and maintains more than 26,000 acres of parkland throughout the County and approximately 46 miles of paved trails within the park system. DPR developed *Formula 2040: Functional Master Plan for Parks, Recreation and Open Space* which identifies that the County is significantly underserved by trails, and that the number one need of County residents is for more walking and biking trails.

Once the maintenance agencies have been identified for each segment of the trail, it is essential to develop a range of funding sources to reduce reliance on County tax revenue for operation and maintenance. Examples include land leases, public-private partnerships, user and permit fees, impact fees, advertising, sponsorships, donations, event revenue, and grants. The Planning Department will coordinate with maintenance agencies to apply for grants such as Safe Routes to School, Recreational Trail Program, and the Transportation Enhancement Program.

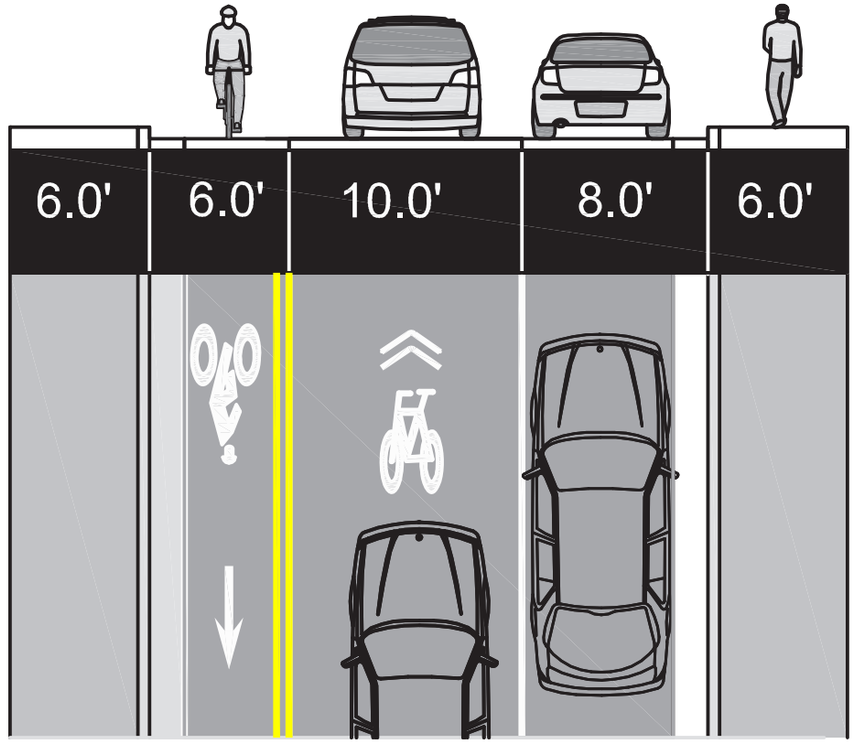
Another maintenance strategy is to take advantage of the "Adopt-A-Trail" program offered through DPR. Adopt-A-Trail programs encourage community groups and individuals to participate in maintenance activities resulting in the following benefits:

- Help the environment by reducing litter.
- Maintain the trail for future enjoyment.
- Experience fun in the outdoors.
- Be actively involved in a community project.
- Have efforts recognized with signage.
- Provide additional eyes and ears for reporting potential hazards and safety concerns.

The existing program requires a two-year commitment; training and materials are provided by park rangers.

Typical Trail Cross Sections

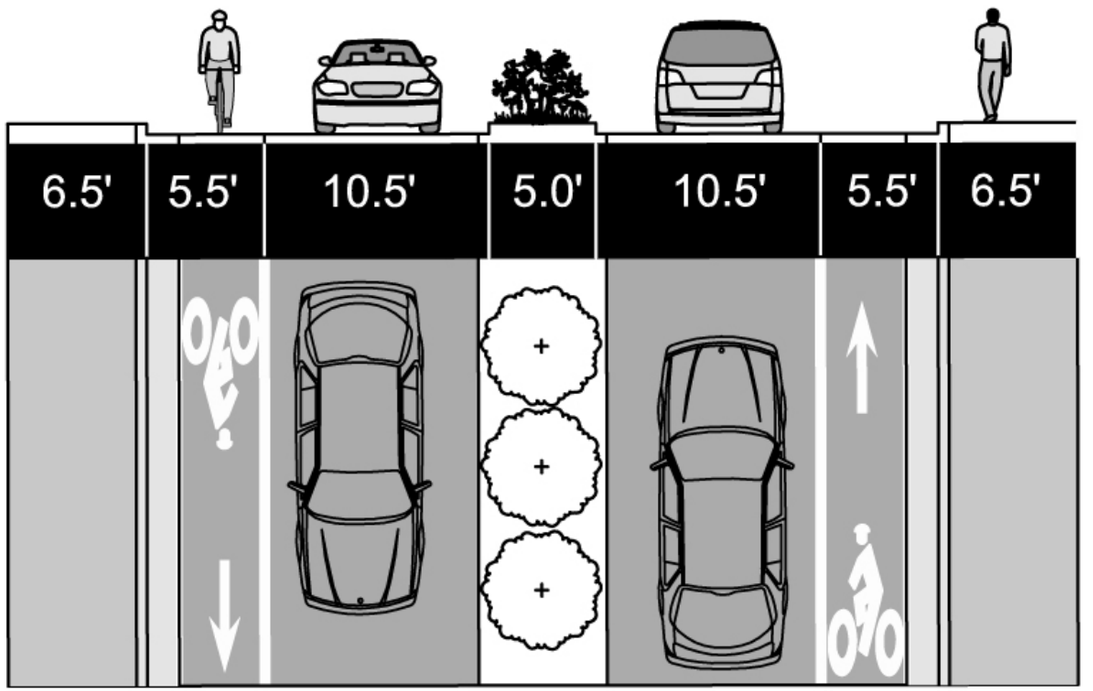
This section presents a number of typical cross sections for the Connector Trail, which were developed based on community and stakeholder input, and the opportunities and constraints identified during the analysis of existing conditions. These cross sections illustrate how the trail could be constructed in relationship to existing topography and site conditions.[10] A gallery of these cross sections is included below. These cross-sections are included on the 200-foot scale plan sheets in Appendix B.



Type: Trail with split pedestrian and bicycle facilities

Location: Capitol Heights Boulevard south of Chamber Avenue. Roadway travel is one-way northbound

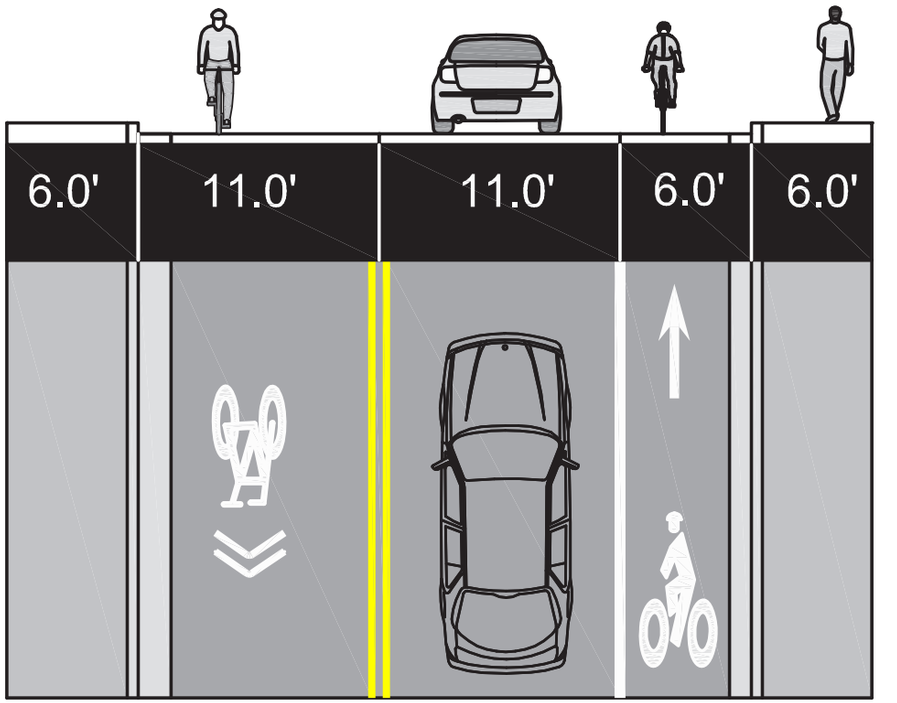
Features: 6-foot-wide sidewalks both side of street, 6-foot-wide southbound bicycle lane, northbound shared lane marking, parking one side of street



Type: Trail with split pedestrian and bicycle facilities

Location: Capitol Heights Boulevard north of Chamber Avenue. Roadway travel is two-way

Features: 6.5-foot-wide sidewalks both side of street, 5.5-foot-wide north and southbound bicycle lanes, no parking

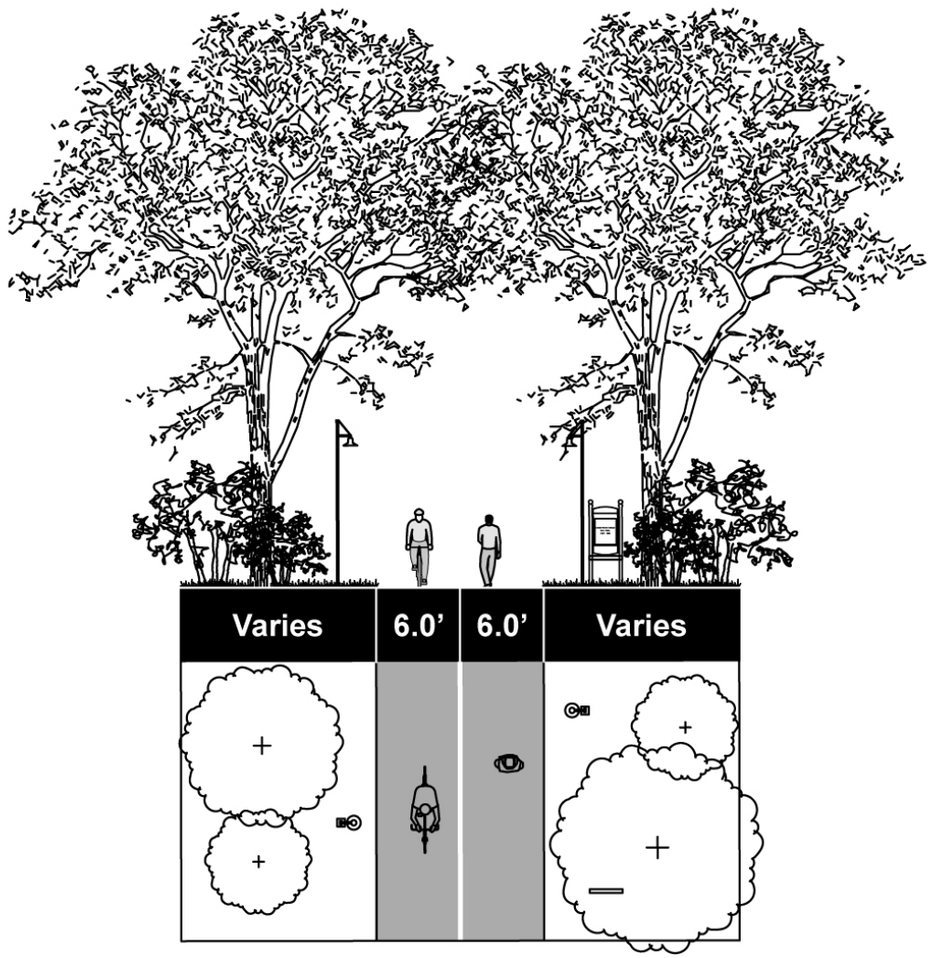


Type: Trail with split pedestrian and bicycle facilities

Location: Old Central Avenue between Capitol Heights Boulevard and Central Avenue

Features: 6-foot-wide sidewalks both side of street, westbound shared lane marking, east bound 6-foot-wide bicycle lane, no parking

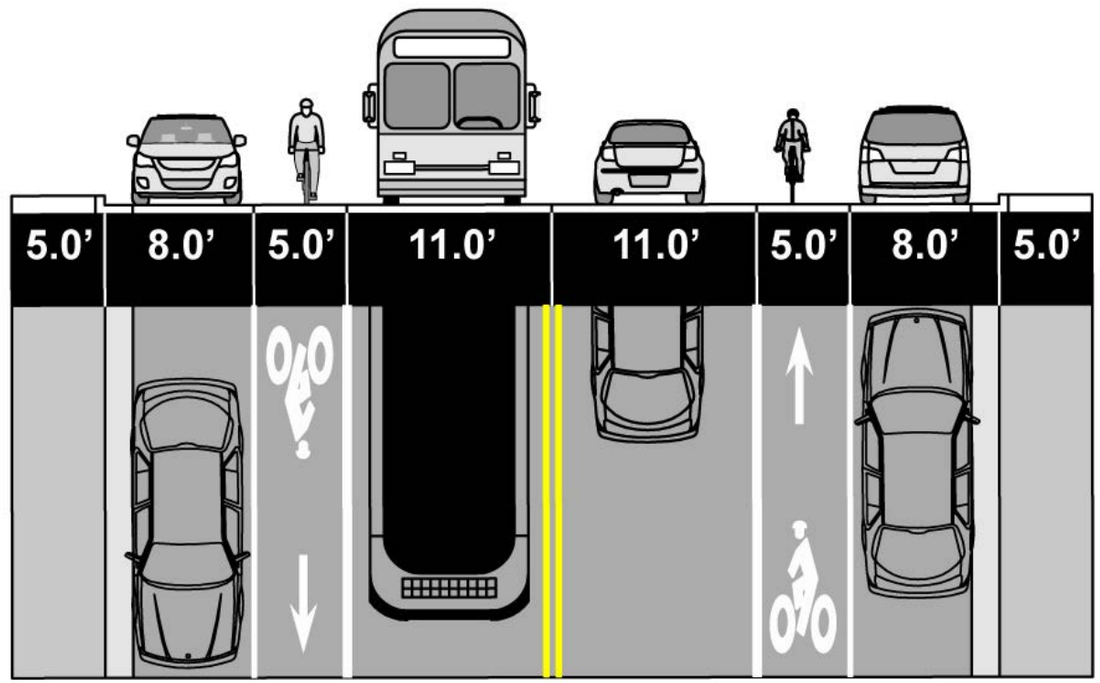
TRAIL DESIGN AND FEATURES



Type: Multi-use trail

Location: Chesapeake Beach Rail Trail

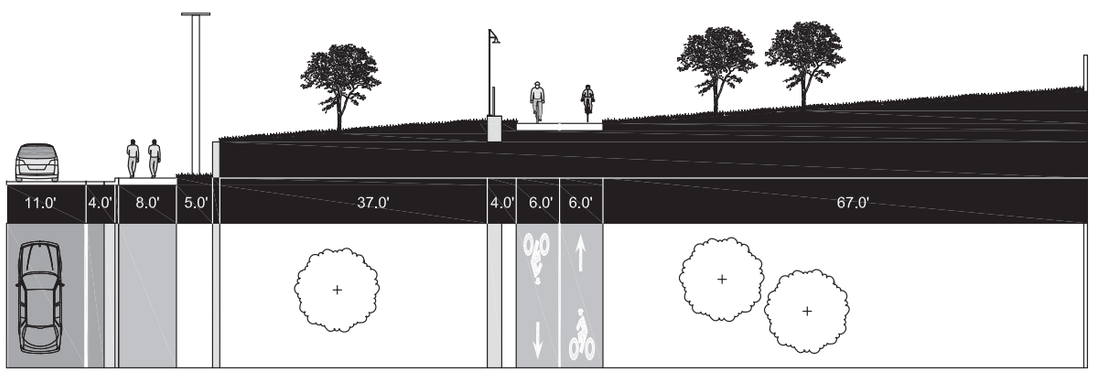
Features: 12-foot-wide trail with 2-foot-wide shoulders and other trail amenities



Type: Trail with split pedestrian and bicycle facilities

Location: Davey Street south of Central Avenue (East Capitol Street)

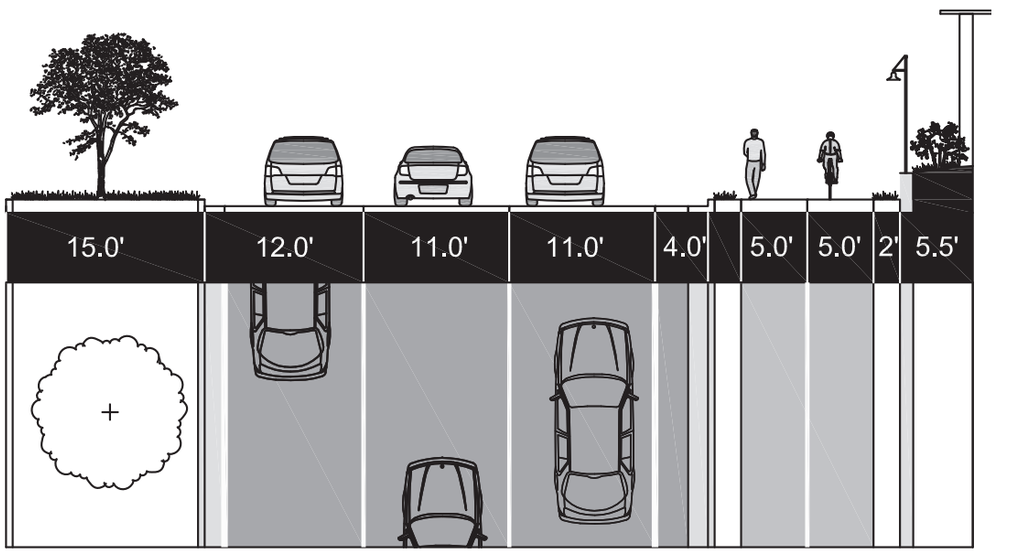
Features: 5-foot-wide sidewalks both side of street, 5-foot-wide bicycle lanes both sides of street, parking both sides of street



Type: Trail parallel to roadway

Location: Central Avenue between Addison Road Metrorail station and Cabin Branch Road, and on WMATA property

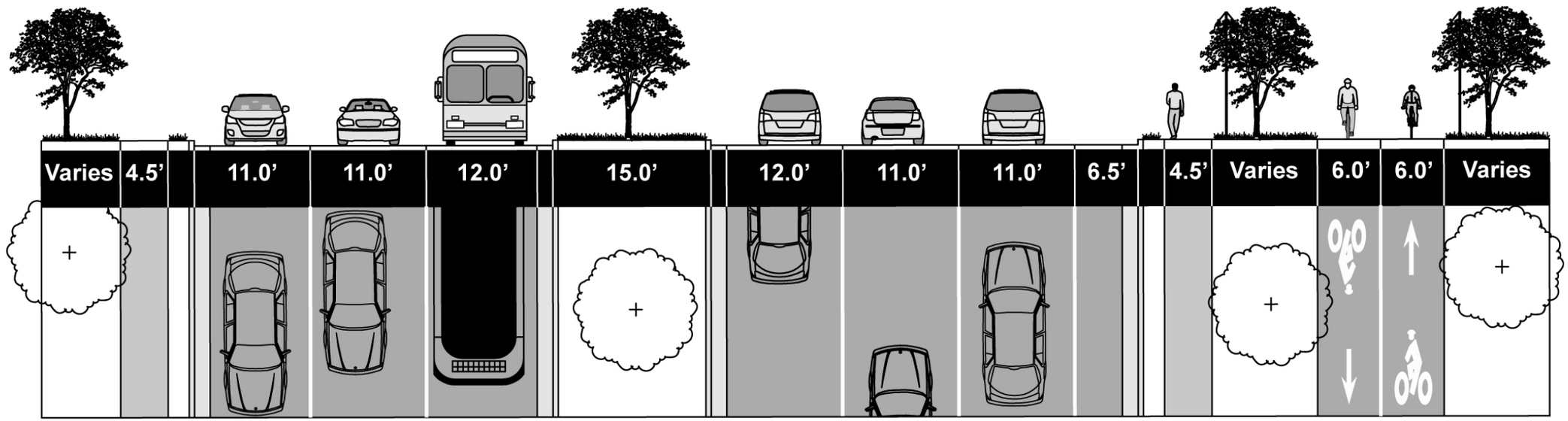
Features: 12-foot-wide trail with 4-foot-wide shoulders and other trail amenities



Type: Sidewalk trail

Location: Central Avenue east of Cabin Branch Road and within ROW

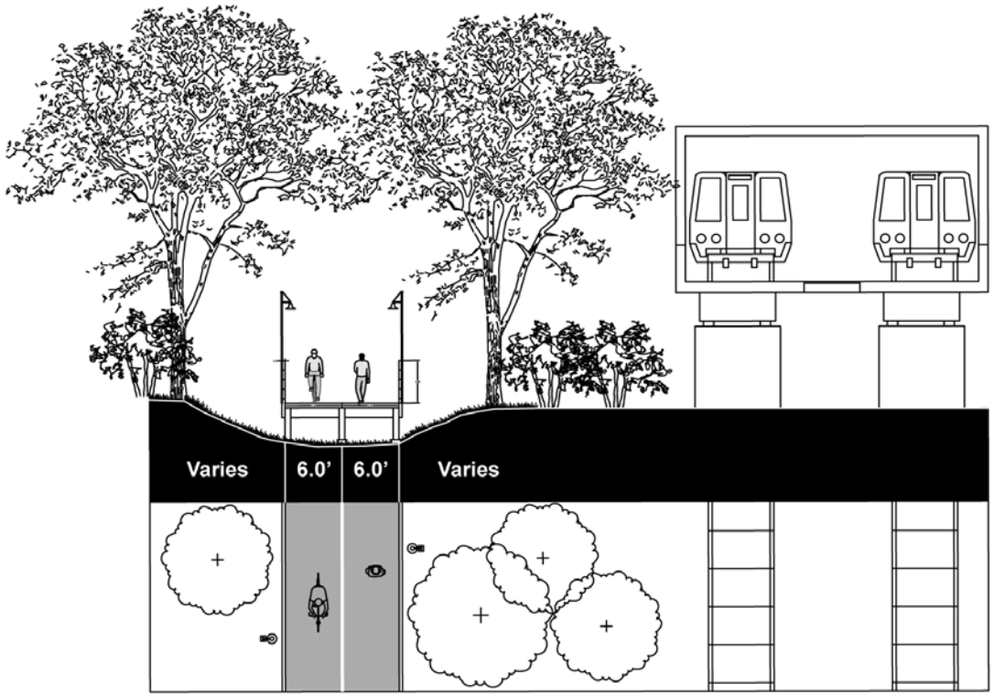
Features: 10-foot-wide sidewalk trail with 2-foot-wide shoulders and other trail amenities



Type: Trail parallel to roadway

Location: Central Avenue west of Pepper Mill Drive and on WMATA property

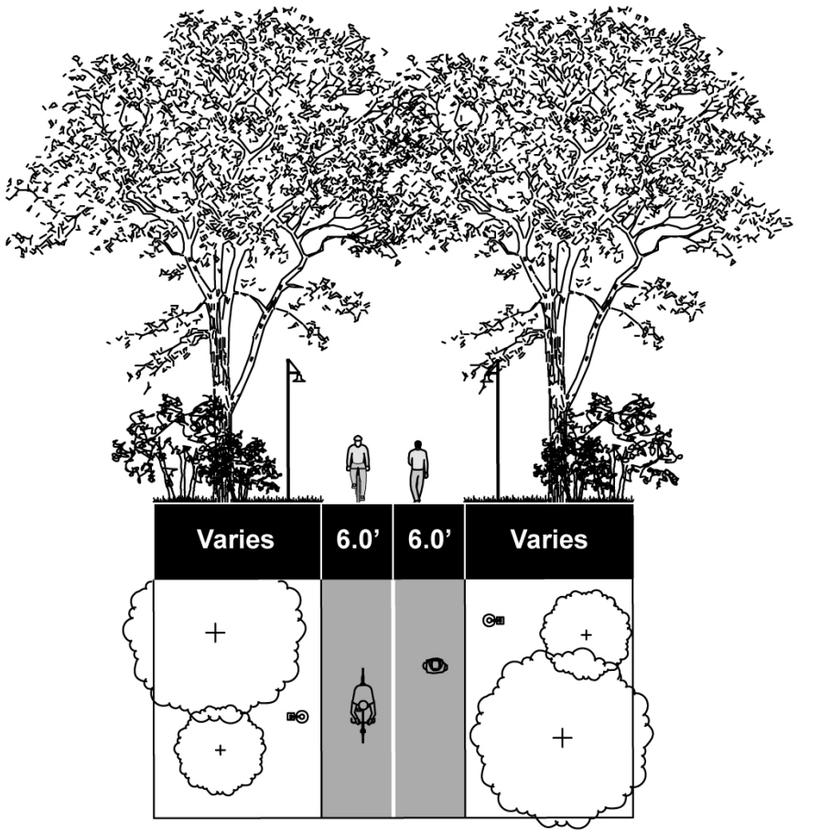
Features: 12-foot-wide trail with 2-foot-wide shoulders and other trail amenities



Type: 12-foot-wide multi-use trail bridge

Location: West of Morgan Boulevard Metrorail station and on north side of WMATA caisson

Features: 12-foot-wide bridge structure with trail amenities



Type: 12-foot-wide multi-use trail

Location: East of Morgan Boulevard Metrorail station, rehab of exiting trail in Summerfield Community Park

Features: 12-foot-wide trail with 2-foot-wide shoulders and other trail amenities

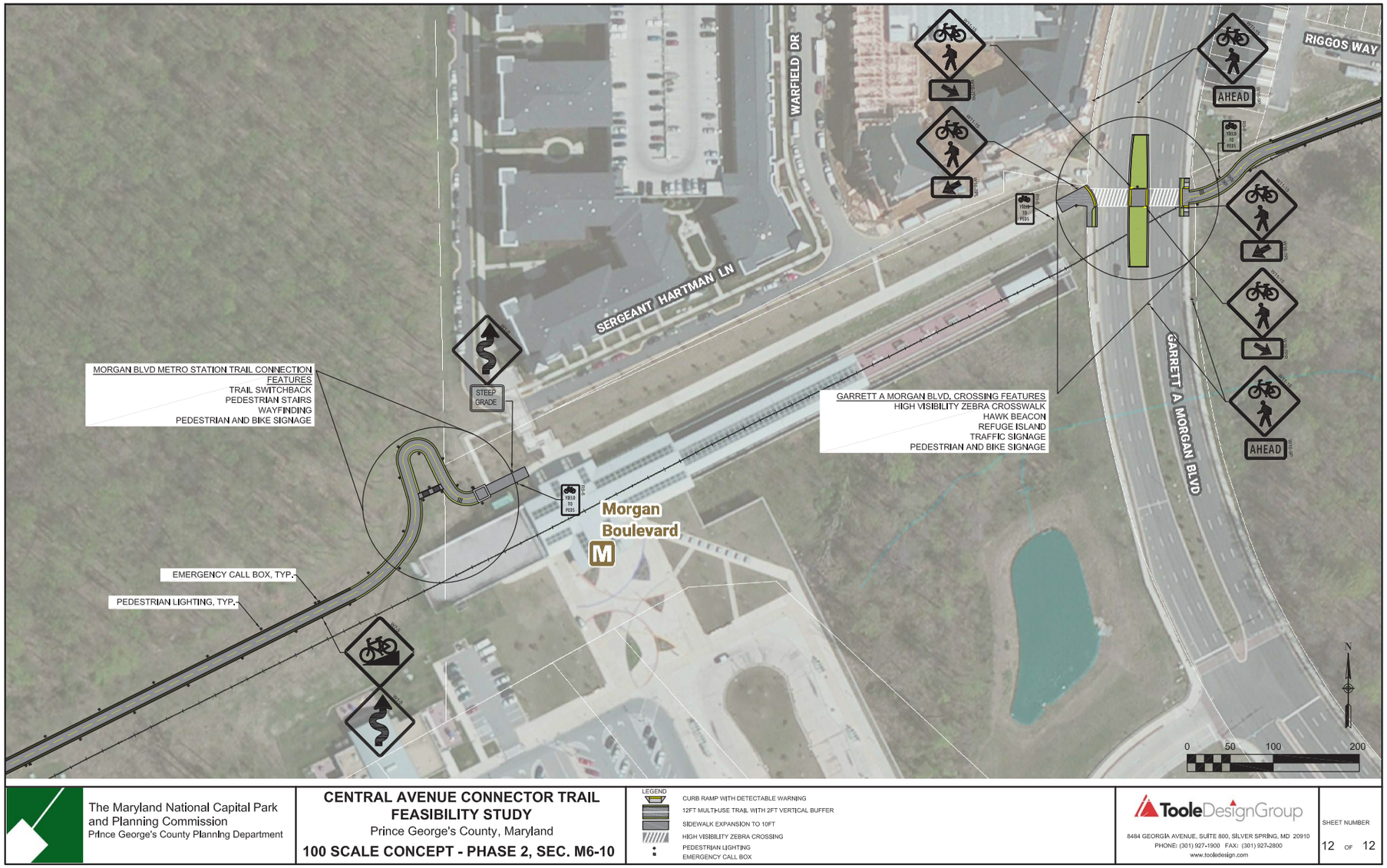
Conceptual Drawings

In addition to the 200-foot scale plan sheets of the trail alignment shown in Appendix B, 100-foot scale drawings were prepared that provide more details of the trail design in two locations that feature unique or challenging design considerations:

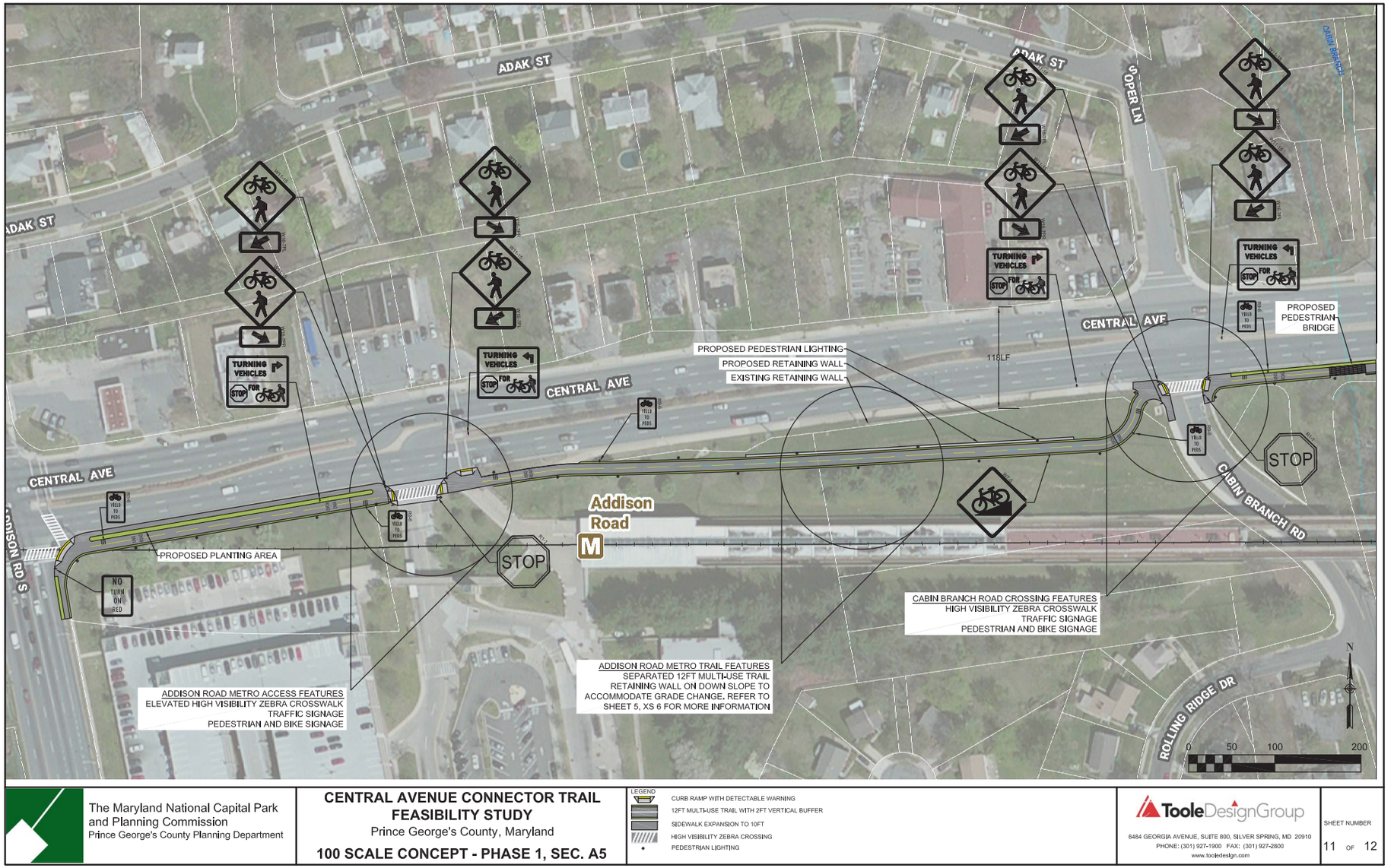
The trail segment east of Garrett A. Morgan Boulevard and west of the Morgan Boulevard Metro Station.

This portion of the trail is part of the direct connection between the Largo Town Center and Morgan Boulevard Metro stations. The trail runs off-road and connects with an existing 14-foot-wide sidewalk within the Morgan Boulevard Metro Station campus. Features of this portion of the trail include a trail crossing on Garrett A. Morgan Boulevard with a center median refuge, and facilities that accommodate the steep change in topography just west of the station (steps and an ADA-compliant ramp). Map 10 shows the 100-foot scale drawing of this location.

Map 10 - 100-foot scale drawing of trail portion between Garrett A Morgan Boulevard and just west of the Morgan Boulevard Metro Station.



Map 11 - 100-foot scale drawing of trail portion between Addison Road and Cabin Branch Road.



The trail segment between Cabin Branch and Addison Roads. This portion of the trail provides immediate access to the Addison Road-Seat Pleasant Metro station. Trail facility types within this portion include a wide sidewalk within the public right-of-way just east of Cabin Branch Road, a 12-foot-wide trail running parallel to the roadway and existing sidewalk on WMATA property between Cabin Branch and Addison Roads, and trail crossings at Cabin Branch Road, the driveway entrance into the Metro station campus, and across Addison Road. Additional details of the pedestrian crossing across Central Avenue at the Metro station entrance are not shown. This crossing is noted on Map 3. During the June 2015 open house, community members noted concern about the safety of this crossing and recommended a pedestrian bridge be built, similar to the one at the Greenbelt Metro Station. Map 11 shows the 100-foot scale drawing of this location.

IMPLEMENTATION PLAN

It is recommended that implementation of the Central Avenue Connector Trail occurs in stages, beginning with those portions that are easiest to complete while also working on longer-term needs for subsequent portions. For example, the process to gain approval for the multi-use trail bridge over I-495 (Capital Beltway) should begin in the initial implementation phase, although the bridge would likely be implemented over the long-term. Another task that should be addressed early is working with private property owners that are the most directly affected by the trail, even in segments that are recommended for longer term implementation.

Implementation Opportunities

This section describes conditions that may create opportunities to expedite or support the implementation of the Central Avenue Connector Trail. M-NCPPC and its partners should take advantage of these opportunities as they arise for various trail segments.

Planned Development and Trails

Adjacent land development projects provide an important opportunity to acquire land and/or implement segments of the Connector Trail. In particular, there are several private development projects being planned in the vicinity of the Capitol Heights Metro Station, as well as a reconstruction of Chamber Avenue as a part of the Town of Capitol Heights' Green and Complete Streets Plan.

In addition, the 2013 A*pproved Largo Town Center Sector Plan and Sectional Map Amendment* includes a trail loop around Largo Town Center to provide access to the Largo Town Center Metro Station and a new regional medical center planned for this area. Coordination with these planned projects may provide an opportunity to complete the trail connections in Largo through off-site improvements.

Recent Maryland Law Regarding Bicycle and Pedestrian Priority Areas

A law passed by the General Assembly in early 2015 is also expected to facilitate the implementation of the Central Avenue Connector Trail. The law, signed by Governor Hogan in April, allows local governments to establish "Bicycle and Pedestrian Priority Areas" by September 30, 2015[11]. Once the priority areas are established, the Maryland Department of Transportation's State Highway Administration (SHA) would then need to develop a plan for state roadways in those areas within one year. Designating either the entire trail or the key crossings along Central Avenue as a Bicycle and Pedestrian Priority Area would provide the mechanism for working with SHA. The law specifies types of changes that can be considered within the Bicycle and Pedestrian Priority Areas, including:

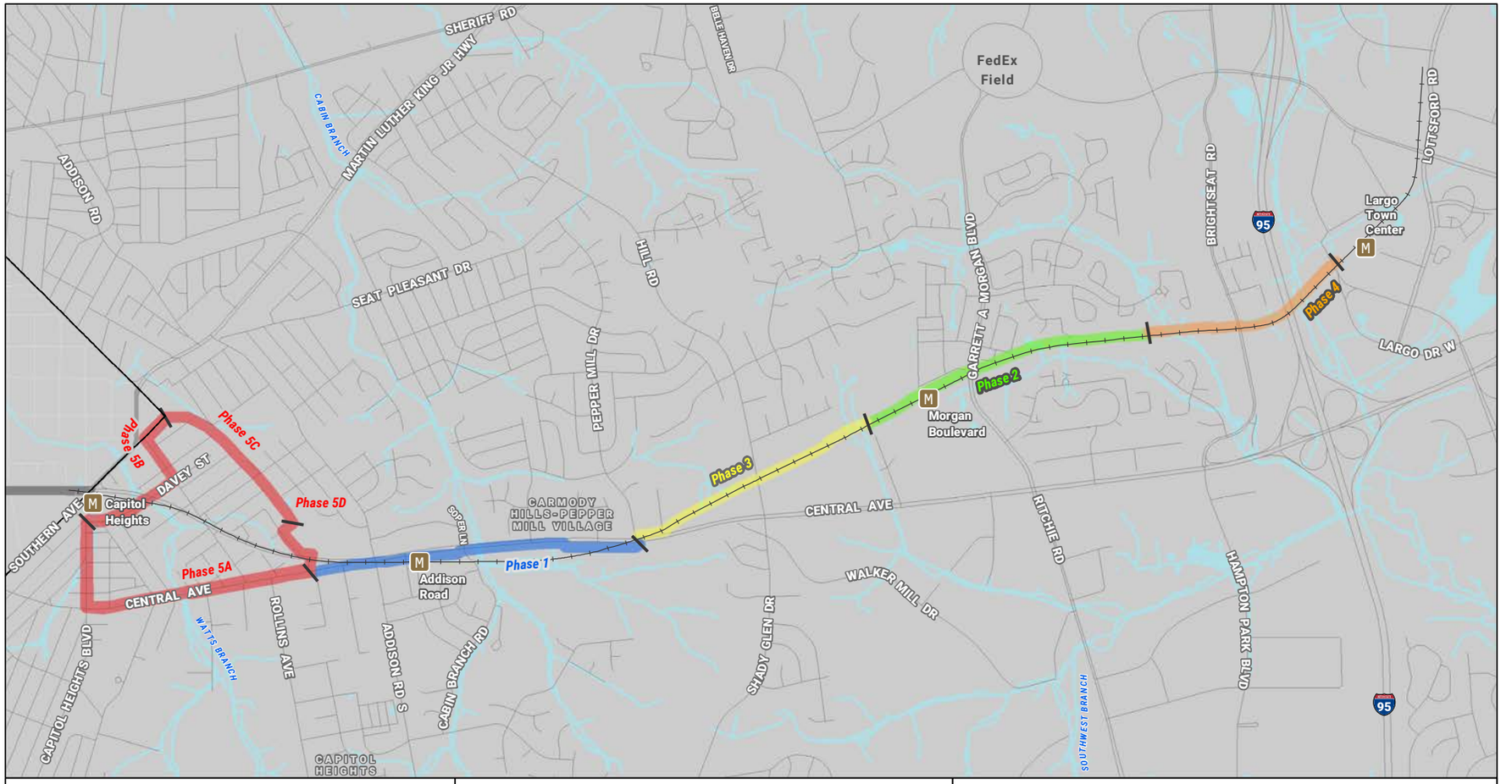
- Appropriate changes to the location, construction, geometrics, design, and maintenance of the state highway system to increase safety and access for bicycle or pedestrian traffic in the bicycle and pedestrian priority area.
- The appropriate use of traffic control devices including 24 pedestrian control signals, traffic signals, stop signs, and speed bumps.[12]

Development site adjacent to proposed trail alignment

Implementation Phases

The Central Avenue Connector Trail is planned in five phases based on several factors, including their relative potential to improve transit access and other factors that determine ease of implementation (e.g., property ownership, level of investment needed within the public right-of-way, and complexity of topographical or environmental issues). A summary of each implementation phase is provided here and on Map 12.

Map 12 - Project Phasing



The Maryland-National Capital Park and Planning Commission
Prince George's County Planning Department

Toole Design Group

Central Avenue Connector Trail

Implementation_Phase: 1, 2, 3, 4, 5
Other: Metro Stations, Railroads

0 500 1,000 2,000 Feet

N

Date: 9/10/2015

Phase 1: Addison Road Connector

Between the intersection of Pepper Mill Drive and Central Avenue and the intersection of Old Central Avenue and Central Avenue.

Phase 1 travels on the south side of Central Avenue and offers significant potential to improve pedestrian and bicycle access to the Addison Road-Seat Pleasant Metro Station. Also, existing pedestrian and bicyclist safety concerns identified through previous planning efforts would be addressed through the implementation of this portion of the trail. This portion of the proposed trail alignment includes:

Trail crossings:

- Across Central Avenue at Pepper Mill Road
- Across Cabin Branch Road[13]
- Across the driveway into the Addison Road-Seat Pleasant Metro Station campus
- Across Addison Road

Trail types:

- An off-road trail on WMATA property west of Pepper Mill Road. Three locations within this implementation phase would use WMATA property. In each case, the off-road trail running parallel to Central Avenue would offer trail users a safe and comfortable path of travel, incorporating design features discussed in the Trail Design and Features section of this report (page 33).
- A 12-foot-wide sidewalk trail that takes advantage of the existing public right-of-way, which averages 18 feet.
- A dual facility on Old Central Avenue, consisting of a new sidewalk on the north side and an on-road bicycle facility.

Multi-use trail bridges:

- A bridge structure to span Cabin Branch Stream. Widening the existing sidewalk to convert it to a sidewalk trail would require a new/extended bridge structure.

A summary of Phase I, including segment identifiers on the 200-foot scale plan sheets and mileage, is shown in Table 3.

Table 3. Summary of Implementation Phase 1

Phase 1: Addison Road Connector				
Station Served	**Segment (as shown on 200-foot scale plan sheets)**	**Length (miles)**	**Total Miles (single, two-way, or dual)**	**Future General Type**
Capitol Heights	C1	0.18	0.18	Multi-use trail
Addison Road	A8	0.03	0.03	12' wide trail crossing
Addison Road	A7	0.07	0.07	Multi-use trail
Addison Road	A6	0.01	0.01	12' wide trail crossing
Addison Road	A5	0.16	0.16	Multi-use trail
Addison Road	A5.1	0.02	0.02	12' wide trail crossing
Addison Road	A4	0.02	0.02	Multi-use trail
Addison Road	A4.1	0.02	0.02	Multi-use trail bridge
Addison Road	A3	0.22	0.22	Multi-use trail sidewalk
Addison Road	A2	0.30	0.30	Multi-use trail
	Total Length (miles)		**1.03**	
	Length by Facility Type			
	Multi-use trail		0.73	
	Multi-use trail sidewalk		0.22	
	Multi-use trail bridge		0.02	
	12-foot-wide trail crossing		0.05	

Phase 2: Morgan Boulevard Connector

Between a point in the middle of Brightseat Road and Garrett A. Morgan Boulevard and a point west of the Morgan Boulevard Metro Station.

The trail portion in Phase 2 provides direct access to the Morgan Boulevard Metro Station via an off-road trail. Current pedestrian and bicycle access to the station requires travelers to use Central Avenue and Garrett A. Morgan Boulevard—a route that is not especially direct. This implementation phase takes advantage of property owned by M-NCPPC and WMATA and an existing set of trails in the Summerfield Community Park. Elements of the proposed trail alignment include:

Trail crossings:

- Across Central Avenue at Pepper Mill Road
- Across Garrett A. Morgan Boulevard

Trail types:

- 12-foot-wide, multi-use trail

Multi-use trail bridges:

- One bridge across a stream valley within the Summerfield Community Park trail system that runs north of, and parallel to, a Metro caisson.

A summary of Phase 2, including segment identifiers on the 200-foot scale plan sheets and mileage is shown in Table 4.

Table 4. Summary of Implementation Phase 2

Phase 2: Morgan Boulevard Connector				
Station Served	**Segment (as shown on 200-foot scale plan sheets)**	**Length (miles)**	**Total Miles (single, two-way, or dual)**	**Future General Type**
Morgan Boulevard	M8	0.04	0.04	Multi-use trail (with switchbacks and steps)
Morgan Boulevard	M7	0.14	0.14	Signed multi-use trail on existing 14' wide sidewalk
Morgan Boulevard	M6	0.02	0.02	12' wide trail crossing
Morgan Boulevard	M5	0.17	0.17	Multi-use trail
Morgan Boulevard	M4	0.15	0.15	Multi-use trail bridge
Morgan Boulevard	M3	0.12	0.12	Multi-use trail
Morgan Boulevard	M2	0.09	0.09	Multi-use trail
	Total Length (miles)		**0.77**	
	Length by Facility Type			
	Multi-use trail		0.46	
	Multi-use trail sidewalk		0.14	
	Multi-use trail bridge		0.15	
	12-foot-wide trail crossing		0.02	

Phase 3: Metro Stations Middle Connector

Between Phase 1 and Phase 2 trail portions.

The Phase 3 Implementation connects Phases 1 and 2, establishing a continuous trail of just over 1.5 miles. In addition, this portion of the trail increases access to both the Addison Road-Seat Pleasant and Morgan Boulevard Metro stations. The proposed alignment of this portion of the trail travels through several privately owned parcels. The critical path for advancing Phase 3 is to gain agreement from private property owners. While M-NCPPC is working with these property owners to determine the feasibility of building the trail on their property, one of two possible alternate alignments shown may be the final alignment (see images on page 30). Elements of the proposed trail alignment include:

Trail crossings:

- Shady Glenn Road north of Central Avenue
- Gentry Lane north of Central Avenue

Trail types:

- 12-foot-wide, multi-use trail

Multi-use trail bridges:

- One bridge across a stream valley west of the Morgan Boulevard Metro Station that runs north of, and parallel to, a Metro caisson

A summary of Phase 3, including segment identifiers on the 200-foot scale plan sheets and mileage is shown in Table 5.

Table 5. Summary of Implementation Phase 3

Phase 3: Metro Stations Middle Connector				
Station Served	**Segment (as shown on 200-foot scale plan sheets)**	**Length (miles)**	**Total Miles (single, two-way, or dual)**	**Future General Type**
Addison Road	A1	0.03	0.03	12' wide trail crossing
Morgan Boulevard	M17	0.06	0.06	Multi-use trail
Morgan Boulevard	M16	0.01	0.01	12' wide trail crossing
Morgan Boulevard	M15	0.06	0.06	Multi-use trail
Morgan Boulevard	M14	0.11	0.11	Multi-use trail
Morgan Boulevard	M13	0.01	0.01	Multi-use trail
Morgan Boulevard	M12	0.12	0.12	Multi-use trail
Morgan Boulevard	M11	0.02	0.02	12' wide trail crossing
Morgan Boulevard	M10	0.22	0.22	Multi-use trail
Morgan Boulevard	M9.1	0.013	0.013	Multi-use trail bridge
Morgan Boulevard	M9	0.15	0.15	Multi-use trail
	Total Length (miles)		**0.833**	
	Length by Facility Type			
	Multi-use trail		0.73	
	Multi-use trail bridge		0.013	
	12-foot-wide trail crossing		0.09	

Phase 4: I-495/Beltway Connector

Between Harry S Truman Drive and the eastern extent of Phase 2, west of Brightseat Road.

Phase 4 would build an important trail connection across a major barrier for direct pedestrian and bicycle access to the Largo Town Center Metro Station: I-495 (Capital Beltway). Building the trail across I-495 (Capital Beltway) will require a significant level of effort, beginning with securing an air rights agreement from the SHA. Montgomery County already has a similar connection across I-495 for the Bethesda Trolley Trail (see image on the right).

Using a mix of WMATA and M-NCPPC-owned property, combined with a limited amount of private property, this trail segment connects with Implementation Phase 2 to the west and roads planned as Complete and Green streets to the east, which serve the Largo Town Center Metro Station. This phase is the shortest of the five implementation phases, but may be the costliest to construct because of multi-use trail bridges. Elements of the proposed trail alignment include:

Trail crossings:

- Brightseat Road at the Prince George's County Social Services Office building

Trail types:

- 12-foot-wide, multi-use trail

Multi-use trail bridges:

- One bridge across I-495 (Capital Beltway)
- Continue the I-495 (Capital Beltway) bridge east, landing on the ground just west of Harry S Truman Drive N.

Multi-use trail bridge across roadway in Minneapolis.

A summary of Phase 4, including segment identifiers on the 200-foot scale plan sheets and mileage is shown in Table 6.

Table 6. Summary of Implementation Phase 4

Phase 4: I-495/Capital Beltway Connector				
Station Served	**Segment (as shown on 200-foot scale plan sheets)**	**Length (miles)**	**Total Miles (single, two-way, or dual)**	**Future General Type**
Morgan Boulevard	M1	0.18	0.18	Multi-use trail bridge
Largo Town Center	L5	0.07	0.07	Multi-use trail
Largo Town Center	L4	0.01	0.01	12' wide trail crossing
Largo Town Center	L3	0.12	0.12	Multi-use trail bridge
Largo Town Center	L2	0.06	0.06	Multi-use trail bridge
	Total Length (miles)		**0.44**	
	Length by Facility Type			
	Multi-use trail		0.07	
	Multi-use trail bridge		0.36	
	12-foot-wide trail crossing		0.01	

The Bethesda Trolley Trail crosses I-495/Capital Beltway in Montgomery County on a multi-use trail bridge.

Phase 5, Capitol Heights Trail Loop

A trail loop running from the intersection of Old Central Avenue and Central Avenue, along Old Central Avenue, Capitol Heights Boulevard, Davey Street, Maryland Park Drive, Southern Avenue, and the Chesapeake Beach Rail Trail alignment.

Phase 5 may be more difficult to implement due to the complexity of the proposed alignment and facility types. Based on this complexity, Phase 5 is divided into sub-phases 5A, 5B, 5C, and 5D. The division into sub-phases does not suggest 5A be implemented first; instead, the sub-phases are labeled according to the type of trail facility (i.e., group similar trail facilities together). Further, while it is recommended that other phases be implemented before Phase 5, there may be opportunities to implement one or more of these sub-phases earlier in the trail implementation timeline.

Sub-phase 5A

Planned as a main street, Old Central Avenue between the intersection with Central Avenue and Capitol Heights Boulevard, and north on Capitol Heights Boulevard to Davey Street, comprises the first sub-phase. Given limited public right-of-way, the Connector Trail along this portion would be a combination of a sidewalk on one side of the street and on-road bicycle facilities. This sub-phase requires close partnership with the Town of Capitol Heights to coordinate three major developments currently being planned along Capitol Heights Boulevard.

Sub-phase 5B

Davey Street forms a semicircle around the southern edge of the Capitol Heights Metro Station, continuing across Central Avenue into the neighborhood to the north. This street provides direct access to the Metro station for residents living between Old Central Avenue and Davey Street. The street, which is maintained by WMATA, lacks the type of facilities that offer safety and comfort for pedestrians and bicyclists; its right-of-way is sufficient to widen sidewalks and add bicycle lanes, both of which were included in the 2014 *Central Avenue-Metro Blue Line Corridor TOD Implementation Project Mobility Study*.[14] Once across Central Avenue, the trail would continue with the same configuration—sidewalk on one side of the street and on-road bicycle facilities, continuing west onto Maryland Park Drive, then Southern Avenue. This sub-phase requires close partnership with Washington, D.C.'s Department of Transportation (DDOT), which is responsible for Southern Avenue. Elements of the trail include sidewalks, bike lanes, shared lane marking, and a trail crossing at Central Avenue and Davey Street.

Sub-phase 5C

The Chesapeake Beach Rail Trail would be fully developed in this sub-phase, offering a direct connection for neighborhoods between Central Avenue and Seat Pleasant Drive and direct access to destinations near the Capitol Heights Metro Station, such as Marvin Gaye Park in Washington, D.C. While a small portion of the Chesapeake Beach Rail Trail is paved, the majority of the trail remains a footpath through the woods with short connections to adjacent neighborhoods. The primary task for completing this portion of the trail is to work with several individuals who own the land on which the Chesapeake Beach Rail Trail alignment sits in order to gain agreement for developing the full trail. Given the proximity of its municipal boundary to the Chesapeake Beach Rail Trail, this sub-phase requires close partnership with the City of Seat Pleasant.

Sub-phase 5D

This sub-phase is comprised of a series of trail crossings at the intersection of Old Central Avenue and Central Avenue, and the entrance to Addison Road Plaza. It also includes the connection along Yost Place to the Chesapeake Beach Rail Trail southern entrance at Jeep Trail, within the Addison Plaza shopping center. The Addison Plaza property may be available for redevelopment, which would be convenient for trail implementation.

A summary of Phase 5, including segment identifiers on the 200-foot scale plan sheets and mileage is shown in Table 7.

Davey Street Road Diet recommendation from 2012 study.

Table 7. Summary of Implementation Phase 5

Phase 5: Capitol Heights Trail Loop				
Station Served	**Segment (as shown on 200-foot scale plan sheets)**	**Length (miles)**	**Total Miles (single, two-way, or dual)**	**Future General Type**
Capitol Heights	C12	0.15	0.15	5' wide sidewalk and shared lane markings
Capitol Heights	C11	0.21	0.21	5' wide sidewalk and shared lane markings
Capitol Heights	C10	0.03	0.03	12' wide trail crossing
Capitol Heights	C9	0.19	0.19	8' wide sidewalk and bike lanes
Capitol Heights	C8.1	0.24	0.24	5' wide sidewalk, bike lane and shared lane markings
Capitol Heights	C8.2	0.25	0.25	5' wide sidewalk, bike lane and shared lane markings
Capitol Heights	C7.1	0.35	0.35	5' wide sidewalk and shared lane markings
Capitol Heights	C7	0.34	0.34	5' wide sidewalk, shared lane marking north side of roadway, bike lane south side of roadway
Capitol Heights	C6	0.33	0.33	Multi-use trail
Capitol Heights	C5.1	0.14	0.14	Multi-use trail
Capitol Heights	C5	0.14	0.14	Multi-use trail
Capitol Heights	C4.2	0.15	0.15	Multi-use trail
Capitol Heights	C4.1	0.15	0.15	Multi-use trail
Capitol Heights	C4	0.15	0.15	12' wide sidewalk
Capitol Heights	C3.2	0.01	0.01	Multi-use trail
Capitol Heights	C3.1	0.04	0.04	12' wide trail crossing
Capitol Heights	C3	0.04	0.04	12' wide trail crossing
Capitol Heights	C2	0.03	0.03	12' wide trail crossing and multi-use trail
	Total Length (miles)		**5.53**	

Length by Facility Type	
Multi-use trail	0.66
Multi-use trail sidewalk	0.95
5- to 8-foot-wide sidewalk	1.40
12-foot-wide trail crossing	0.10
Bike lane	1.17
Shared lane marking	2.15

Anticipated Project Costs and Timeframe for 30 Percent Design

The project team conducted a planning-level evaluation of project costs and timeline for preliminary engineering (30 percent design). These order-of-magnitude cost estimates for each phase are presented in Table 8. More detail, and the assumptions used to develop these estimates, are provided in Appendix F.[15]

Table 8. 30 Percent Design order of magnitude cost estimates by Implementation Phase.

Phase 1: Addison Road Connector	$89,000
Phase 2: Morgan Boulevard Connector	$172,000
Phase 3: Metro Stations Middle Connector	$80,000
Phase 4: I-495/Beltway Connector	$106,000
Phase 5: Capitol Heights Trail Loop	$192,000

It is estimated to take approximately 15 months to complete environmental permitting and preliminary engineering (30 percent design) for any given phase or sub-phase. This estimated schedule is dependent on timely review of preliminary plans and permit documents by participating agencies. Preliminary discussions with environmental permitting agencies will begin during preliminary design, but are expected to extend well into the future, final design phases. The required environmental permitting activities may be dictated by the planned design features of the trail, and also by funding sources used to finance design and construction. A reassessment of permitting needs and timelines is recommended at the end of the preliminary design phase.

12-month Planning Horizon

Table 9 provides recommended next steps for implementation of all phases. While the focus is on designing and building Phase 1 in the short-term, work can begin on the remaining phases if funding becomes available.

Stakeholder engagement will continue to be a key piece of project implementation moving forward

Table 9. 12-month Planning Horizon with Responsible Entity

Phase	Next Steps for Trail Planning and Design	Responsible/Lead Entity	Potential funding	Comments
On-going	Continued community outreach, dialogue, and education, including: • A community-lead Advisory Team for each Implementation Phase. • Regular pop-up trail events.	M-NCPPC Strategy and Implementation Office, in coordination with the appropriate County Council member	N/A	
Phase 1 - Addison Road Connector	Proceed with the 30% design	M-NCPPC Strategy and Implementation Office in coordination with DPW&T, DPR, the SHA, WMATA, and the City of Seat Pleasant	Maryland Bikeways Program Transportation-Land Use Connection Program	M-NCPPC has applied for funding from the Maryland Bikeways Program and the Transportation-Land Use Connection (TLC) Program to fund the 30% design costs..
Phase 2 – Morgan Boulevard Connector	Proceed with the 30% design	The M-NCPPC, Strategy and Implementation Office in coordination with DPW&T, DPR, and WMATA	Maryland Bikeways Program Transportation-Land Use Connection Program	M-NCPPC has applied for funding from the Maryland Bikeways Program and the Transportation-Land Use Connection (TLC) Program to fund the 30% design costs..
Phase 3 – Metrorail Stations Middle Connector	Proceed with the 30% design	M-NCPPC, Strategy and Implementation Office in coordination with DPW&T, DPR, SHA and WMATA	Maryland Bikeways Program Transportation-Land Use Connection Program	M-NCPPC has applied for funding from the Maryland Bikeways Program and the Transportation-Land Use Connection (TLC) Program to fund the 30% design costs.
Phase 4 – I-495/ Beltway Connector	Proceed with the 30% design Begin discussions with the Maryland State Highway Administration regarding air rights	M-NCPPC, Strategy and Implementation Office in coordination with DPW&T, DPR, SHA and WMATA	Maryland Bikeways Program Transportation-Land Use Connection Program	M-NCPPC has applied for funding from the Maryland Bikeways Program and the Transportation-Land Use Connection (TLC) Program to fund the 30% design costs..
Phase 5 – Capitol Heights Trail Loop	Proceed with the 30% design	M-NCPPC, Strategy and Implementation Office in coordination with DPW&T, DPR, SHA, WMATA and the Town of Capitol Heights	Maryland Bikeways Program Transportation-Land Use Connection Program	M-NCPPC has applied for funding from the Maryland Bikeways Program and the Transportation-Land Use Connection (TLC) Program to fund the 30% design costs.. WMATA is developing its property at the Capitol Heights Metrorail station, and the Town of Capitol Heights are currently in negotiation with Donatelli Development for the development and construction of a mixed-use residential and retail project. Coordination with DPW&T could yield completion of this trail section along Davey St. Maryland State Highway Administration has expressed support for improving the pedestrian crossing at this location.

Potential Funding Sources

A number of federal and Maryland programs may offer funding for designing and building the Central Avenue Connector Trail. No single funding source is likely to provide all the needed funding for the entire trail, especially given its length, various purposes, and different facilities and features. For example, portions of the trail with immediate access to a Metro station may be suitable for funding through WMATA's Station Access Capital Improvement Program. Other portions of the trail that are between Metro stations and off-road may be a better fit for the Maryland Bikeways Program. Finally, recommended programming that enhances the trail as a destination may be eligible for the Maryland Recreational Trails Program. A comprehensive list of sources available for projects in Maryland is included on the Bike Maryland website[16]. Summary information on some of these funding programs is included in Table 10. Also listed are opportunities offered by foundations to support goals of active transportation and community well-being.

Federal Grants

Name
Federal Lands Transportation Program

Timeframe
N/A

Funding Agency
Federal Highway Administration

Purpose and Amount (If Available)
The goal of the program is to improve access within the federal estate (national forests, national parks, national wildlife refuges, national recreation areas, and other federal public lands) on transportation facilities in the national federal lands transportation inventory and owned and maintained by the federal government.

Projects that might be best suited for this program include the following:

- Program administration, transportation planning, research, preventive maintenance, engineering, rehabilitation, restoration, construction, and reconstruction of federal lands transportation facilities.
  - Adjacent vehicular parking areas.
  - Acquisition of necessary scenic easements and scenic or historic sites.
  - Provision for pedestrians and bicycles.
  - Environmental mitigation in or adjacent to federal land open to the public to (1) improve public safety and reduce vehicle-caused wildlife mortality while maintaining habitat connectivity; and (2) to mitigate the damage to wildlife, aquatic organism passage, habitat, and ecosystem connectivity, including the costs of constructing, maintaining, replacing, or removing culverts and bridges, as appropriate.
  - Construction and reconstruction of roadside rest areas.
  - Congestion mitigation.
  - Other appropriate public road facilities as determined by the Secretary.
- Operations and maintenance of transit facilities.
- Any transportation project eligible under title 23 of the United States Code that is within or adjacent to, or that provides access to federal lands open to the public.

Name
Federal Lands Planning Program

Timeframe
N/A

Funding Agency
Federal Highway Administration

Purpose and Amount (If Available)
Activities under the Federal Lands Planning Program include long range transportation plans; performance management activities -- including the development and implementation of safety, bridge, pavement, and congestion management systems; road and bridge inventory; and development and updating of the Transportation Improvement Program.

Name
Job Access and Reverse Commute Program

Timeframe
N/A

Funding Agency
U.S. Department of Transportation, Federal Transit Administration

Purpose and Amount (If Available)
The Job Access and Reverse Commute (JARC) program was established to address the unique transportation challenges faced by welfare recipients and low-income persons seeking to obtain and maintain employment. Many new entry-level jobs are located in suburban areas, and low-income individuals have difficulty accessing these jobs from their inner city, urban, or rural neighborhoods. In addition, many entry level-jobs require working late at night or on weekends when conventional transit services are either reduced or non-existent. Finally, many employment related-trips are complex and involve multiple destinations including reaching childcare facilities or other services.

Eligible Activities include capital, planning and operating expenses for projects that transport low income individuals to and from jobs and activities related to employment, and for reverse commute projects.

States and public bodies are eligible designated recipients. Eligible subrecipients are private non-profit organizations, State or local governments, and operators of public transportation services including private operators of public transportation services.

Section 5316 funds are available to the states and designated recipients in large urbanized areas during the Fiscal Year of apportionment plus two additional years (total of three years). Of the total JARC funds available, FTA apportions 60 percent among designated recipients in large urbanized areas; 20 percent to the states for small urbanized areas; and 20 percent to the states for rural and small urban areas under 50,000 in population. Section 5316 funds are apportioned among the recipients by a formula which is based on the ratio that the number of eligible low-income and welfare recipients in each such area bears to the number of eligible low-income and welfare recipients in all such areas.

The federal share of eligible capital and planning costs may not exceed 80 percent of the net cost of the activity. The federal share of the eligible operating costs may not exceed 50 percent of the net operating costs of the activity. Recipients may use up to 10 percent of their apportionment to support program administrative costs including administration, planning, and technical assistance, which may be funded at 100 percent federal share. The local share of eligible capital and planning costs shall be no less than 20 percent of the net cost of the activity, and the local share for eligible operating costs shall be no less than 50 percent of the net operating costs.

Name
New Freedom Program

Timeframe
N/A

Funding Agency
U.S. Department of Transportation, Federal Transit Administration

Purpose and Amount (If Available)
The New Freedom formula grant program aims to provide additional tools to overcome existing barriers facing Americans with disabilities seeking integration into the work force and full participation in society. Lack of adequate transportation is a primary barrier to work for

individuals with disabilities. The 2000 Census showed that only 60 percent of people between the ages of 16 and 64 with disabilities are employed. The New Freedom formula grant program seeks to reduce barriers to transportation services and expand the transportation mobility options available to people with disabilities beyond the requirements of the Americans with Disabilities Act (ADA) of 1990.

Capital and operating expenses for new public transportation services and new public transportation alternatives beyond those required by the Americans with Disabilities Act of 1990 (ADA), that are designed to assist individuals with disabilities.

States and public bodies are eligible designated recipients. Eligible subrecipients are private non-profit organizations, State or local governments, and operators of public transportation services including private operators of public transportation services.

Section 5317 funds are available to the states during the Fiscal Year of apportionment plus two additional years (total of three years). Of the total New Freedom funds available, FTA apportions 60 percent among designated recipients in large urbanized areas; 20 percent to the states for small urbanized areas; and 20 percent to the states for rural and small urban areas under 50,000 in population. Section 5317 funds are apportioned among the recipients by a formula which is based on the ratio that the number of individuals with disabilities in each such area bears to the number of individuals with disabilities in all such areas.

New Freedom funds may be used to finance capital and operating expenses. The federal share of eligible capital and planning costs may not exceed 80 percent of the net cost of the activity. The federal share of the eligible operating costs may not exceed 50 percent of the net operating costs of the activity. Recipients may use up to 10 percent of their apportionment to support program administrative costs including administration, planning, and technical assistance, which may be funded at 100 percent federal share. The local share of eligible capital and planning costs shall be no less than 20 percent of the net cost of the activity, and the local share for eligible operating costs shall be no less than 50 percent of the net operating costs.

Name
Federal TIGER grant

Timeframe
Grant applications due in Spring.

All awarded $ must be spent within 5 years of signing grant agreement

Funding Agency
U.S. Department of Transportation

Purpose and Amount (If Available)
TIGER grants fund a broad array of road, rail, transit, and bicycle and pedestrian projects. The program focuses on capital projects that generate economic development and improve access to reliable, safe, and affordable transportation.

Note: funding cannot go to planning, but can go towards engineering, design, construction.
Minimum: Urban areas – $10M (20% match required)
Rural areas –$1M (no match required)
Maximum: $200M (no more than $125M to project in single state)

Notes
What makes a TIGER Application more competitive?

- Tell a compelling story (transformative projects)
- Portion of a larger project
- Aligned Visions: Federal/Local/Regional/Community
- Higher funding match
- Creates access to jobs, health and social services, education and employment
- Ladders of Opportunity – access for disadvantaged communities
- Quality of life improvement

Name
Transportation Alternatives Program (TAP)

Timeframe
State TAP application is due March 15th of each calendar year

Funding Agency
Federal Highway Administration

Purpose and Amount (If Available)
This program was authorized under "Moving Ahead for Progress in the 21st Century" (MAP-21), which combines several programs that were previously stand-alone programs under SAFETEA-LU, including Transportation Enhancement (TE), Recreational Trails, and Safe Routes to School (SRTS) programs.

SHA supports and administers the TAP for all Maryland projects as a service to its customers. Under MAP-21 50% of funds apportioned to Maryland's Transportation Alternatives Program will be sub-allocated to three Maryland Metropolitan Planning Organizations (MPO). The Baltimore Regional Transportation Board (BRTB), Metropolitan Washington Council of Governments (MWCOG) and Wilmington Area Planning Council (WILMAPCO) will be responsible for review and approval of projects within their urbanized area. TAP requires a 20% local match.

Notes
http://roads.maryland.gov/Index.aspx?PageId=144
http://www.sha.maryland.gov/OPPEN/TAP-Process-Manual.pdf

Name
Highway Safety Improvement Program (HSIP)

Timeframe
No deadlines

Funding Agency
U.S. Department of Transportation, Federal Highway Administration

Purpose and Amount (If Available)
HSIP funds may be used for safety projects aiming to reduce traffic fatalities and serious injuries. Bicycle and pedestrian safety projects on public roads are eligible for HSIP funding. Bike lanes, roadway shoulders, crosswalks, other intersection improvements, and signage are some examples of eligible projects. The State requires that HSIP funds be allocated to bicycle and pedestrian safety in proportion to fatalities. In other words, roughly 10% of HSIP funds should go towards bicycle and pedestrian safety since there are roughly 10-12% bicycle/pedestrian deaths each year.

Projects that might be best suited for this program include the following:

- Those that improve underpasses of the Interstate-Highways that pass through the City
- Those that are located along corridors with a concentration of bicycle and/or pedestrian crashes
- Those that improve bicycle and pedestrian crossing safety at complex intersections,
- Those that provide off-road accommodations along high speed roadways where bicyclists and pedestrians have no other travel route options.

Notes
http://safety.fhwa.dot.gov/hsip/reports/pdf/2014/md.pdf
HSIP is administered centrally
Local roads are not allocated HSIP funds

Name
Federal Lands Access Program (FLAP)

Timeframe
No deadlines

Purpose and Amount (If Available)
Improve transportation facilities that provide access to, are adjacent to, or are located within Federal lands. The Access Program supplements State and local resources for public roads, transit systems, and other transportation facilities, with an emphasis on high-use recreation sites and economic generators.

The program is designed to provide flexibility for a wide range of transportation projects in the 50 states, the District of Columbia, and Puerto Rico.

Notes
http://flh.fhwa.dot.gov/programs/flap/

Name
Transportation/Land-Use Connection (TLC)

Timeframe
Annual call for proposals; most recent was June 3, 2015

Purpose and Amount (If Available)
The Transportation Planning Board initiated the Transportation/Land-Use Connections (TLC) Program in November 2006 to provide technical assistance to local jurisdictions as they deal with the challenges of integrating land-use and transportation planning at the community level. Any local jurisdiction in the Metropolitan Washington region that is a member of the TPB is eligible to apply, and technical assistance may include a range of services, such as:

- Transit corridor and station area planning
- Transit demand and feasibility assessments
- Pedestrian and bicyclist safety and access studies
- Streetscape improvement plans
- Design guidelines and roadway standards
- Trail design
- Safe Routes to School planning
- Complete Streets policy guidance
- Transit-oriented development studies

The TPB's FY 2016 Work Program budgets a total of $420,000 for this program. Of this total amount $160,000 is committed by the Maryland Department of Transportation from its Technical Assistance program element in the TPB's Work Program.

Notes
http://www.mwcog.org/transportation/activities/tlc/program/default.asp

Local/State Grants

Name
Maryland Safe Routes to School Program

Timeframe
N/A

Funding Agency
Maryland State Highway Administration

Purpose and Amount (If Available)
The Maryland Safe Routes to School program is administered by the Maryland State Highway Administration (SHA) through the Regional and Intermodal Planning Division (RIPD). The Safe Routes to School Funds was signed into law on August 10, 2005. The Maryland Safe Routes to School has funded 76 awards through the state totaling $14,921,843. In May 2013, the program transitioned under the Transportation Alternatives (TA) program and to the SHA Office of Planning and Preliminary Engineering (OPPE) and funded an additional 15 awards totaling $3,840,035 million dollars.

The goal of the program is:

- Enable and encourage children, including those with disabilities, to walk and bicycle to school
- Make bicycling and walking to school a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age

- Facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools.

Eligible projects must meet the following requirement:

- Benefit Elementary or Middle School students
- Benefit students who walk or bike to school
- Include school participation
- Be within a two mile radius of the school
- Complete participation surveys and reports

Notes
http://www.saferoutesinfo.org/

Successful Application: http://www.saferoutesinfo.org/data-central/success-stories/rockville-maryland-rockville-safe-routes-school-program

Name
Pedestrian Access Program

Timeframe
N/A

Funding Agency
Maryland State Highway Administration

Purpose and Amount (If Available)
SHA's Pedestrian Access to Transit Program provides safe, ADA-compliant access for pedestrians to public transportation along state highways. SHA collaborates with the Maryland Transit Administration (MTA), other local and regional transit agencies, and local jurisdictions to identify and prioritize needed improvements. Improvements are also prioritized based on pedestrian related crash data in the vicinity of transit stops and from requests by citizens and elected officials.

Name
ADA Retrofit Program

Timeframe
N/A

Funding Agency
Maryland State Highway Administration

Purpose and Amount (If Available)
The ADA Retrofit program allows us to upgrade pedestrian facilities to meet both ADA guidelines and SHA's Accessibility Policy. Retrofit projects are completed at locations or existing pedestrian facilities where no other project is planned. These projects are prioritized at roadways within ½ mile radius of transit stops, schools, hospitals, libraries, government facilities, and senior centers, and in areas with high pedestrian-related crashes.

Name
Maryland Bikeshare Program

Timeframe
N/A

Funding Agency
Maryland Department of Transportation

Purpose and Amount (If Available)
The Maryland Bikeshare Program is a grant program to support the planning for and establishment of local bikesharing programs. The Bikeshare Program will provide grant support for a feasibility study or for capital expenses to implement a bikesharing program. Examples of eligible reimbursable capital expenditures include:

- Bicycles
- Docking stations
- Support Amenities (terminals, technical platforms, spare parts, supplies, etc.)
- Shipping and Installation

Some program expenditures for marketing may be eligible and may count toward a grant recipient's required 20% funding match, which will be determined during the application process.

Name
Community Parks and Playgrounds Program

Timeframe
N/A

Funding Agency
Maryland Department of Natural Resources

Purpose and Amount (If Available)
The Community Parks and Playgrounds Program provides funding to focus on restoring existing and creating new park and green space systems in Maryland's cities and towns.

Flexible grants are provided to local governments which help them rehabilitate, expand or improve existing parks. Funding can help develop environmentally oriented parks and recreation projects, create new parks, or purchase and install playground equipment in older neighborhoods and intensely developed areas throughout the state.

Maryland's Community Parks & Playgrounds Program invests in the future of established communities by revitalizing parks and playgrounds statewide. With the support of the Governor and the Maryland General Assembly, a total of $57.4 million has been approved so far, to restore 594 parks & playground projects for our communities across Maryland. This year $2.5 million in CPP FY 2015 funds were approved to fund 31 new parks and playground projects.

Notes
Awards are competitive in nature. Reimbursement is the preferred method of award disbursement. However, if necessary, a percentage of the award amount may be advanced to the grantee, at the discretion of the Department. Match funding is considered as enhancing criteria, not a requisite.

The Community Parks and Playgrounds Program provides funding to municipal corporations of the State and Baltimore City. Non-profit organizations are encouraged to partner with qualified applicants in project sponsorship and implementation.

Each applicant will be limited to one (1) grant application package per round of grant competition. If multiple projects are requested within an application package the local jurisdiction must supply a priority listing that indicates their preferred sequence of projects to be funded.

Applicants should be able to demonstrate the capacity to plan, implement and maintain the project (sufficient and qualified staff or contractor, effective administrative procedures and systems, evidence of past success, etc.)

Website:

http://www.dnr.state.md.us/land/pos/cpp.asp
http://www.dnr.state.md.us/land/pos/cpp_grantsprocess.asp
http://www.dnr.state.md.us/land/pos/cpp_grantsprocess.asp

Name
Maryland Bikeways Program

Timeframe
May 28th, 2015

Funding Agency
Maryland Department of Transportation

Purpose and Amount (If Available)
The Maryland Bikeways Program supports the Cycle Maryland initiative to promote biking as a fun, healthy transportation alternative that is great for our environment. The Program supports projects that maximize bicycle access and fill missing links in the state's bicycle system, focusing on connecting bicycle-friendly trails and roads and enhancing last-mile connections to work, school, shopping and transit. On-road bicycle projects, such as bike lane striping, sharrows, and wayfinding signage are eligible for funding. Off-road shared-use path and trail projects are also eligible for funding. Eligible project types include:

Feasibility assessment and design of proposed or potential bikeways to assess issues, such as environmental impacts, right-of-way issues, ADA compatibility, local support, and cost estimates.

Minor retrofit including bicycle route signing, pavement markings, parking, drainage grate replacement and other minor retrofits to enhance bicycle routes.

Construction of bikeways, generally leveraging other sources of funding, such as Transportation Alternatives, Maryland Heritage Areas, etc.

Only public agencies are eligible to apply for Bikeways Program funding. Program criteria and requirements are in place to target the Bikeways Program to priority areas. Reduced funding match requirements are offered as an inducement to projects that address key state bicycle transportation priorities (i.e. Bikeways Priority Projects).

Notes
To be eligible for funding through the Bikeways program, a project must meet at least one of the following criteria:

- Located substantially within the Priority Funding Area (PFA), Located within 3 miles of a rail transit station or major bus transit hub,
- Provide or enhance bicycle access along any gap identified in the Statewide Trails Plan "A Greener Way to Go", and/or
- Identified as a transportation priority in a County's most recent annual priority letter submitted to MDOT.

Eligible applicants include:

- Maryland local governments, alone or in partnership with other jurisdictions or private organizations
- Maryland State Agencies
- Metropolitan Planning Organizations (MPOs)
- Transit entities operating in Maryland
- Federal public lands agencies

Name
Community Legacy Grant

Timeframe
July 15, 2015

Funding Agency
Maryland Department of Housing and Community Development

Purpose and Amount (If Available)
As a result of the Sustainable Communities Act of 2010. Community Legacy Areas are now known as Sustainable Communities. Funding, in the form of grants and loans, is available for projects located in these Sustainable Communities and is meant to complement and supplement other State funding programs.

The following entities may apply for Community Legacy funding for projects located in Sustainable Communities:

- Local governments
- Community development organizations (for example: county councils, community development corporations, main street organizations, downtown partnerships)
- Groups of local governments sharing a common purpose or goal

Eligible Projects:
Projects should capitalize on the strengths of a community and be part of a larger revitalization strategy to revitalize a declining area. Projects/activities typically include, but are not limited to:

- Mixed-use development consisting of residential, commercial and/or open space
- Business retention, expansion and attraction initiatives
- Streetscape improvements
- Increasing homeownership and home rehabilitation among residents
- Residential and commercial façade improvement programs
- Real estate acquisition, including land banking, and strategic demolition

Establishing funds to provide loan guarantees and credit enhancement to leverage other public or private financing

Notes
http://www.neighborhoodrevitalization.org/Programs/CL/CL.aspx

DHCD utilizes a web-based Project Portal for program applications. MANDATORY training is required before access to the Project Portal is provided.

All applicants must register for the MANDATORY training which will be presented as a pre-recorded webinar that can be viewed at the applicant's convenience.

To register for the MANDATORY training, please visit:

http://www.neighborhoodrevitalization.org/Programs/Catalyst/Catalyst.aspx#Trainings

Once you have registered you will be sent an email containing access to the webinar presentation as well as to the online Project Portal where you will complete and submit your application.

Name
Maryland SHA Sidewalk Retrofit Program

Timeframe
No deadlines

Funding Agency
Maryland State Highway Administration

Purpose and Amount (If Available)
The State Highway Administration (SHA) constructs new sidewalks or reconstructs sidewalks in the following situations:

- as part of the construction or reconstruction projects when it is consistent with the local master plans and transportation plans
- to address a significant impediment or pedestrian safety concern
- as part of a request from a local government
- to provide access to transit along a state highway
- to upgrade existing pedestrian facilities to compliance with the Americans with Disabilities Act (ADA)

When supported by the local and transportation plan, new sidewalk construction or sidewalk reconstruction is included in the projects which involve the construction of a new roadway or the reconstruction of an existing roadway. These types of projects may include urban street reconstructions within a community, roadway widening projects, intersection improvements, and bridge rehabilitation and replacements.

When the construction of a new highway or the reconstruction of an existing roadway is not planned, SHA can construct sidewalks or reconstruct sidewalks through our Sidewalk Retrofit, Pedestrian Access to Transit, or our ADA Retrofit programs.

The Sidewalk Retrofit program advances the SHA's vision of multi-modal transportation by providing or enhancing pedestrian access along urban state routes as viable and safe modes of transportation. The goals of this program are improving mobility for the general and disabled population, reducing public safety risks, and removing barriers to easy movement of citizens. While these projects are generally constructed at the request of a local government, they may also be constructed due to high incidences of pedestrian related crashes at a location.

SHA's Pedestrian Access to Transit Program provides safe, ADA-compliant access for pedestrians to public transportation along state highways. SHA collaborates with the Maryland Transit Administration (MTA), other local and regional transit agencies, and local jurisdictions to identify and prioritize needed improvements. Improvements are also prioritized based on pedestrian related crash data in the vicinity of transit stops and from requests by citizens and elected officials.

The ADA Retrofit program allows us to upgrade pedestrian facilities to meet both ADA guidelines and SHA's Accessibility Policy. Retrofit projects are completed at locations or existing pedestrian facilities where no other project is planned. These projects are prioritized at roadways within ½ mile radius of transit stops, schools, hospitals, libraries, government facilities, and senior centers, and in areas with high pedestrian-related crashes.

All projects described above construct or reconstruct sidewalks, curb ramps, business and residential driveway entrances, and median islands to meet Americans with Disabilities Act requirements as well as the SHA Accessibility Policy & Guidelines for Pedestrian Facilities along State Highways, which meet or exceed the requirements of ADA. In addition to constructing and reconstructing sidewalks to ADA compliance, SHA is in the process of fitting all roadway crossings with pedestrian signals that are accessible to pedestrians with disabilities. This work may be included with any of the previously discussed sidewalk programs, as well as through construction or reconstruction projects or thorough the traffic signalization program managed by SHA's Office of Traffic & Safety. New construction and reconstruction projects and the traffic signalization program also construct new traffic signals that include accessible and countdown pedestrian signals when there is a signalized roadway crossing.

Notes
http://www.roads.maryland.gov/m/index.aspx?PageId=106

Name
Maryland SHA Recreational Trails Program

Timeframe
No deadlines

Funding Agency
Maryland State Highway Administration

Purpose and Amount (If Available)
This program funds the development of community-based, motorized and non-motorized recreational trail projects. The program provides funds for all kinds of recreational trail uses, such as pedestrian uses (hiking, running, wheelchair use), bicycling, in-line skating, equestrian use, cross-country skiing, off-road motorcycling, all-terrain vehicle riding, four-wheel driving.

Funding is administered by the State Highway Administration (SHA), and this program matches federal funds with local funds or in-kind contributions to implement trail projects. Projects can be sponsored by a county or municipal government, a private non-profit agency, a community group or an individual (non-governmental agencies must secure an appropriate government agency as a co-sponsor).

Federal funds administered by the State Highway Administration are available for up to 80% of the project cost, matched by at least 20% funding from the project sponsor. Matching funds must be committed and documented in the local jurisdiction's budget. A Memorandum of Understanding outlining funding and project implementation responsibilities will be prepared by SHA and signed by all parties before the project funds are released.

Notes
http://roads.maryland.gov/Index.aspx?PageId=98

Projects:

Activities eligible for funding within this program include:

- maintenance and restoration of existing recreational trail
- development and rehabilitation of trailside facilities and trail linkages
- purchase and lease of trail construction equipment
- construction of new trails
- acquisition of easements or property for recreational trails or recreational trail corridors
- implementation of interpretive/educational programs to promote intrinsic qualities, safety, and environmental protection, as those objectives relate to the use of recreational trails

Preference will be to projects which:

- have broad-based community support
- provide linkages to or complete existing trails
- provide improvements to a trail in order to benefit or mitigate impacts to the natural environment
- will be accomplished with youth conservation or service groups to perform construction and maintenance

National

Name
WMATA Station Access

Timeframe
No deadlines

Purpose and Amount (If Available)
WMATA Station Access Improvement Program

WMATA has a data base of pedestrian and bicycle station access improvements. Funding decisions are based on a set of criteria to determine priorities. An amount is available each fiscal year for these types of station access improvements. Access to the four stations served by the Central Avenue Connector Trail are included in the database of projects considered for funding from this program.

Name
PeopleForBikes Grant

Timeframe
Online Letter of Interest due: July 31, 2015

Notification of LOI status: September 4, 2015

Full Applications due: October 9, 2015

Grant award notifications: by December 4, 2015

Purpose and Amount (If Available)
Grants to USA nonprofit organizations, city or County agencies or departments, and State or federal agencies working locally, to support bicycle infrastructure projects and advocacy initiatives that make it easier and safer for all people to ride.

Most grant funds are awarded towards infrastructure projects such as bike paths, lanes, trails, and bridges, mountain bike facilities, bike parks and pump tracks, BMX facilities, and end-of-trip facilities such as bike racks, bike parking, and bike storage.

Funds may also be awarded for some advocacy projects, such as:

- Programs that transform city streets, such as Ciclovias or Open Streets Days
- Initiatives designed to increase ridership or the investment in bicycle infrastructure
- PeopleForBikes will fund engineering and design work, construction costs including materials, labor, and equipment rental, and reasonable volunteer support costs. For advocacy projects, PeopleForBikes will fund staffing that is directly related to accomplishing the goals of the initiative.

Funding for up to $10,000

Notes

PeopleForBikes will not consider grant requests in which its funding would amount to 50% or more of the project budget.

PeopleForBikes accepts grant applications from nonprofit organizations with a focus on bicycling, active transportation, or community development, from city or county agencies or departments, and from state or federal agencies working locally.

PeopleForBikes only funds projects in the United States. Requests must support a specific project or program; requests for general operating costs will not be considered.

Not Funded:

- Feasibility studies, master plans, policy documents, or litigation
- Signs, maps, and travel
- Trailheads, information kiosks, benches, and restroom facilities
- Parking lots for motorized vehicles
- Bicycles, helmets, tools, and other accessories or equipment
- Events, races, clinics/classes, or bicycle rodeos
- Bike recycling, repair, or earn-a-bike programs
- Education programs
- General operating costs
- Staff salaries, except where used to support a specific advocacy initiative
- Rides and event sponsorships
- Planning and retreats
- Projects in which PeopleForBikes is the sole or primary funder
- Projects outside the U.S.

View application instructions at http://www.peopleforbikes.org/pages/apply-now
To submit an LOI online, go to http://survey.clicktools.com/app/survey/response.jsp

Name
The Kresge Foundation

Timeframe
No deadlines

Purpose and Amount (If Available)
Grants to USA nonprofit organizations and government agencies seeking financial assistance for projects that contributes to improving health at the community level, including those that promote the use of new financial models to achieve cost-effective solutions. The goal of these grants is to create a comprehensive system that improves health outcomes, promotes health equity, and reduces per-capita health costs.

As such, funding will be provided to organizations that:

- Take advantage of the opportunities within health reform to employ new models of shared resources and accountability for improving population health.
- Systematically incentivize and reward primary prevention – for example, by reinvesting downstream health care savings in effective community prevention.
- Share and use data from multiple sectors to inform strategies, measure progress and refine interventions.
- Have the potential to inform practice and policy more broadly.

Notes
http://kresge.org/programs/health/accelerating-community-centered-approaches-health

Eligible applicants include:

- USA 501(c)(3) organizations with audited financial statements that are not classified as private foundations. Audits must be independently prepared following Generally Accepted Accounting Principles or Government Auditing Standards. Financial statements prepared on a cash, modified cash, compilation or review basis do not qualify.
- Government entities.

Not Eligible:

- Individuals.
- Organizations that discriminate on the basis of race, color, religion, gender, national origin, citizenship status, age, disability, or veteran status.
- Organizations that require membership in certain religions or advance a particular religious faith. (Faith-based organizations may be eligible if they welcome and serve all members of the community regardless of religious belief.)
- Programs operated to benefit for-profit organizations.

Rarely Funded:

- Projects that are primarily focused on direct health or social services.
- Health education, promotion or counseling programs.
- Research projects.

Organizations with annual budgets of less than $250,000 are generally uncompetitive except when invited. However, they regularly open the door to smaller-size organizations through a request-for-proposal process.

Construction or renovation of facilities, including the acquisition of medical equipment, are ineligible for funding.

The Foundation has a two-step application process that begins with an inquiry, submitted via an online application system at: https://www.grantrequest.com/SID_802/?SA=SNA&FID=35037

This preliminary application contains a data-entry component and several attachments, including a narrative. If the activity you describe fits one or more of the Foundation's strategic priorities and budget, the Foundation will then request additional information. This will constitute Part Two of the application process.

For more information on how to apply go to http://kresge.org/programs/health/apply-online-part-1

CONCLUSION

CONCLUSION

Increasingly around the United States, communities are learning that the benefits of high-quality trails extend far beyond the improved mobility that they provide. Trails can play a role in helping to attract and retain a robust workforce and can support economic development over time. By providing a space for physical activity and social engagement, trails can also help communities meet goals related to public health and wellness.

The Central Avenue Connector Trail has the potential to become a prized community asset in Prince George's County and to support the broader revitalization efforts underway in the Central Avenue-Metro Blue Line Corridor. Implementation of the Central Avenue Connector Trail is feasible but will require a sustained partnership between a number of agencies. Chief among those partners will be M-NCPPC, Prince George's County, the Washington Metropolitan Area Transit Authority, the Maryland State Highway Administration, the Town of Capitol Heights, and the City of Seat Pleasant. Strong leadership from M-NCPPC staff and the area's elected officials will also be essential, particularly given the long-term implementation timeframe of this project. Furthermore, continuing to engage the community during trail design and implementation will build a foundation of public support and ownership, potentially establishing a growing body of supporters who may help maintain, program, sustain, and enliven the trail over time.

While this report charts a pathway for the next phase of the project, new opportunities and challenges will arise that may require refinements to the trail phasing or alignment. The 12-month timeline for next steps presented in this report recommends a course of action in the near-term, but should be updated regularly and remain consistent with the presented design principles. Through this process, the Connector Trail vision can become a reality.

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APPENDIX A.

End Notes and References

APPENDIX A.

End Notes

1. The proposed alignment described in this report is a concept plan. The alignment, right-of-way, and design features are preliminary and will be explored in greater detail in the design phase of the project.
2. http://www.princegeorgescountymd.gov/sites/ExecutiveBranch/News/Pages/Capitol%20Heights%20Designated%20as%20O ne%20of%20the%20First%20Five%20Health%20Enterprise%20Zones%20in%20the%20State%20of%20Maryland.aspx
3. http://www.pgplanning.org/Projects/Ongoing_Plans_and_Projects/Community_Plans_and_Studies/Subregion_4_Transit-Oriented_Development_Implementation_Project.htm
4. Image source: Google Earth Aerial Imagery, 2015.
5. This need was also identified in the Central Avenue-Blue Line Corridor TOD Implementation Project Mobility Study, referencing high concentrations of youth and seniors with poor connections to schools, transit, parks, etc.,
6. Trail Types: Major – Long linear trail primarily outside the public right-of-way, with few intersections with pathways in the public right-of-way. Connects with other trail types via a Connector; Connector -- Provides connection between two destinations or trail types, usually short in length. Trail type elements depend upon usage (current, expected, or targeted); Circulator -- Provides an internal walking or biking circulation network for a relatively uniform land use. Connectors provide access to destinations outside the area; Sidepath -- Linear trail within or immediately adjacent to the public right-of-way. Design needs include accommodation with many intersections such as driveways, streets, etc.
7. http://www.access-board.gov/guidelines-and-standards
8. The American Trails Association provides information on trails and CEPTED at http://www.americantrails.org/resources/safety/designcrime.html
9. "Cedar Valley Trails 911 Signs Project, Iowa" American Trails: National Trail awards for 2006. http://www.americantrails.org/awards/NTS06awards/TECH06.html
10. The proposed alignment described in this report is a concept plan. The alignment, right-of-way, and design features are preliminary and will be explored in greater detail in the design phase of the project.
11. http://mgaleg.maryland.gov/2015RS/bills/sb/sb0371f.pdf
12. Excerpted from the legislation.
13. This signal is recommended in the Central Avenue-Blue Line Corridor TOD Implementation Project Mobility Study, page 131.
14. Davey Street Road Diet, page 134.
15. Note that the implementation phases for recommended alignment has changed slightly since the 30% design planning-level cost estimates were developed in May 2015.
16. Pop-up events are short term changes that provide a community a real experience with changes under consideration. For example, a Central Avenue Connector Trail pop-up event could be held on the portion of the Phase 1 Trail on WMATA property south of Central Avenue.
17. https://www.bikemaryland.org/resources/funding-opportunities/

References

The following resources were used in developing the Central Avenue Connector Trail Feasibility Study and Implementation Plan.

AASHTO Guide for the Development of Bicycle Facilities (2012)
https://bookstore.transportation.org/item_details.aspx?ID=1943

The Access Board
http://www.access-board.gov/guidelines-and-standards

The American Trails Association provides information on trails and CEPTED at
http://www.americantrails.org/resources/safety/designcrime.html

"Cedar Valley Trails 911 Signs Project, Iowa" American Trails: National Trail awards for 2006.
http://www.americantrails.org/awards/NTS06awards/TECH06.html

Illuminating Engineering Society of North America's (IESNA) RP-8-00 Roadway Lighting (2014)
https://www.ies.org/store/product/roadway-lighting-ansiies-rp814-1350.cfm

Central Avenue-Blue Line Corridor TOD Implementation Project Mobility Study (May 2014)
http://www.pgplanning.org/Projects/Ongoing_Plans_and_Projects/Community_Plans_and_Studies/Subregion_4_Transit-Oriented_Development_Implementation_Project.htm

Maryland Senate Bill 371, Bicycle and Pedestrian Priority Areas
http://mgaleg.maryland.gov/2015RS/bills/sb/sb0371f.pdf

Sustainable Community Health Enterprise Zones (HEZ)
http://www.princegeorgescountymd.gov/sites/ExecutiveBranch/News/Pages/Capitol%20Heights%20Designated%20as%20One%20of%20the%20First%20Five%20Health%20Enterprise%20Zones%20in%20the%20State%20of%20Maryland.aspx

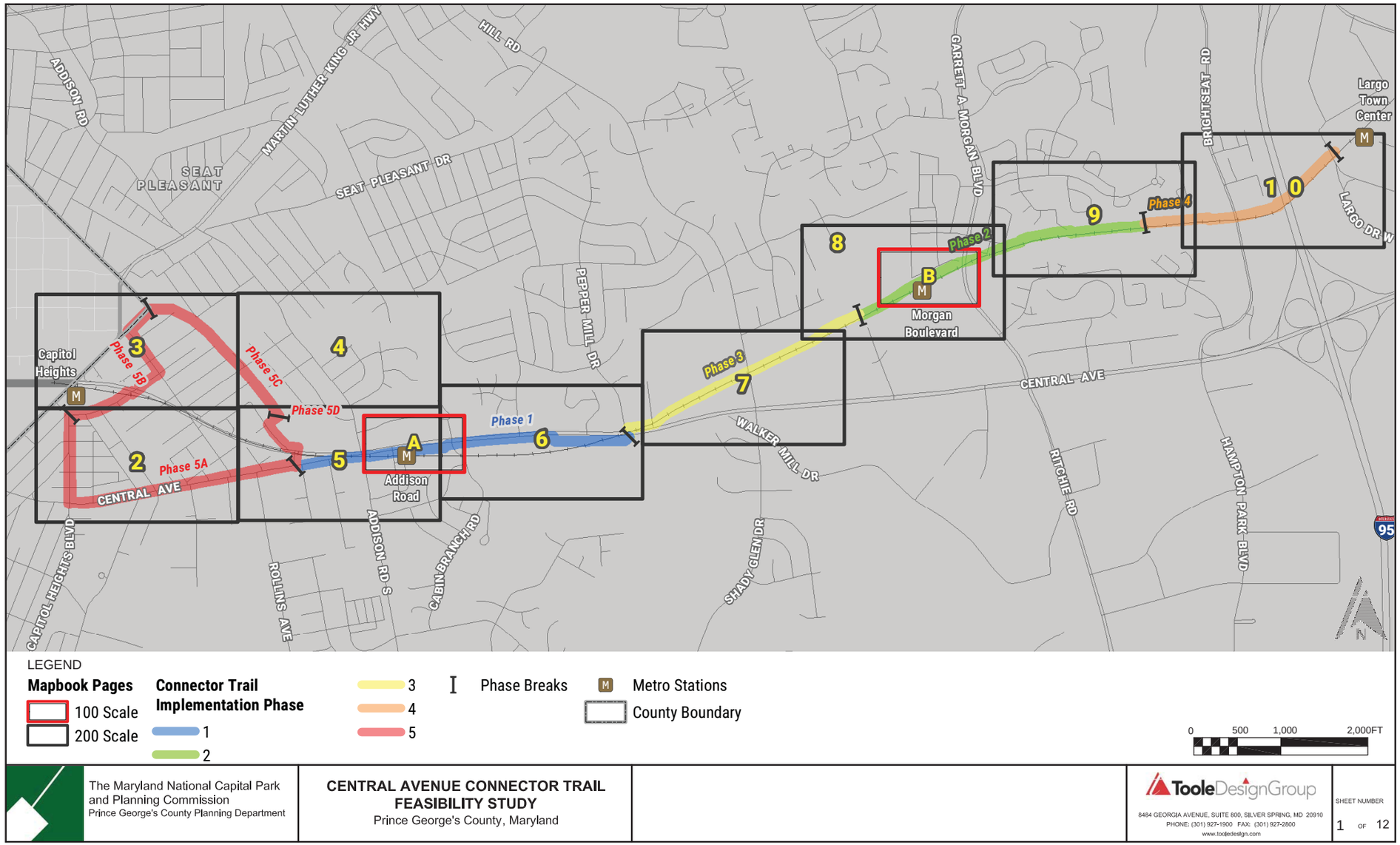
National Park Service - Handbook for Trail Design, Construction and Maintenance
http://www.nps.gov/noco/learn/management/ncttrailconstructionmanual1.htm

APPENDIX B.

Recommended Central Avenue Connector Trail Alignment, 200-foot Scale Plan Sheets

The proposed alignment described in this report is a concept plan. The alignment, right-of-way, and design features are preliminary and will be explored in greater detail in the design phase of the project.

Key Map


ADDISON RD
MARTIN LUTHER KING JR HWY
HILL RD
SEAT PLEASANT
SEAT PLEASANT DR
GARRETT A MORGAN BLVD
BRIGHTSEAT RD
Largo Town Center
LARGO DR W
PEPPER MILL DR
Capitol Heights
Phase 5B
Phase 5C
Phase 5D
Phase 5A
CENTRAL AVE
Phase 1
Phase 2
Phase 3
Phase 4
Addison Road
Morgan Boulevard
WALKER MILL DR
RITCHIE RD
HAMPTON PARK BLVD
CAPITOL HEIGHTS BLVD
ROLLINS AVE
ADDISON RD S
CABIN BRANCH RD
SHADY GLEN DR
95
LEGEND
Mapbook Pages
100 Scale
200 Scale
Connector Trail Implementation Phase
1
2
3
4
5
Phase Breaks
Metro Stations
County Boundary
0 500 1,000 2,000FT
The Maryland National Capital Park and Planning Commission
Prince George's County Planning Department
CENTRAL AVENUE CONNECTOR TRAIL FEASIBILITY STUDY
Prince George's County, Maryland
TooleDesignGroup
8484 GEORGIA AVENUE, SUITE 800, SILVER SPRING, MD 20910
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www.tooledesign.com
SHEET NUMBER
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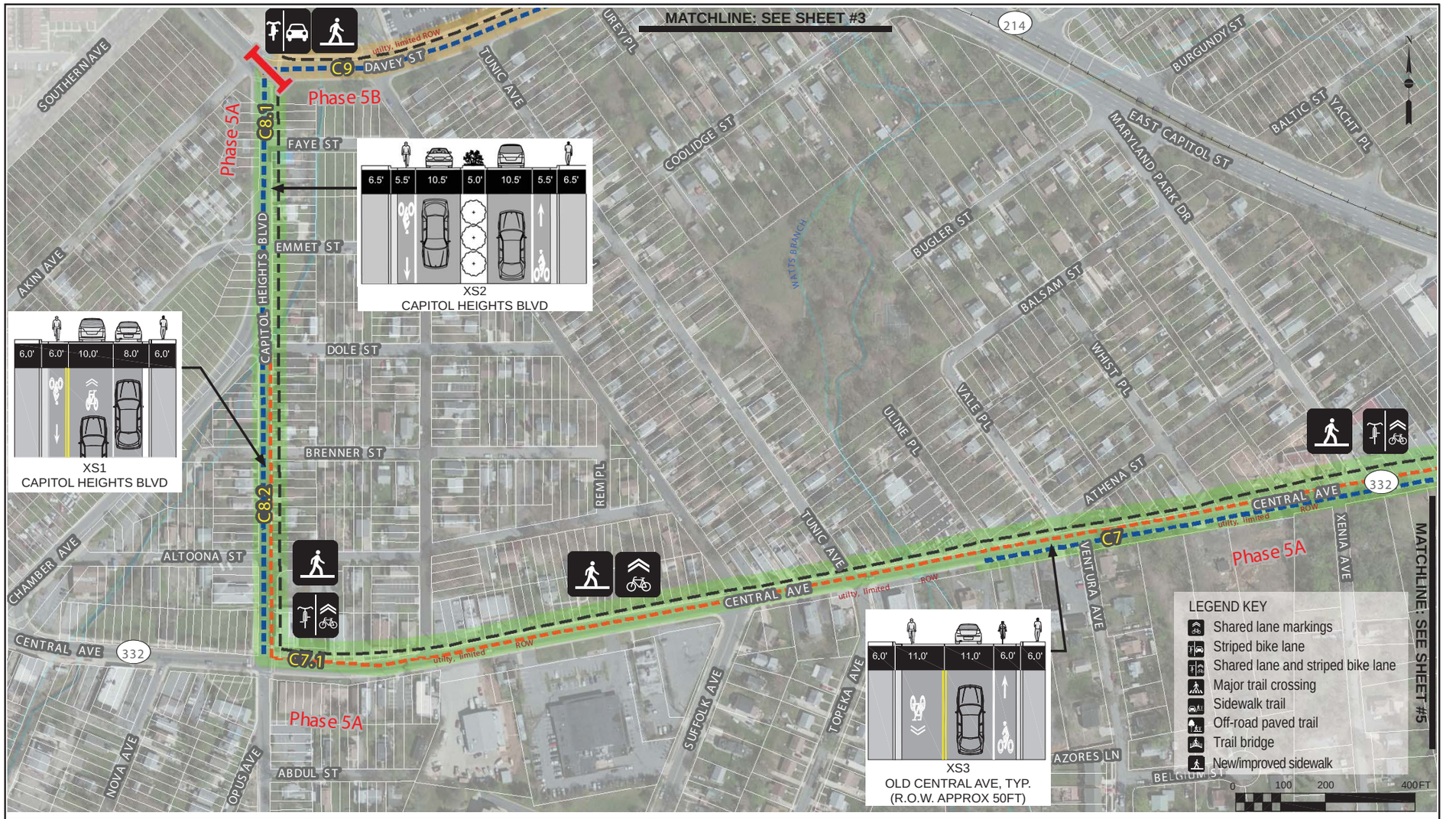

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CENTRAL AVENUE CONNECTOR TRAIL FEASIBILITY STUDY
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LEGEND
Connector Trail Recommendations
Existing Multi-Use Trail
Multi-Use Trail Bridge
Multi-Use Trail
XXXXX Trail Crossing
Sidewalk
Bike Lane
Shared Lane Markings
Further Study
Topography
Steep Hill
Rolling Hills
Varied
Flat and Level
M Metro Stations
Phase Breaks

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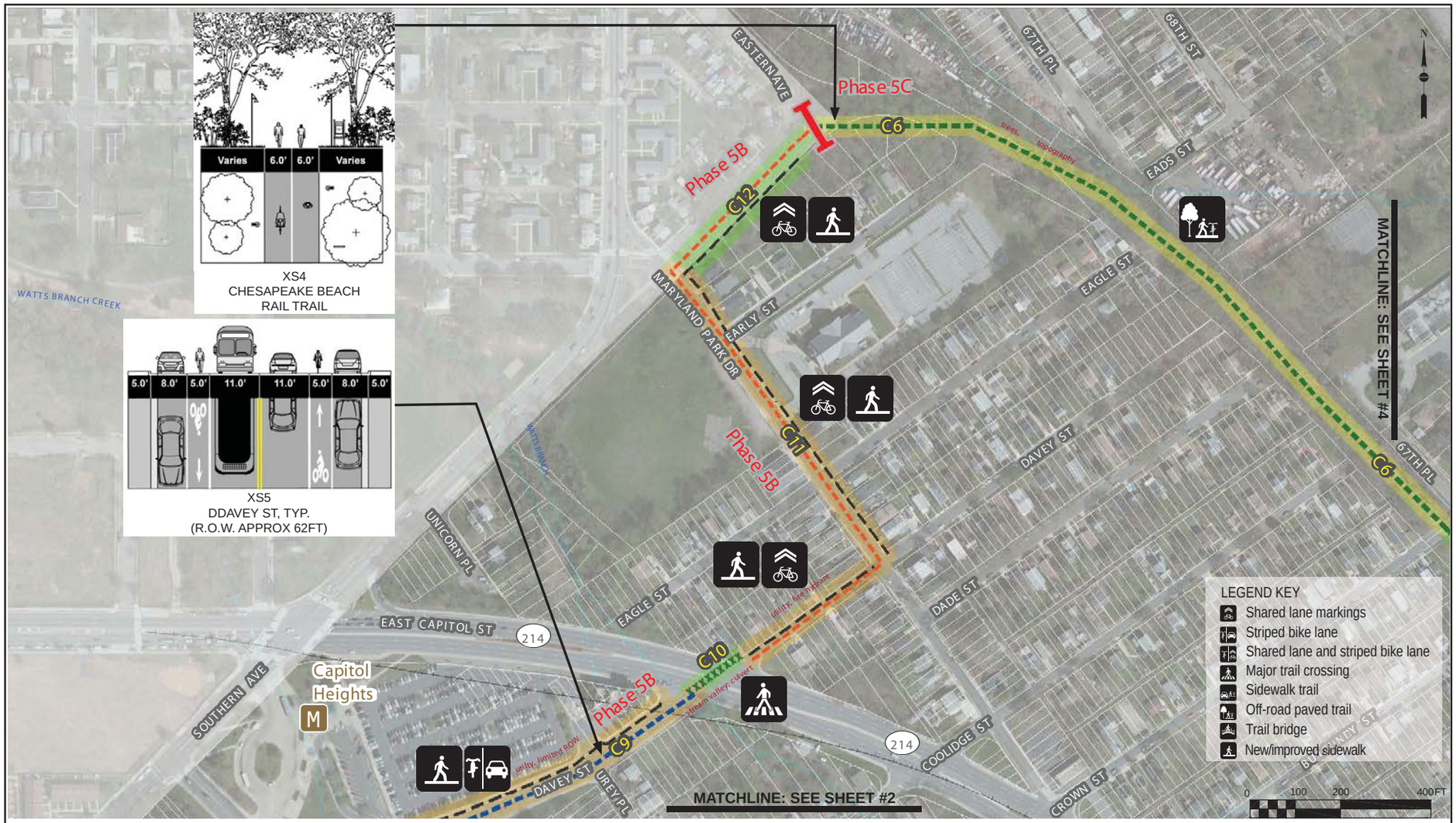

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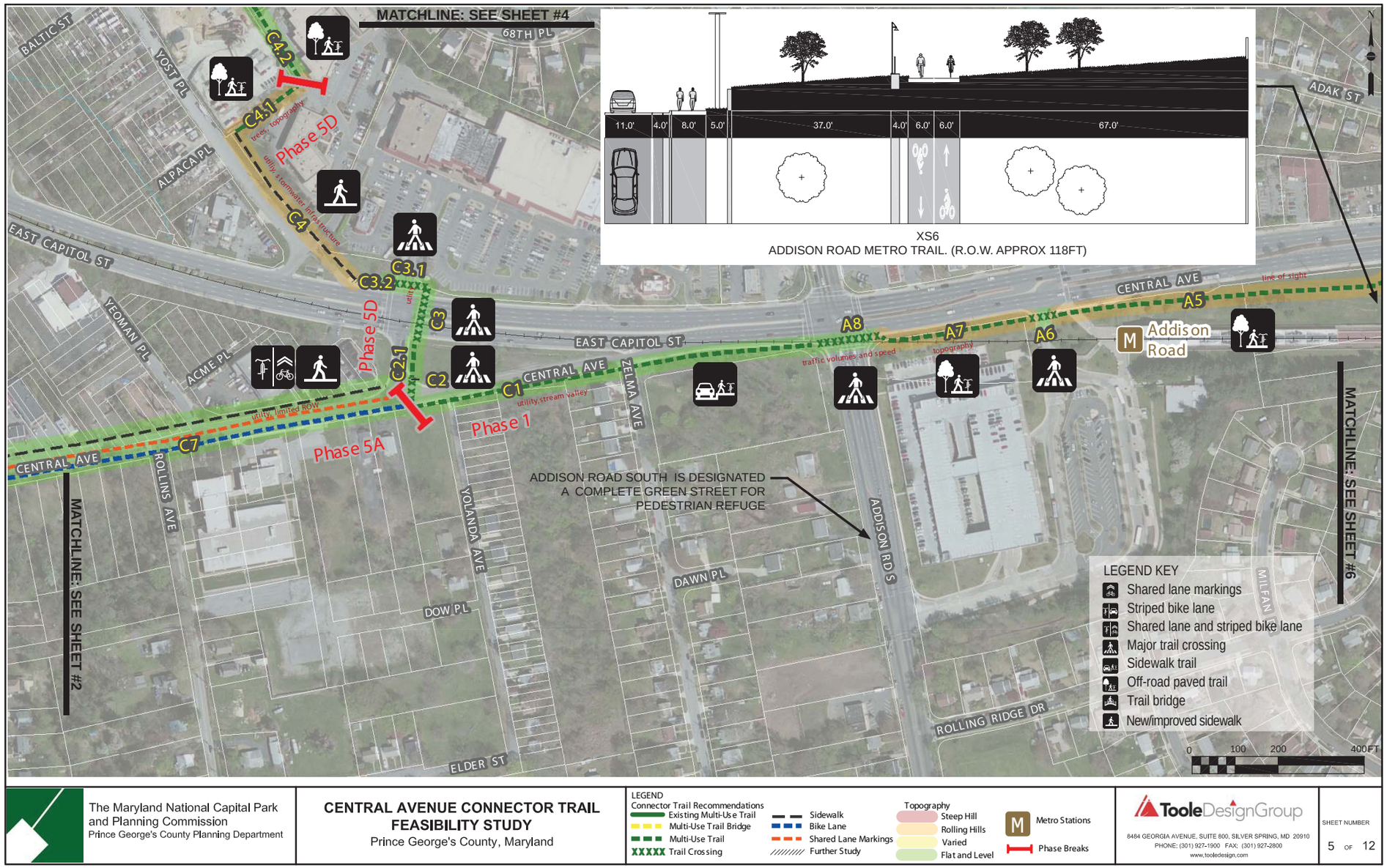
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68TH PL
BALTIC ST
YOST PL
ALPACA PL
EAST CAPITOL ST
YEOMAN PL
ACME PL
CENTRAL AVE
ROLLINS AVE
ZELMA AVE
YOLANDA AVE
DOW PL
DAWN PL
ELDER ST
ADDISON RD S
ROLLING RIDGE DR
MILFAN
ADAK ST
C4.2
C4.1
C4
C3.1
C3.2
C3
C2.1
C2
C1
C7
A8
A7
A6
A5
Phase 5D
Phase 1
Phase 5A
trees, topography
utility, stormwater infrastructure
utility, limited ROW
utility, stream valley
traffic volumes and speed
topography
line of sight
Addison Road
MATCHLINE: SEE SHEET #2
MATCHLINE: SEE SHEET #6
ADDISON ROAD SOUTH IS DESIGNATED
A COMPLETE GREEN STREET FOR
PEDESTRIAN REFUGE
11.0'
4.0'
8.0'
5.0'
37.0'
4.0'
6.0'
6.0'
67.0'
XS6
ADDISON ROAD METRO TRAIL. (R.O.W. APPROX 118FT)
LEGEND KEY
Shared lane markings
Striped bike lane
Shared lane and striped bike lane
Major trail crossing
Sidewalk trail
Off-road paved trail
Trail bridge
New/improved sidewalk
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400FT
The Maryland National Capital Park and Planning Commission
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CENTRAL AVENUE CONNECTOR TRAIL
FEASIBILITY STUDY
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LEGEND
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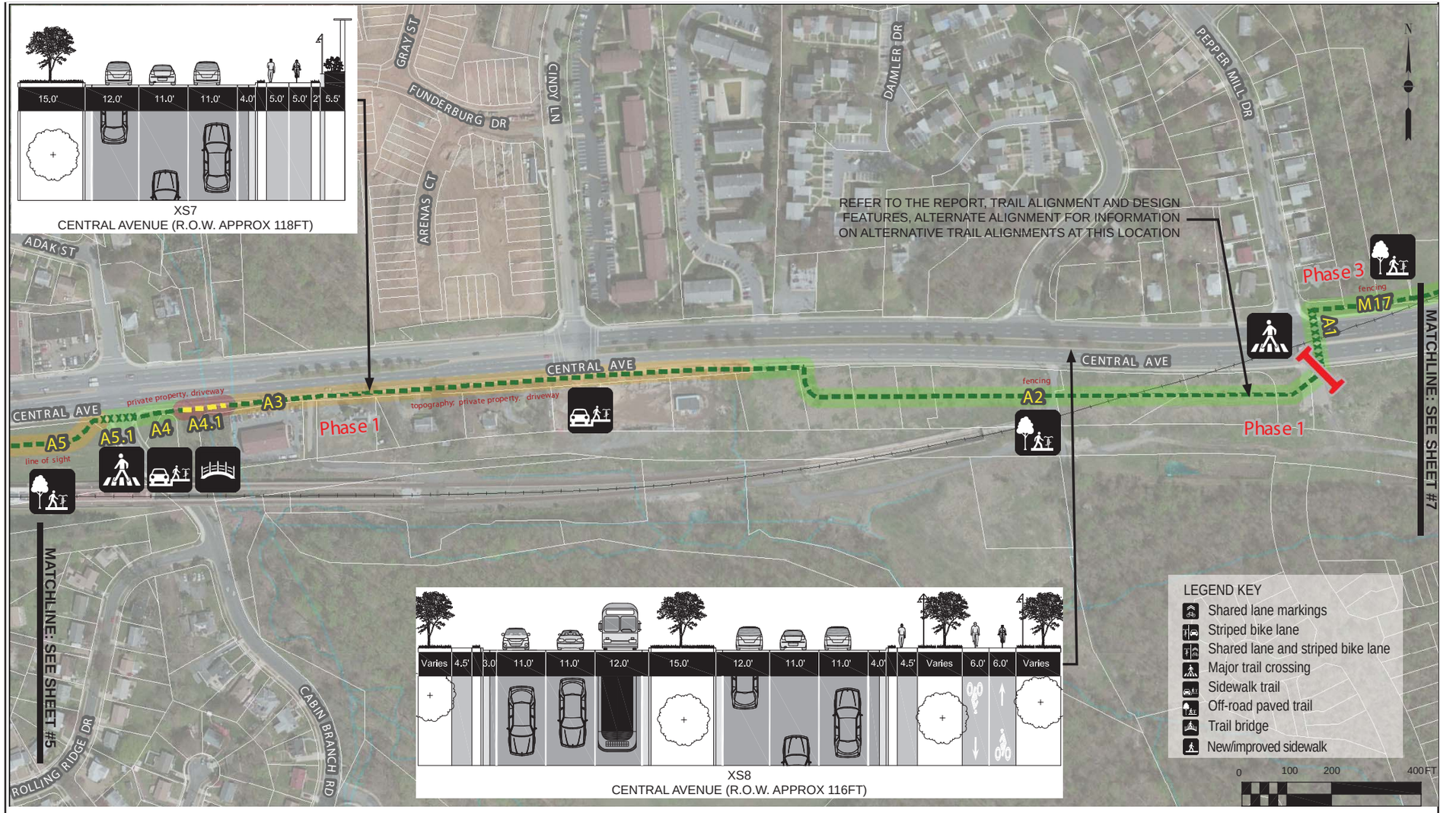

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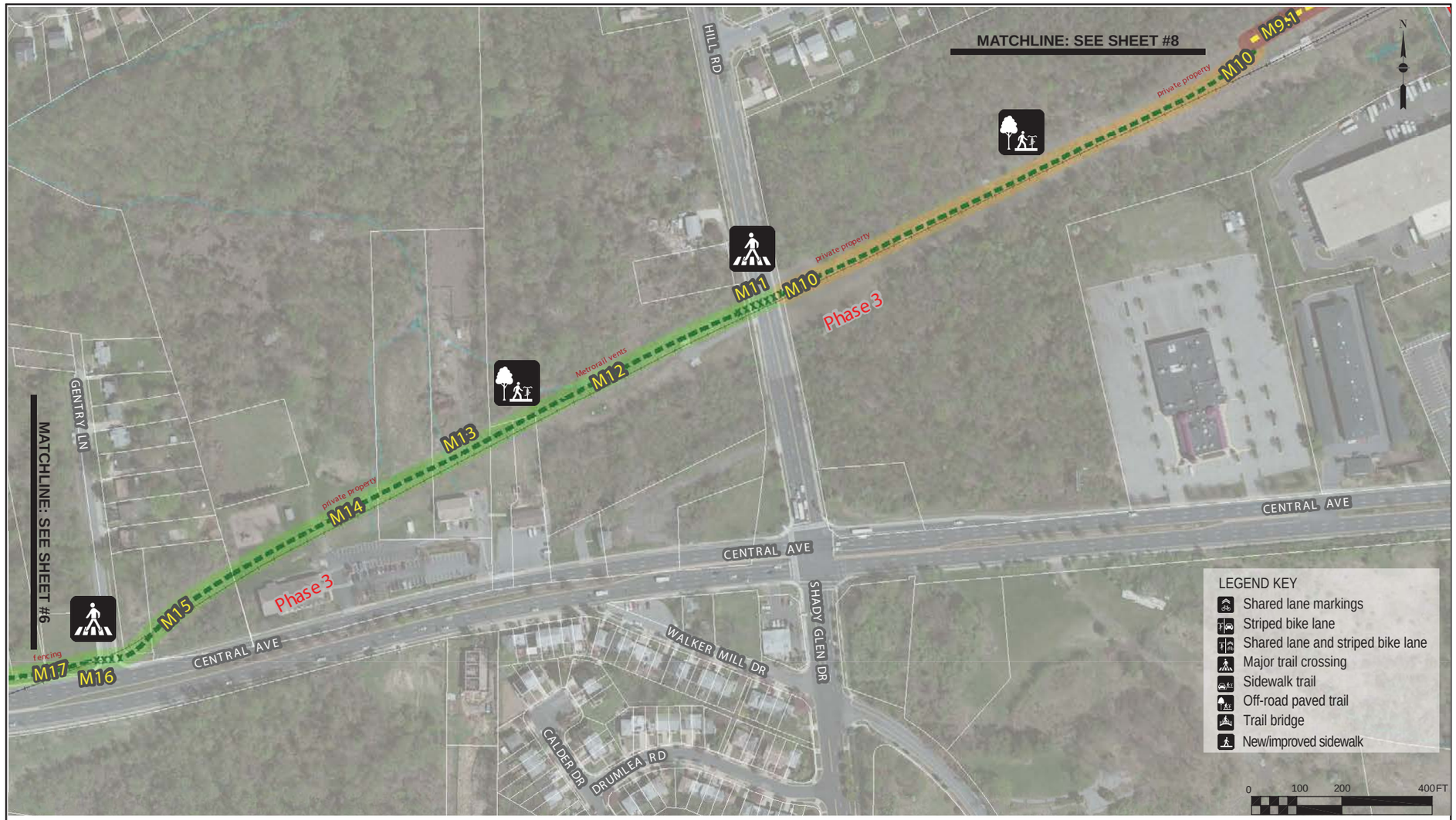
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MATCHLINE: SEE SHEET #6
HILL RD
GENTRY LN
CENTRAL AVE
CENTRAL AVE
CENTRAL AVE
WALKER MILL DR
SHADY GLEN DR
CALDER DR
DRUMLEA RD
private property
private property
private property
Metrorail vents
fencing
M9
M10
M10
M11
M12
M13
M14
M15
M16
M17
Phase 3
Phase 3
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LEGEND KEY
Shared lane markings
Striped bike lane
Shared lane and striped bike lane
Major trail crossing
Sidewalk trail
Off-road paved trail
Trail bridge
New/improved sidewalk
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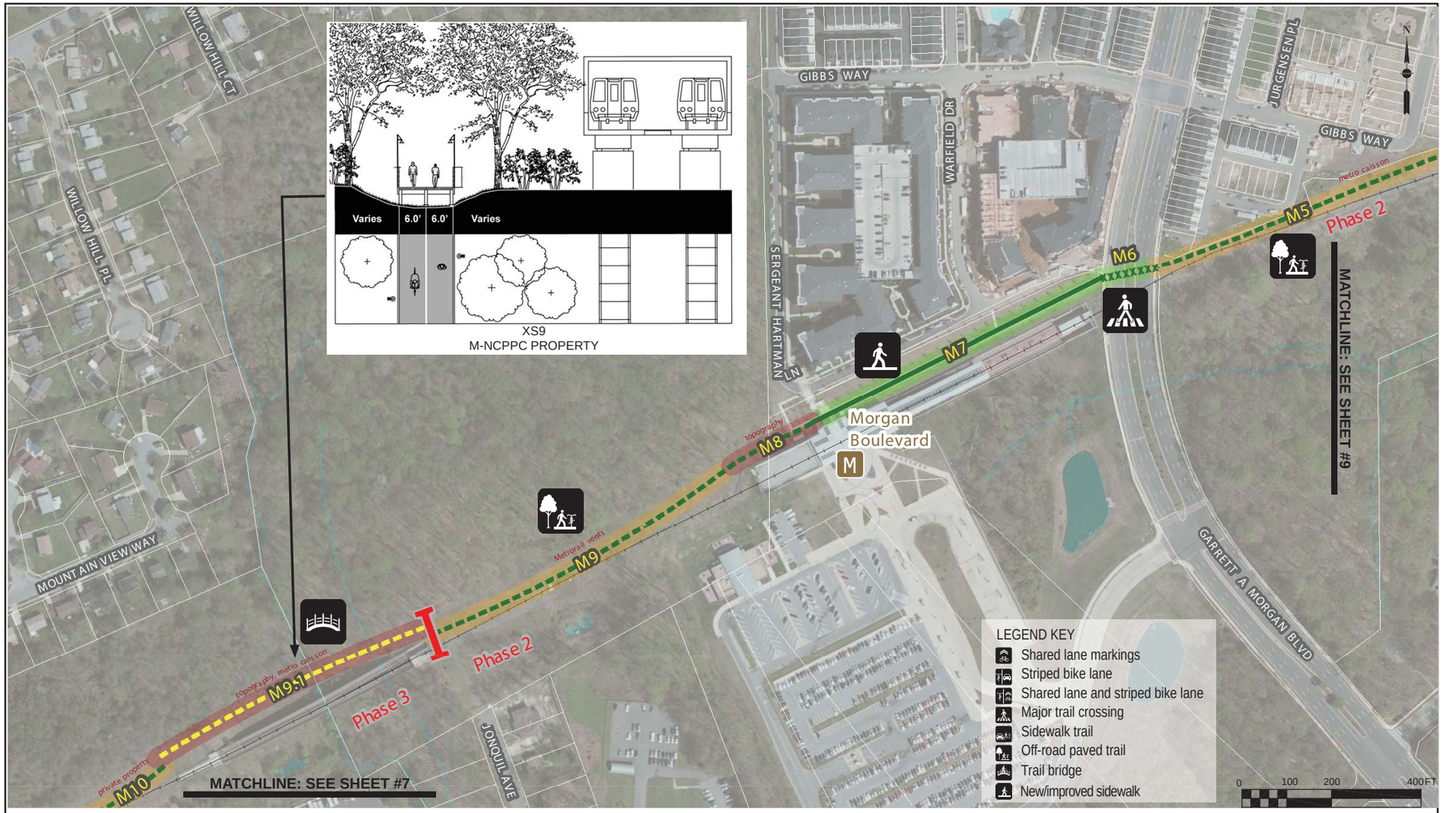

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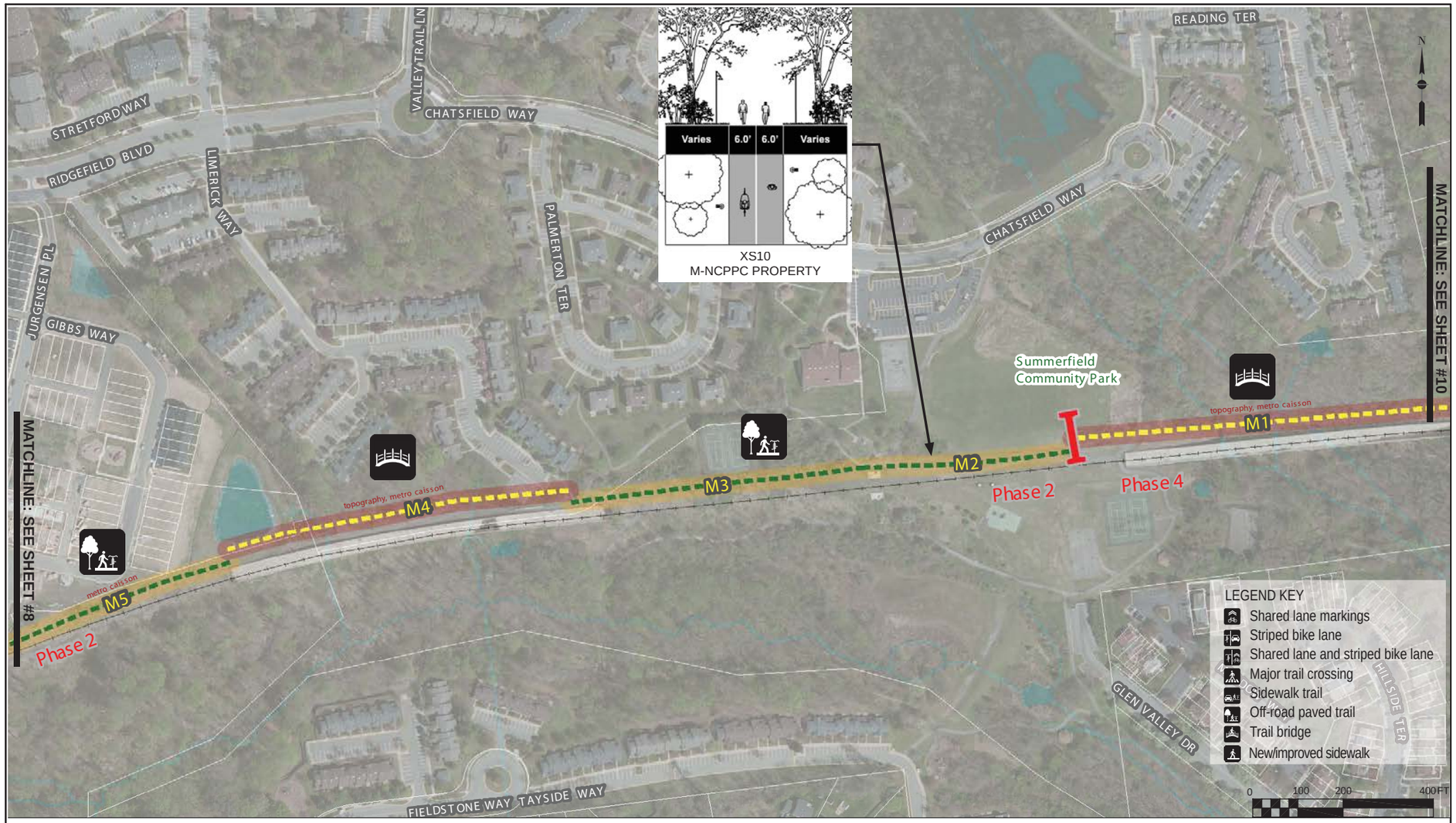

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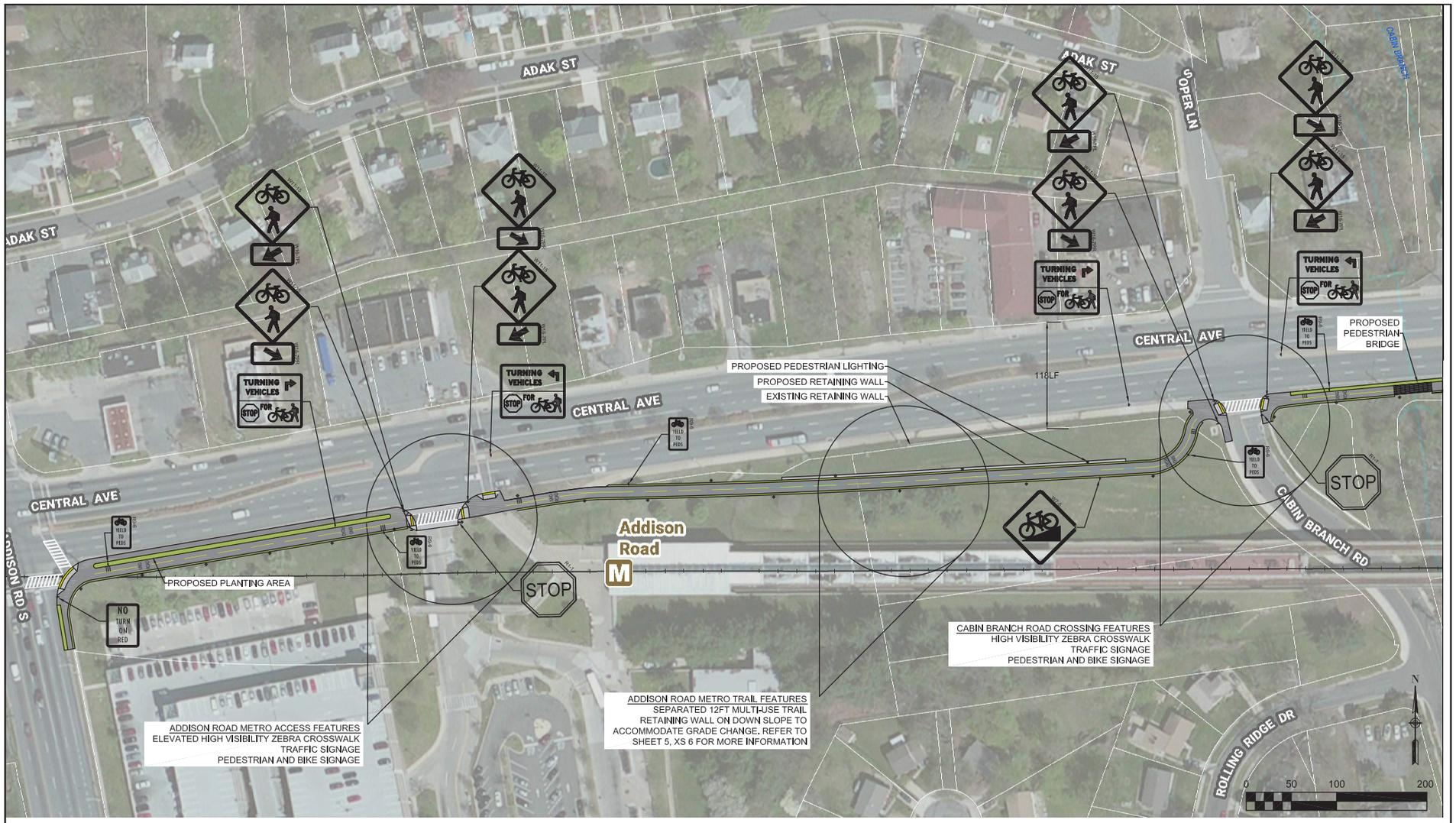

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CENTRAL AVENUE CONNECTOR TRAIL FEASIBILITY STUDY
Prince George's County, Maryland
100 SCALE CONCEPT - PHASE 1, SEC. A5

LEGEND
- CURB RAMP WITH DETECTABLE WARNING
- 12FT MULTI-USE TRAIL WITH 2FT VERTICAL BUFFER
- SIDEWALK EXPANSION TO 10FT
- HIGH VISIBILITY ZEBRA CROSSING
- PEDESTRIAN LIGHTING

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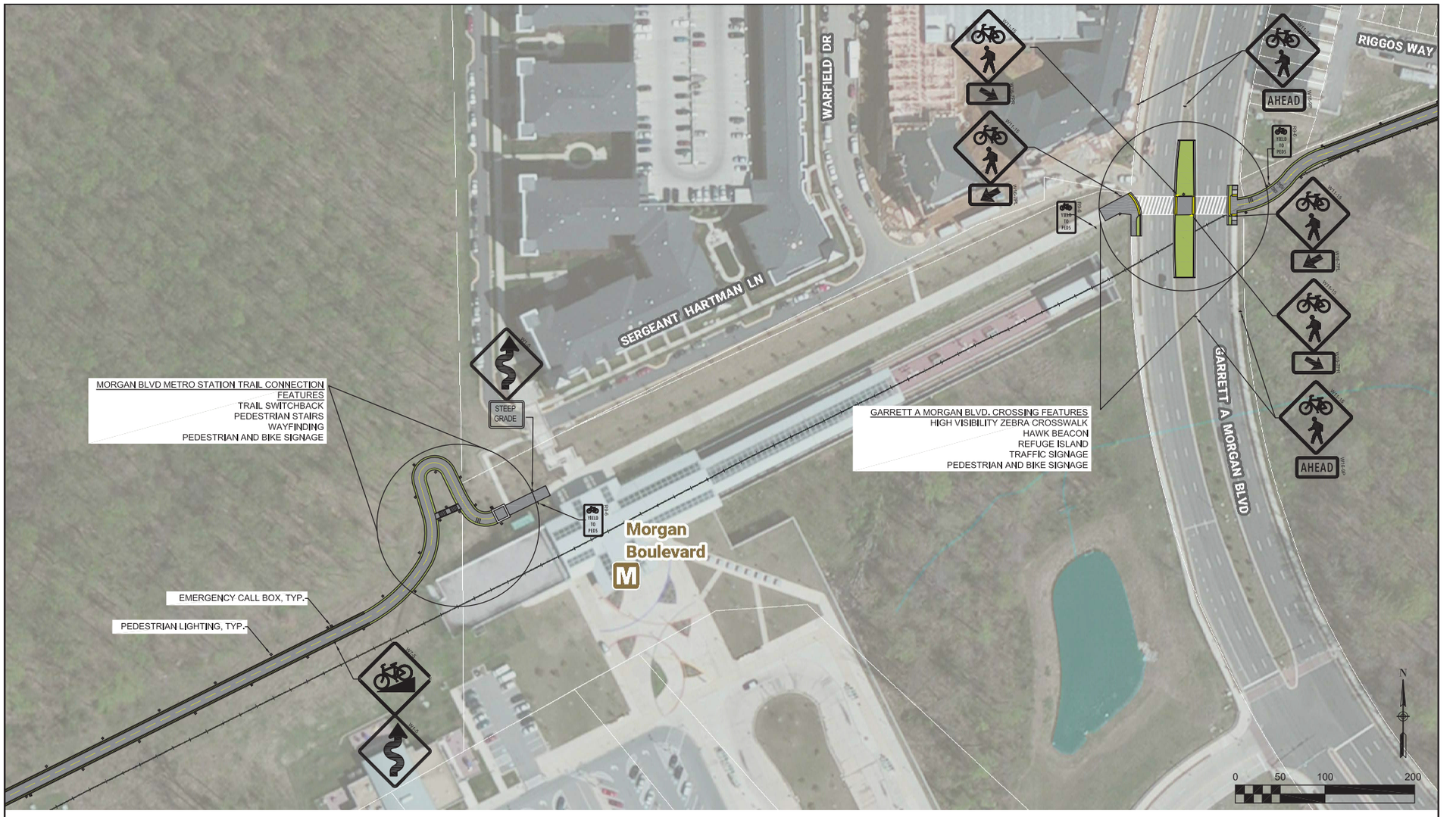

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Prince George's County Planning Department

CENTRAL AVENUE CONNECTOR TRAIL FEASIBILITY STUDY
Prince George's County, Maryland
100 SCALE CONCEPT - PHASE 2, SEC. M6-10

LEGEND
CURB RAMP WITH DETECTABLE WARNING
12FT MULTI-USE TRAIL WITH 2FT VERTICAL BUFFER
SIDEWALK EXPANSION TO 10FT
HIGH VISIBILITY ZEBRA CROSSING
PEDESTRIAN LIGHTING
EMERGENCY CALL BOX

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12 OF 12

APPENDIX C.

Proposed Central Avenue Connector Trail Alignment, Existing Conditions, and Facility Recommendations (Accompanies Appendix B)

APPENDIX C.

Table 10. Proposed Central Avenue Connector Trail Alignment, Existing Conditions, and Facility Recommendations

Station Served	Segment (as shown on 200-foot scale plan sheets)	Length (miles)	Eastern Limits	Western Limits	Ownership	Current Type
Capitol Heights	C12	0.15	Chesapeake Beach Rail Trail Head on Southern Avenue	Corner of Maryland Park Drive and Southern Avenue	DC Dept. of Transportation	
Capitol Heights	C11	0.21	Davey Street at Central Avenue	Davey Street at Maryland Park Drive	DPWT	
Capitol Heights	C10	0.03	Davey Street at Central Avenue (south side)	Davey Street at Central Avenue (north side)	SHA	
Capitol Heights	C9	0.19	Capitol Heights Blvd at Davey Street	Davey Street at Central Avenue	WMATA	5' wide sidewalk (both sides)
Capitol Heights	C8.1	0.24	Capitol Heights Boulevard at Chambers Avenue	Chambers Avenue at Davey Street	DPWT	5' wide sidewalk (east side)
Capitol Heights	C8.2	0.25	Capitol Heights Boulevard at Old Central Avenue	Chambers Avenue	DPWT	5' wide sidewalk (east side)
Capitol Heights	C7.1	0.35	Vale Place	Capitol Heights Boulevard	SHA	
Capitol Heights	C7	0.34	North Side Old Central Avenue at Cut-through Road	Vale Place	SHA	
Capitol Heights	C6	0.33	Western edge of paved trail at Crown Street	Southern Avenue and Eastern Avenue	Private property	Dirt footpath

	Topography	Vegetation	Obstructions	Implementation Phase	Length (miles)	Future General Type	Location Relative to ROW or Metro Tracks	Comments
				5	0.15	5' wide sidewalk and shared lane markings	South side	
	Hill	Open field (mixed brush)	Utility poles; fire hydrant	5	0.21	5' wide sidewalk and shared lane markings	"North side; In the roadway"	
	Varied; street valley	Wooded (tree canopy)	Stream valley; culvert	5	0.03	12' wide trail crossing	West leg of Central Avenue	Intersection is not at a right angle; there are line of sight issues
	Hill		Utility pole; limited ROW	5	0.19	8' wide sidewalk and bike lanes	Sidewalk (north side of street); bike lanes (both sides of street)	
	Flat and level		Utility pole; limited ROW	5	0.24	5' wide sidewalk, bike lane and shared lane markings	Sidewalk (east side); bike lanes (both sides of street)	
	Flat and level		Utility pole; limited ROW	5	0.25	5' wide sidewalk, bike lane and shared lane markings	Sidewalk (east side); contraflow bike lane (west side); shared lane marking (northbound travel lane)	
				5	0.35	5' wide sidewalk and shared lane markings	Sidewalk (north side)	
	Flat and level	Open lawn (turf)	Utility pole; limited ROW	5	0.34	5' wide sidewalk, shared lane marking north side of roadway, bike lane south side of roadway	Sidewalk (north side), shared lane marking (westbound travel lane), bike lane (south side of roadway)	Proximity of houses between Whist and Yale Place
	Varied	Wooded (tree canopy)	Trees; topography	5	0.33	Multi-use trail	Along Chesapeake Beach Rail Trail alignment	There are numerous connections to the foot path from adjacent neighborhoods

Table 10. Proposed Central Avenue Connector Trail Alignment, Existing Conditions, and Facility Recommendations (continued)

Station Served	Segment (as shown on 200-foot scale plan sheets)	Length (miles)	Eastern Limits	Western Limits	Ownership	Current Type
Capitol Heights	C5.1	0.14	Eastern edge of paved trail	Western edge of paved trail at Crown Street	City of Seat Pleasant	Multi-use trail
Capitol Heights	C5	0.14	Chesapeake Beach Rail Trail eastern trail head	Eastern edge paved trail	City of Seat Pleasant	Dirt footpath
Capitol Heights	C4.2	0.15	Driveway between buildings along Jeep Trail	Center line of Jeep Trail	Private property	
Capitol Heights	C4.1	0.15	Planned trail at Yost Place	Jeep Trail	Private property	
Capitol Heights	C4	0.15	Sidewalk along Yost Place (east side)	Planned trail	DPWT	5' wide sidewalk (northeast side, part way)
Capitol Heights	C3.2	0.01	Northern leg intersection with Addison plaza (east side)	Northern leg intersection with Addison Plaza (west side)	SHA	Parallel bar crosswalk; pedestrian signal; curb ramps
Capitol Heights	C3.1	0.04	Northern leg intersection with Addison plaza (east side)	Northern leg intersection with Addison Plaza (west side)	SHA	Parallel bar crosswalk; pedestrian signal; curb ramps
Capitol Heights	C3	0.04	Eastern leg intersection with Addison Plaza (south side Central Avenue)	Eastern leg intersection with Addison Plaza to Central Avenue (north side)	SHA	Parallel bar crosswalk; pedestrian signal; curb ramps
Capitol Heights	C2	0.03	Southern edge cut-through road (east side)	Northern cut-through road to Central Avenue ROW (east side)	DPWT	
Capitol Heights	C1	0.18	Southern edge of ROW on Old Central Avenue at Addison Road	Southern edge of ROW on Old Central Avenue at Yolanda	DPWT	5' wide sidewalk

	Topography	Vegetation	Obstructions	Implementation Phase	Length (miles)	Future General Type	Location Relative to ROW or Metro Tracks	Comments
	Flat and level			5	0.14	Multi-use trail	Along Chesapeake Beach Rail Trail alignment	Existing paved trail
	Flat	Varied	Private property	5	0.14	Multi-use trail	Along Chesapeake Beach Rail Trail alignment	
	Flat		Use of driveway for loading and unloading	5	0.15	Multi-use trail	Per County Master Plan of Transportation	
	Hill	Open field (mixed brush)	Trees; topography	5	0.15	Multi-use trail	Per County Master Plan of Transportation	
	Hill	Open lawn (turf)	Utility pole; stormwater infrastructure	5	0.15	12' wide sidewalk	North side of street	
				5	0.01	Multi-use trail	North side of street within existing ROW	
				5	0.04	12' wide trail crossing	North leg of driveway	
	Flat and level		Utility pole	5	0.04	12' wide trail crossing	Eastern leg of Central Avenue	
	Flat and level	Open lawn (turf and asphalt)	Utility pole	5	0.03	12' wide trail crossing and multi-use trail	Eastern side of cut-through road	
	Flat and level; stream valley	Wooded (tree canopy)	Utility pole; stream valley	1	0.18	Multi-use trail	Southern side of street	

Table 10. Proposed Central Avenue Connector Trail Alignment, Existing Conditions, and Facility Recommendations (continued)

Station Served	Segment (as shown on 200-foot scale plan sheets)	Length (miles)	Eastern Limits	Western Limits	Ownership	Current Type
Addison Road	A8	0.03	Eastern edge of MD SHA ROW on Addison Road	Western edge of MD SHA ROW on Addison Road	SHA	10' wide pedestrian crossing with parallel striping
Addison Road	A7	0.07	Western edge of driveway	Eastern edge Addison Road ROW	WMATA	
Addison Road	A6	0.01	Eastern edge driveway	Western edge driveway	WMATA	
Addison Road	A5	0.16	Eastern edge WMATA property on west side of Cabin Branch Road	Metrorail driveway into Addison Road station	WMATA	5' wide sidewalk
Addison Road	A5.1	0.02	Western edge of WMATA property on east side of Cabin Branch Road	Eastern edge WMATA property on west side of Cabin Branch Road	DPWT	
Addison Road	A4	0.02	Eastern edge WMATA property on west side of Cabin Branch Road	Edge of Cabin Branch stream valley	WMATA	5' wide sidewalk
Addison Road	A4.1	0.02	Eastern edge of Cabin Branch stream valley	Western edge of Cabin Branch stream valley	WMATA	
Addison Road	A3	0.22	Western edge of WMATA property	Eastern edge of Cabin Branch stream valley	Various	5' wide sidewalk
Addison Road	A2	0.3	Northern edge of WMATA ROW at service road	Northern edge of WMATA ROW at western edge	WMATA	
Addison Road	A1	0.03	Northeast ROW Central Avenue	Southern edge ROW Central Avenue	SHA	
Morgan Boulevard	M17	0.06	Western ROW Gentry Lane at Central Ave	Eastern ROW of Pepper Mill Road at Central Ave	DPWT or SHA	5' wide sidewalk

	Topography	Vegetation	Obstructions	Implementation Phase	Length (miles)	Future General Type	Location Relative to ROW or Metro Tracks	Comments
	Flat and level		Traffic volumes and speed	1	0.03	12' wide trail crossing	Southern leg of Addison Road	
	Hill	Open lawn (turf)	Topography	1	0.07	Multi-use trail	Southern side of road	Do not widen current sidewalk
				1	0.01	12' wide trail crossing	Across driveway	
	Rolling hills	Open lawn (turf)	Line of sight	1	0.16	Multi-use trail	Southern side of road within WMATA property	
				1	0.02	12' wide trail crossing		
	Flat and level	Open lawn (turf)		1	0.02	Multi-use trail	10' south of edge of sidewalk on south side of road	
	Stream valley	Wooded (tree canopy)	Topography	1	0.02	Multi-use trail bridge	South side of road within existing ROW	
	Rolling hill	Open lawn (turf)	Topography; private property driveway	1	0.22	Multi-use trail sidewalk	South side of road within existing ROW	
	Flat and level	Open field (meadow)	Fence	1	0.3	Multi-use trail	15' to 20' south of edge of sidewalk on south side of road	Path-as-place opportunity
	Flat and level		Fast-moving motor vehicles on Central Avenue	3	0.03	12' wide trail crossing	Eastern leg	SHA-identified location for signal
	Flat and level	Open lawn (turf)	Fencing	3	0.06	Multi-use trail	North side of street within existing ROW	

Table 10. Proposed Central Avenue Connector Trail Alignment, Existing Conditions, and Facility Recommendations (continued)

Station Served	Segment (as shown on 200-foot scale plan sheets)	Length (miles)	Eastern Limits	Western Limits	Ownership	Current Type
Morgan Boulevard	M16	0.01	Eastern edge Gentry Lane ROW	Western edge Gentry Lane ROW	DPWT or SHA	Parallel bar crosswalk
Morgan Boulevard	M15	0.06	Western edge of New Life Assembly of God Church	Eastern edge Grace Baptist Church property	WMATA	
Morgan Boulevard	M14	0.11	Western edge WMATA property	Eastern edge WMATA property	New Life Assembly of God Church	
Morgan Boulevard	M13	0.01	Eastern edge of New Life Assembly of God Church	Western edge WMATA property	WMATA	
Morgan Boulevard	M12	0.12	Hill Road ROW	Eastern edge of New Life Assembly of God Church	WMATA	
Morgan Boulevard	M11	0.02	Hill Road ROW	Hill Road ROW	DPWT	
Morgan Boulevard	M10	0.22	Western edge MNCPPC property	Western edge Rosenthal property	Rosenthal	
Morgan Boulevard	M9.1	0.013	Eastern edge Metrorail caisson	Western edge Metrorail caisson	M-NCPPC	
Morgan Boulevard	M9	0.15	Eastern edge MNCPPC property	Western edge MNCPPC property	M-NCPPC	
Morgan Boulevard	M8	0.04	Western edge sidewalk	Eastern edge MNCPPC property	WMATA	
Morgan Boulevard	M7	0.14	Eastern edge sidewalk	Western edge sidewalk	WMATA	Sidewalk

Topography	Vegetation	Obstructions	Implementation Phase	Length (miles)	Future General Type	Location Relative to ROW or Metro Tracks	Comments
Flat and level		Fencing	3	0.01	12' wide trail crossing	Northern leg	
Flat and level	Open field (meadow)		3	0.06	Multi-use trail	Along the top of underground Metrorail alignment	Path-as-place opportunity
Flat and level	Open field (meadow)	Private property	3	0.11	Multi-use trail	Along the top of underground Metrorail alignment	Path-as-place opportunity
Flat and level	Open field (meadow)	Private property	3	0.01	Multi-use trail	Along the top of underground Metrorail alignment	
Flat and level	Open field (meadow)	Metrorail vents	3	0.12	Multi-use trail	Along the top of underground Metrorail alignment	Path-as-place opportunity
Flat and level			3	0.02	12' wide trail crossing	Follow alignment across roadway	
Rolling hill	Wooded (tree canopy); open field (meadow)	Private property	3	0.22	Multi-use trail	Along the top of underground Metrorail alignment	
Steep hill/ stream valley	Wooded (tree canopy)	Topography; Metro caisson	3	0.013	Multi-use trail bridge	North of Metrorail caisson	
Rolling hill	Open field (mixed brush)	Metrorail vents	3	0.15	Multi-use trail	Along the top of underground Metrorail alignment	Path-as-place opportunity
Steep hill	Open field (mixed brush)	Topography	2	0.04	Multi-use trail (with switchbacks and steps)	Down side of hill	Path-as-place opportunity
Flat and level			2	0.14	Signed multi-use trail on existing 14' wide sidewalk	Between station and townhouses	

Table 10. Proposed Central Avenue Connector Trail Alignment, Existing Conditions, and Facility Recommendations (continued)

Station Served	Segment (as shown on 200-foot scale plan sheets)	Length (miles)	Eastern Limits	Western Limits	Ownership	Current Type
Morgan Boulevard	M6	0.02	Eastern edge Garrett Morgan Blvd ROW	Western edge Garrett Morgan Blvd ROW	DPWT	
Morgan Boulevard	M5	0.17	Eastern edge Metrorail caisson	Garrett Morgan Blvd ROW	WMATA	
Morgan Boulevard	M4	0.15	Eastern edge Metrorail caisson	Western edge Metrorail caisson	WMATA	
Morgan Boulevard	M3	0.12	Western end of existing trail	Eastern edge Metrorail caisson	M-NCPPC	
Morgan Boulevard	M2	0.09	Eastern end of existing trail	Western edge Metrorail caisson	M-NCPPC	Partial multi-use trail
Morgan Boulevard	M1	0.18	Western edge Faulkner property	Western edge Metrorail caisson	WMATA	
Largo Town Center	L5	0.07	Eastern edge Faulkner property	Western edge Faulkner property	Ronald J Faulkner	
Largo Town Center	L4	0.01	Trail	Brightseat Road	DPWT	
Largo Town Center	L3	0.12	WMATA property	Brightseat Road	Brightseat LLC	
Largo Town Center	L2	0.06	WMATA property	WMATA property	Air rights ownership (SHA and WMATA)	
Largo Town Center	L1	0.14	WMATA property	WMATA property	WMATA	
Largo Town Center	L6	0.02	Eastern edge Harry Truman ROW	Western edge Harry Truman ROW	DPWT	

Topography	Vegetation	Obstructions	Implementation Phase	Length (miles)	Future General Type	Location Relative to ROW or Metro Tracks	Comments
Flat and level		Guard rail; center median	2	0.02	12' wide trail crossing	Aligns with existing sidewalk	
Rolling hill	Open field (mixed brush)	Metro caisson	2	0.17	Multi-use trail	South side of Sgt. Hartman Lane	
Steep hill/ stream valley		Topography; Metro caisson	2	0.15	Multi-use trail bridge	North of Metrorail caisson	Adjacent to Metrorail caisson
Rolling hill	Open field (mixed brush)		2	0.12	Multi-use trail	Along the top of underground Metrorail alignment	
Rolling hill	Open field (meadow)		2	0.09	Multi-use trail	Along the top of underground Metrorail alignment	Current trail to be widened and straightened
Steep hill		Topography; Metro caisson	4	0.18	Multi-use trail bridge	North of Metrorail caisson	Adjacent to Metrorail caisson
Relatively level	Open field (mixed brush)		4	0.07	Multi-use trail	Along the top of underground Metrorail alignment	
Level			4	0.01	12' wide trail crossing	Follow alignment across roadway	
Rolling hill	Wooded (tree canopy)	Utility pole	4	0.12	Multi-use trail bridge	Along the top of underground Metrorail alignment	
			4	0.06	Multi-use trail bridge	North of Metrorail structure	
			4	0.14	Multi-use trail bridge	Aligned with trail and configured to reach ground with ADA-compliance	
Flat and level			4	0.02	Trail crossing	Follow alignment across roadway	

APPENDIX D.

Lighting on Trails - Considerations and Best Practices

Some pathways that are convenient during the day become dark, or may close, at sundown, limiting their utility to trail users. Hours of operation can be extended by placing proper signage, enforcing after-dark policies, and installing lighting along the trail. Trail lighting that is well placed, properly installed, and frequently maintained can improve visibility, increase overall trail access and convenience, and give trail users a sense of security.

Benefits

Illuminating the trail can reduce the possibility of user collisions with an object or each other. Deformities and unevenness in the path become visible, which prevents falls and crashes as well. Lighting also allows trail users to recognize potential threats to their security. Although there have been very few surveys indicating a reduction of crime on-trail with the addition of trail lighting, bright lights are generally recognized as deterrents of criminal activity in other environments.

While after-dark policies, bike light initiatives, and police monitoring also allow trails to be used at night, proper nighttime etiquette is difficult to enforce. When a pedestrian or cyclist fails to wear bright clothing, or carry or wear a light, it can result in a dangerous collision. The advantage of trail lighting over other strategies to extend the hours of trail use is the lack of monitoring required. Lighting installed along the Texas Katy Trail in 2006 shines directly on the trail from 5:00 a.m. to sunrise and from sunset to 11:00 p.m. This lighting promotes commuting and recreation that may not otherwise occur during these hours.

Placement and Design

In areas where trail use is expected to occur most hours of the day, lighting will be essential for function, safety, and security. To increase access and security along the entire route, lights on a trail should, at the very least, be installed at the following locations according to AASHTO guidelines (Guide for the Development of Bicycle Facilities, 2012):

- Always in a tunnel or at an overpasses
- Trailheads
- Bridge entrances and exits
- Public gathering places
- Along streets
- Crosswalks
- Where the path crosses another path or sidewalk
- On signage

Further, AASHTO states that the "provision of lighting should be considered where nighttime usage is not prohibited, and especially on paths that provide convenient connections to transit stops and stations, schools, universities, shopping, and employment areas."

The amount of light ideal for a trail setting depends on location, safety concerns, and trail usage. The AASHTO Guide recommends using average maintained horizontal illumination levels of 5 lux (0.5 footcandles) to 22 lux (2 footcandles), depending on the location. However, lighting guidelines vary by city. For example, Minneapolis recommends 0.8 to 1.2 footcandles for pedestrian areas, whereas the City of Sacramento recommends 0.2 footcandles for trails. The Maryland State Highway Administration Guidelines recommends 0.2 to 0.4 footcandles for mixed-use areas.

In support of the AASHTO guidelines, public space design standards, such as Crime Prevention Through Environmental Design (CPTED), and other standards widely accepted by police and public safety agencies cite lighting as one of the most effective deterrents to crimes against persons by controlling and reducing the "fear" and opportunity of crime (International CPTED Association, www.cpted.net).

Types of Lighting

There are several options for trail lighting. Factors that influence lighting choices include soil content, overhead clearance, trail location, trail features, types of trail users, and weather.

Wired lighting is the most expensive to install and difficult to repair, but with good design and quality components, it can be the easiest to operate and maintain. The wires, depending on the trail's needs, may be strung overhead or underground. Buried lines are the most expensive to install but are replaced the least often, even in locations with poor weather conditions. Overhead wiring is cheaper but more vulnerable as the wires must be strung directly from fixture to fixture. In the case of wired lighting, fusing is a factor. Giving each circuit its own fuse will make problems along the line easy to identify. However, this is a pricey decision. Wired lighting is not an option for riparian corridors either.

Battery powered lights are the cheapest to install and repair, but they are very difficult to maintain. Depending on the brightness of the lighting, batteries may need frequent replacement. If dead batteries are not replaced, it presents a danger to trail users who

must face a completely dark section of trail. Lights of this kind are usually only practical on trails with high traffic where a dead battery is likely to receive notice before an emergency.

Solar lights power themselves and are the most environmentally conscious option. There are no interconnecting wires with solar lighting, which means repairs are limited to a single fixture at a time. However, solar-powered lights are not recommended in places with significant tree canopy or in northern regions where natural light is limited. Photovoltaic cells of any size can also be very costly upfront. Still, installing solar lights on trails in regions that receive adequate sunlight, like along the Metropolitan Branch Trail in Washington, D.C., can mean little to no cost of operation.

No matter what the power source, **LED lighting** is a strong option. In comparison to standard incandescent bulbs, LED fixtures produce much more light with relatively little power. In addition, LEDs need to be replaced far less frequently thanks to their efficiency and durability. LEDs do have a greater initial cost than standard bulbs. Some common complaints about LED bulbs include uneven or unnatural lighting, flickering and change in color over time. Compact fluorescent lightbulbs (CFLs) are similar in terms of cost and effectiveness, but they contain mercury, which complicates the disposal process and may contribute to pollution if improperly discarded.

Reflective striping is not a source of lighting in and of itself but supplements existing light. If a trail runs close enough to a lit street, the use of these white, flat, and narrow reflectors that stick to the path can increase the amount of light cast onto the trail. Trails with individual dark spots, but overall limited night use, might benefit from reflective striping, as it is an inexpensive and effective alternative to lights. Another advantage of the striping is its dual use in dividing trail traffic or marking the edge of the path.

Maintenance

The largest issue with lighting maintenance is tracking and fixing outages. This presents a particular challenge with wired lights as a whole string of lights can go out when there is a problem with one. By installing individually powered lights, like solar or battery-powered options, these kinds of problems may be avoided; however, when these fixtures break, they sometimes need to be replaced entirely.

Bulbs need to be kept clean to maintain the desired luminescence. To prevent bulb breakages or theft, bulbs may be installed in wire cages. Consider posting signage on fixtures and trailheads requesting that trail users report any outages along the trail.

Addressing Concerns

Communities occasionally oppose lighting as a trail feature, and the trail management agency has to be flexible. Solutions must take into account the neighbors of the trail, dark-sky initiatives, local ecology, and trail users. Lighting a trail and keeping it lit is not only expensive, but can also have negative impacts.

Neighbors to the trail often fear the extraneous light and noise from nighttime trail use flooding their homes. A compromise could be to light the trail, but only within designated hours, such as from 1 hour before sunrise and sunset to 10 p.m. Having flat lenses on downward-facing lights also prevents the direct illumination of private property.

Many communities have dark-sky regulations in order to reduce light pollution. These regulations differ from community to community, so local dark-sky advocates should be consulted for appropriate compliance. To avoid conflict, consult the International Dark-Sky Association's list of approved outdoor lighting. Installing sensor controls on lighting may help with this as well.

If a trail is in a rural or undeveloped area, or sees infrequent use, lighting may not be necessary or ideal. Lighting a trail that runs in or near wildlife areas may cause issues, particularly with nocturnal creatures. In most cases, low, strategically located lighting will leave wildlife undisturbed. In very delicate areas, lighting should not be installed. Instead, funding for trail improvements might better be used on other amenities.

Example: Lighting on the Capital Crescent Trail

Lighting is integral to creating a safe and secure environment for trail users. Since the Capital Crescent Trail will provide local access to the Purple Line, it will serve a transportation function for many of its users. Therefore, it is important that the trail be well lit during the Purple Line's hours of operation, which are assumed to be one hour before and one hour after the Washington Metropolitan Area Transit Authority's (WMATA) hours of operation.

The Illuminating Engineering Society of North America's (IESNA) RP-8-00 Roadway Lighting publication is the current standard that most state departments of transportation (DOTs) and municipalities have adopted either in part or its entirety for their own lighting standards. The publication recommends that three criteria be satisfied when completing the lighting design for a shared walkway/bikeway:

- **Average Horizontal Illuminance:** This criterion measures how well users are able to see the path ahead of them to detect potholes, debris, puddles, etc., and therefore is an indication of physical safety. It measures the average light levels reaching all points on the surface of the trail.
- **Minimum Vertical Illuminance:** This criterion measures the ability to detect facial features and to see the front and backs of trail users. It is an indication of personal security.
- **Uniformity Ratio:** This criterion measures the consistency of the lighting and therefore applies to both physical safety and personal security. A lower uniformity ratio is preferable because it indicates a more consistent level of lighting. A higher uniformity ratio could mean that there are lighter and darker spots along the trail.

MCDOTs current practice is to light all trails within the public right-of-way that expect significant use during darkness. MCDOTs practice adheres to the IESNA standard for horizontal illuminance and uniformity ratio, but does not use the vertical illuminance standard. This is consistent with the lighting practices of other DOTs. While current practice might be sufficient for other trails, the Capital Crescent Trail will be different than a typical off-road trail because it will serve a local access function between neighborhoods and Red and Purple Line stations at night. Applying the vertical illuminance standard to the Capital Crescent Trail is important part of providing security on the trail.

Providing lighting to the vertical illuminance standard requires a closer spacing of light poles. Whereas current Montgomery County practice would space the poles 65 to 70 ft. apart and have a capital cost of about $3.1 million. Satisfying the IESNA standard would require pole spacing from 30 to 50 ft. and would have a capital cost of about $7.3 million.

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APPENDIX E.

Emergency Call Boxes - Considerations and Best Practices

APPENDIX E.

Emergency call boxes should be included in the design of the Central Avenue Connector Trail. Emergency call boxes should be located as follows:

- Where there is no access to other assistance, such as long stretches between access points.
- Where cell phone coverage is unreliable, such as in tunnels.
- For other reasons as deemed necessary.

Emergency call box locations should be selected in consultation with the Prince George's County Police Department and the Maryland-National Capital Park Police, Prince George's County Division.

According to the Maryland Transit Administration (MTA), "emergency call boxes are a successful way to create a safe environment" on trails. However, the experience of the Maryland-National Capital Park Police and the Washington, D.C. Department of Transportation (DDOT) indicates that few calls made on the system are for emergencies. Of 369 calls placed at call boxes in Rock Creek Park and the Matthew Henson Trail, only one appears to have been for a true emergency. DDOT did not report statistics, but said that in consultation with other jurisdictions, they found that call boxes are often used for non-emergency, or "crank" calls, more often than for emergencies. For this reason, and because the majority of trail users carry cell phones, DDOT decided not to install call boxes on the Metropolitan Branch Trail between Union Station and Catholic University, which opened in 2010. In addition, they stated that cell phones provide a better service because they can be used at any location, whereas call boxes would be spaced at fixed intervals.

Example: Emergency Call Boxes on the Capital Crescent Trail

MTA estimates the cost of installing 25 call boxes on the 4.25-mile portion of the Capital Crescent Trail at quarter-mile intervals, and at key locations such as stairways and tunnels, to be $400,000. In addition to the quarter-mile interval standard, placement was determined by trail connection locations, trail horizontal and vertical alignment, and sight lines. The provision of emergency call boxes along the Capital Crescent Trail is important because:

- Not everyone owns a cell phone. A recent survey showed that 15 percent of adults do not own cell phones. For trail users, this number may be higher, as not all cell phone owners carry their cell phone when they run or ride a bike.
- Call boxes inform the police where a call is being made, whereas cell phone users may not be able to pinpoint their location for police until GPS technologies become ubiquitous.
- Call boxes can provide a deterrent to crime.

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APPENDIX F.

Planning Level Cost Estimate and Timeline for 30 Percent Design

APPENDIX F.

Table 11. Central Avenue Connector Trail 30 Percent Design Order of Magnitude Cost Estimate for Implementation Segment 1: Addison Road Connector

Work Item	Total Cost	Notes
Project Management and Coordination	$9,000	Assumes 6-12 month schedule
Data Collection/Field Reconnaissance	$4,000	Assumes 40 hours
Survey and Mapping	$13,000	Assumes Approx. $20k/mile
Environmental Permitting	$3,000	Assumes Approx. $5k/mile
Intersection Analysis	$12,000	Assumes 3 Intersections
Preliminary Plans	$38,000	Assume 17 plan sheets at 1"=40'
Public Involvement	$10,000	Assumes 2 meeting
Total	**$89,000**	

Note: This cost estimate is a planning level (order of magnitude) estimate only.

Table 12. Central Avenue Connector Trail 30 Percent Design Order of Magnitude Cost Estimate for Implementation Segment 2: Morgan Boulevard Connector

Work Item	Total Cost	Notes
Project Management and Coordination	$17,000	Assumes 6–12 month schedule
Data Collection/Field Reconnaissance	$8,000	Assumes 80 hours
Survey and Mapping	$21,000	Assumes $20,000/mile
Environmental Permitting	$9,000	Assumes Approx. $5,000/mile plus more at stream crossings
Structural Engineering	$58,000	
Intersection Analysis	$4,000	Assumes 1 intersection
Preliminary Plans	$45,000	
Public Involvement	$10,000	Assumes 2 meetings
Total	**$172,000**	

Note: This cost estimate is a planning level (order of magnitude) estimate only.

Table 13. Central Avenue Connector Trail 30 Percent Design Order of Magnitude Cost Estimate for Implementation Segment 3: Morgan Boulevard Western Connector

Work Item	Total Cost	Notes
Project Management and Coordination	$8,000	Assumes 6–12 month schedule
Data Collection/Field Reconnaissance	$4,000	Assumes 40 hours
Survey and Mapping	$13,000	Assumes $20,000/mile
Environmental Permitting	$2,000	Assumes Approx. $5,000/mile
Intersection Analysis	$12,000	Assumes 3 Intersection
Preliminary Plans	$31,000	Assumes 2 meetings
Public Involvement	$10,000	Assumes 2 meetings
Total	**$80,000**	

Note: This cost estimate is a planning level (order of magnitude) estimate only.

Table 14. Central Avenue Connector Trail 30 Percent Design Order of Magnitude Cost Estimate for Implementation Segment 4: I-495 Connector

Work Item	Total Cost	Notes
Project Management and Coordination	$11,000	Assumes 6–12 month schedule
Data Collection/Field Reconnaissance	$5,000	Assumes 40 hours
Survey and Mapping	$9,000	Assumes $20,000/mile
Environmental Permitting	$3,000	Assumes Approx. $5,000/mile plus more at stream crossings
Structural Engineering	$37,000	
Intersection Analysis	$8,000	Assumes 2 Intersection
Preliminary Plans	$23,000	
Public Involvement	$10,000	Assumes 2 meetings
Total	**$106,000**	

Note: This cost estimate is a planning level (order of magnitude) estimate only.

Table 15. Central Avenue Connector Trail 30 Percent Design Order of Magnitude Cost Estimate for Implementation Segment 5: Capitol Heights Trail Loop

Work Item	Total Cost	Notes
Project Management and Coordination	$20,000	Assumes 12 month schedule
Data Collection/Field Reconnaissance	$10,000	Assumes 100 hours
Survey and Mapping	$40,000	Assumes $20,000/mile
Environmental Permitting	$10,000	Assumes Approx. $5,000/mile
Intersection Analysis	$12,000	Assumes 3 Intersection
Preliminary Plans	$90,000	
Public Involvement	$10,000	Assumes 2 meetings
Total	**$192,000**	

Note: This cost estimate is a planning level (order of magnitude) estimate only.

Table 16. Timeline for 30 Percent Design Completion for Each Implementation Phase

Work Item	Estimated time to complete*														
	Months														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Project management and coordination	On-going														
Data Collection and Field Reconnaissance	Up to 2 months														
Surveying and Mapping		2 to 4 months													
Intersection Analysis		2 to 4 months													
Structural Engineering for Pedestrian Bridges		2 to 4 months													
Preliminary Plans		2 to 4 months													
Environmental Permitting					2 to 12 months										

**Note that these are estimates based on our experience. Actual time will depend upon the number of staff available to complete tasks and the percentage of their time dedicated to the task. Additionally, environmental permitting is dependent upon the reviewing agency's workload and staffing.*

APPENDIX G.

Community and Stakeholder Meeting Notes and Outcomes

APPENDIX G.

Community Engagement

The Central Avenue Connector Trail Feasibility Study and Implementation Plan is the result of the involvement of a broad range of stakeholders.

Property Owner Meeting Notes

- Central Avenue (MD 214) is currently not very pedestrian-friendly and the corridor has one of the highest frequencies of crashes in the state.
- The Central Avenue Connector Trail project aims to make the Central Avenue-Metro Blue Line corridor into an environment that is more pedestrian and bicycle-accessible.
- The trail project builds on two existing plans (the 2014 Central Avenue-Metro Blue Line Corridor TOD Implementation Project Mobility Study and the 2010 Subregion IV Master Plan)
  - The Subregion IV Master Plan involved a series of around 25 community meetings to move toward implementation.
  - Grant money was received to develop the Central Avenue TOD Plan (2010)
    - This plan involved meetings during the week and on weekends, for which information was sent to over 5,000 people who would be impacted by this plan.
- Several community and stakeholder meetings have been held previously
  - Stakeholder Meetings on February 26th, 2015 and May 20th, 2015
  - Community Meetings on February 26th, 2015 and June 16th, 2015
    - The February 26th meeting involved affected property owners within a 1 mile radius of the current Connector Trail alignment and had over 200 attendees
    - The June 16th meeting involved over 90 residents, who expressed that they wanted more of a dialogue in the planning process.
- The proposed alignment for the trail was initially circuitous, but the current proposal envisions a more direct alignment.
- Current status of the project: Several grant applications have been submitted for 30% design work for the entire project except Capitol Heights or the end of Largo Town Center. Capitol Heights 30% design was not applied for due to the large volume of development projects around the project area. Working on the Feasibility Study and Analysis for the trail project.
- Members of the Planning Department have done multiple site visits to identify private properties that are potentially impacted by the proposed alignment
- Several community and stakeholder meetings have been held previously
  - Stakeholder Meetings on February 26th, 2015 and May 20th, 2015
  - Community Meetings on February 26th, 2015 and June 16th, 2015
- The purpose of this meeting is to engage in a dialogue with potentially impacted property owners, the Department of Public Works and Transportation (DPW&T), and the Washington Metropolitan Area Transit Authority (WMATA) to discuss the currently proposed alignment and make suggestions for alternative alignments of the trail.

Comments from the Kohlheim Family (Tyrone, Ella):

- Parcel O
- Tax Accounts 2057230, 2056214, 2057222
- WMATA has an underground easement on their property
- Expressed concern that he would not be able to sell part of his property with the current trail alignment because it would not have the right-of-way.
- Was afraid of the trail landlocking his property
- Discussed the landfill with trash that is adjacent to his property
  - Wants it to get cleaned up
- Was very angry and afraid that his property would be seized.
  - Discussed previous WMATA seizure of his property to build the Morgan Boulevard Station using eminent domain. (and gave out copies of an article from 2010 ("Family Still Looking for Relief from WMATA" by George Barnette))

Comments from WMATA:

- The land behind the Kohlheim's property became a landfill and WMATA has a contract to clean up that property; clean-up is taking so long because of potential hazardous environmental waste
- Alluded to possibility that WMATA may not have given Kohlheims as much money for the acquired property as they should have.
- All trails on WMATA property have to comply with WMATA standards and contracts
- Suggested that it seemed like Pastor McGraw of the New Life Assembly of God Church (not present, but potentially impacted property) would likely be more amenable doing development through their property
  - Property (tax account 2060168) currently has development planned
- There are several ravines throughout the trail alignment
- Willing to give their land that is not being used for anything else.
- There are many WMATA fee simple property deeds that have incorrect/inaccurate information.
  - These parcels cannot be sold until the areas are surveyed and deeds are amended.
  - Said that this would not impact the Central Avenue Connector Trail because the alignment will be correct and will not encroach on the incorrect deeds

Comments from Jordan Exantus:

- Suggested to the Kohlheims that the trail alignment instead go in front of the house to widen the sidewalk and avoid cutting through their property
  - Response from Kohlheims: were not happy with that proposal because it would cut into their front yard; expressed concerns about crime on the trails at night.

Comments from 5601 MLK LLC:

- Parcel B
- Tax accounts 2110880, 2110898, 2110930, 2113355, 2061232, 2110948
- Expressed concern that the current alignment would devalue his property

Property Owner Meeting Handout

Economic Benefits of Trails and Greenways

Trails - A Cost-Effective Improvement For Everyone

Increasingly, community leaders and planners are pursuing trail projects as a driver for strategies promoting economic revitalization, community development, and public health.

Research and analysis on trail projects around the country demonstrate that trails and greenways increase the perceived quality of life in a community, and help to attract new residents and businesses.

In national surveys, trails are repeatedly chosen by consumers as a desired neighborhood amenitiy for their ability to improve walkability.

According to the Rails-to-Trails Conservancy, design, engineering, and construction of trails will create more jobs per dollar than any other type of transportation infrastructure investment.

Trail-based "tourism" is a major economic driver in many communities, helping to support local small businesses. For a typical trail, users may spend up to $20/per visit on food, beverages, and other shopping.

Impacts on Property Values

Numerous studies have shown the positive impacts of trails on adjacent land values and tax revenue.

According to research by the National Trails Training Partnership, 73 percent of real estate agents believe that a home adjacent to a trail would be easier to sell, and 82 percent used the trail as a selling point.

According to a 2002 survey of recent home buyers*, trails ranked as the second most important community amenity out of a list of 18 choices, ahead of security, parks, and access to shopping centers. These home-buyer preferences translate directly into increased property values and enhanced tax revenue for communities that incorporate trails into their planning.

According to a study conducted by the University of Cincinnati, trails can have significant positive spillover effect on property values when homes are located within a reasonable distance to a trail. The study concluded that for the average U.S. home, homeowners were willing to pay a $9,000 premium to be located 1,000 feet closer to a trail.

*Sponsored by the National Association of Realtors and the National Association of Home Builders

The Central Avenue Connector Trail will be an important community amenity that will help to spur economic development and revitalize surrounding communities by providing infrastructure to support TOD and attract private investment.

- Asked if we were acquiring property
  - We are not.
- Suggested that the alignment be put off to one side of his property (specifically tax account 2110948) instead of cutting through it as in the current alignment.
- Claims to be planning development on his parcels.

Comments from Fred Shaffer:

- 15-20 ft cross section would be required for the trail alignment near the 5601 MLK LLC property.
- Suggested narrow travel lanes and/or sidewalk widening along Central Avenue to avoid going through affected properties (of these affected properties, present at meeting: Albert T. Ballard Living Trust (Tax account 2064426; Parcel D))
  - Albert T. Ballard Living Trust expressed concerns that the entrance area to his property would be impacted.
  - Would widen sidewalk to 8 feet with buffer between sidewalk and road
- Encouraged that the piece along Summerfield Park and near Morgan Boulevard should the first implementation priority.

Comments from DPW&T:

- Supports the notion of reducing the width of the street, but the laws are to move traffic

Moving Forward:

- 18-month process
- Planning department staff ready to work on grant applications
- Continue to communicate with WMATA, affected property owners, and DPW&T once grant funding is announced an upon completion of 30% designs.

STAKEHOLDER MEETING 1

Central Avenue Connector Trail Meeting Notes—February 26, 2015
(WMATA not in attendance)

Overview:

- Corridor has received a sustainable communities designation and is a designated health corridor
- Local connections are important for the trail's network in the master transportation plan.
- Public works agreed to move forward with the Connector Trails project.
- Will use existing and planned trails as part of the Connector Trail alignment.
- This project will identify phasing of the trail and key spots for local connections.
- Need to include access to Metro on foot and by bike?
- Need to identify needed access across the beltway.
- Harry S Truman Drive is being converted to a complete/green street, in phases.
- Need to identify alternatives to resolve portions of the trail alignment where there are constraints.
- Review the Addison Road study

Comments from Faramarz Makhtari OR from Vic Weisberg

- The projects need to be realistic and constructable
- Need to have a good plan for pedestrians and bikes crossing Central Avenue
- Many arterial crossings, great need at Morgan and Central
- Trail offer the shortest and safest connection to Metrorail stations
- The beltway is a barrier, first use existing bridges, such as 202, Arena Drive, Central Avenue, and the Metrorail bridge

Comments from Eileen Nivera

- Need to determine who manages the trail as it travels through various rights-of-way (i.e., by way of policy)
- The more simple the trail alignment, the better, easier maintenance
- Need to identify the goals/purpose of the trail- commuter/alternative transportation or recreational
- Need to understand WMATA's requirements for constructing and operating the trail. She mentioned difficulty with the Prince George's Connector Trail.
- Insurance requirements became prohibitive

Other information

- See the Largo Center Drive Complete Streets project
- Talk with John Epps, who owns the bike shop on Central Ave at Maryland Park Drive (301-350-7433)
- Capitol Heights has a $1.2M Bike Greenway Grant they hope to leverage with WMATA for improvements, including Davey Street – work with the Capitol Heights Town Administrator
- Need to pay attention to travel needs of those without a car
- Take advantage of SRTS funding to build the trail
- Addison Metrorail station entrance crossing enhancement
  - See example from Rt 4 that works well
  - Davion Percy mentioned that the county council and state partnership was formed to cut through red tape
  - Venu Nemani from SHA will look at it again
  - Ped Safety Assessment may recommend enhancements
  - The grade/slope west of the pedestrian entrance crossing may create problems for installing a light at the pedestrian crossing
  - One goal for The Avenue is to lower overall speeds, i.e., motorists drive the 35mph posted speed limit/
  - Desired features of the trail include:
    - 24-hour access, which means the trial would be lite
    - Open sight lines
  - The trail should connect to
    - the Marvin Gaye Park
    - the Summerfield trails
    - Largo Lake site
    - 3 historic sites (Ridgely Rosenwalk school on Ritchie Rd, church on north side of 214, the 1950s rand house off of Hill Road)
  - There are only 4 regional parks in the county, 2 of which are in the Central Avenue area

Dustin Kuzan from SHA is completing a pedestrian Road Safety Audit of Central Avenue, which includes recommendations for safety improvements that we can capture for the trail, especially the trail crossings.

- Need to review findings
- Need to see what SHA can do
- TDG's list of pedestrian needs:
  - Sidewalk width and placement
  - Consistent and pedestrian scale lighting
  - Access management
  - Separated bike lanes on-road
  - Increase number and quality of pedestrian crossing infrastructure
  - Discussed signal at Cabin Branch to help with access to HS

Comments from Kate Sylvester:

- Consider the difference in planning and funding for on-road and off-road facilities, as well as the state's priorities for each type
- Central Avenue corridor presents great opportunities for trail development which makes it competitive for trail development funds, but the design must fit with the requirements, e.g., regarding ADA-compliance, it's an independent facility, etc.
- Use the existing ROW where possible
- Design with grant requirements in mind

Going forward:

- Project will be completed by end of June
- Next step is to revise the alignment
- Review new alignment with stakeholders in the field
- Public meeting in May

STAKEHOLDER MEETING 2

Central Avenue Connector Trail Meeting Notes—May 20, 2015

- Introductions – VA
- Overview – FS
- Toole Presentation
  - Review of previous comments
  - Guiding principles
    - "spine" facility, multi-use, metro-rail alignment, safe crossings
  - Alignment review and justification
  - Key crossings
  - Short-term beltway crossing? — bike lanes along Brightseat and Arena
  - Implementation for future phases
- Comments
  - SHA
    - concern over intersection of Central and Old Central Avenue
    - Shopping Center signal? — yes
    - Utilize existing pedestrian signals
    - What is rationale for using south side of Central at Addison Road?— available R-O-W
  - Police
    - Central is high speed road
    - Trail patrols? — coordination with county and park police
    - iii. Chesapeake Beach Rail Trail – currently occupied by drunks at unpaved portion – would like to see trail formalized to discourage vagrants and garbage dumping
  - WMATA
    - Stringent security required
    - Safety starts with lighting
    - No benches in secluded areas
    - Long-term — cameras?
  - DPW&T
    - Design around utilities, moving utilities is cost prohibitive
    - SHA Pedestrian safety audit is not comprehensive
    - Desire for Central avenue to become neighborhood friendly street
  - Parks and Recreation
    - Opportunities for interpretation — rich history
  - M-NCPPC

- Area is designated "health corridor"
- At Largo some of the proposed improvement will be constructed in conjunction with existing development activities
- Environmental concerns at beltway crossing
- "inside beltway" key aspect to project since no existing facilities are in place and there are few trails in the region — neglected area

Community Meeting Notes

The first community meeting was held in the evening of February 26, 2015 at St. Margaret's Church and over 230 residents and all three County Council Members showed up. Expressed opinions were all overwhelmingly in support of this project and the project team heard many testimonials about the lack of bicycle facilities in the region, the plethora of safety concerns traversing Central Avenue and its intersections and the perceived neglect of this community which has been seeking infrastructure improvements for a long time without success.

Over 100 residents attended the second community meeting held on June 16, 2015, and they expressed their desire that the trail be ADA-compliant, and should include security call-boxes and lighting, and community policing. Additionally, attendees gave suggestions for traffic calming measures and how safety and security could be enhanced along Central Avenue. In terms of maintenance, the community requested regular upkeep of the trail and trash cans along the corridor. Some attendees also were concerned about privacy and finding a balance between existing and proposed neighborhood conditions. Overall, there was a concern among attendees about the funding sources and budgeting for the trail project. Other general suggestions included placing trail signage at all access points, including water fountains and destinations (eg. Playgrounds, exercise stations, pavilions, etc.) along the trail. Finally, attendees discussed the need for beautification/ streetscaping along Central Avenue, and additional farmers markets and grocery stores along the Central Avenue – Blue Line Corridor.

Detailed Community Feedback (2nd community meeting)

Safety & Security

Trail:

- The trail is too straight and may encourage high bicycle speeds as well as unwanted dirt bikes.
- Trail should be ADA accessible.
- The community should be involved in policing.
- Will there be police presence or cameras located along the trail?
- Will there be security call boxes installed along the trail?
- What kinds of security lighting will be provided?
- Request for one number for trail police and one number for trail maintenance.
- Narrow sidewalks on Old Central Avenue are uncomfortable for pedestrians.

Central Avenue:

- Request to prevent U-Turns on Central Avenue at Cindy Lane.
- Multiple requests for safe illuminated signal crosswalks along Central Avenue, particularly at Soper Lane where a lot of school kids cross, also at Addison Road, Cindy lane, and Peppermill Drive.
- Crossing Addison Road is a safety concern. There are too many fatalities.
- Request for crossing light at Soper Lane and Central Avenue for Schoolkids and residents.
- Request for pedestrian bridge across Central Avenue at the Addison Road Metro Station (similar to Greenbelt).

Traffic Calming:

- Need for traffic cameras to slow speeding vehicles within the corridor.
- Need for speed bumps.

Maintenance

- Regular upkeep is critical to the trails success.
- Will there be a maintenance budget allocated to the project?
- Where will the maintenance funding come from?
- Who will be charged with trail maintenance?
- Request for trash cans along the corridor.

Budget and Timeline

- What is the timeline for the project?
- How much will the project cost?
- Will there be tax increases associated with the project?
- There is a concern funding will be taken from other vital programs.

Suggestions for Funding

- Redskins organization.
- SHA collaboration.
- WMATA.
- Adopt a trail.

Nuisances and Concerns

- How will dirt bikes be deterred from using the trail?
- Will there be parking spaces provided at trail heads for community members driving to the trail?
- There are privacy concerns from residents whose properties abut the trail.
- Privacy and safety concerns for neighborhood's and playgrounds.
- The trail alignment should honor private property boundaries and should be adjusted where there are conflicts.
- Try to find a balance between existing neighborhood conditions and proposed.

General Trail:

- Trail signage requested at all trail access points.
- Will comfort stations be provided along the trail?
- Request for outdoor space, pavilions, playgrounds, nature areas, exercise stations, performance & gathering spaces.
- Request for benches/rest stops.
- Request for water fountains.
- Request for hiking trails and connections to other hiking trails.
- Request to extend the trail to other communities and to DC trails.
- Provide destinations along the trail.
- Will bike parking facilities be provided at all the destinations along the trail?
- Include more features for local school kids along the route, Central High School & Walker Hill Middle School.
- Bike and access maps will need to be updated.
- The trail should be designed to accommodate all age groups.
- How will businesses be impacted by the trail?
- Trail should be wide for future increases in traffic capacity.
- Connect to local destinations, Walker Mill Park, Sports and Learning Center, Millwood Park, Peppermill Recreation Center.

Central Avenue Corridor:

- There is a need for streetscaping/beautification along Central Avenue.
- There is a need for farmers markets & grocery stores.
- The area east of the Addison Road Metro Station contains unused parking lots and are a blight on the community. Are these areas being redeveloped as part of this plan?

Follow Up

- Will there be an opportunity for community members to get a tour of built local trails that are similar to what is being proposed? A suggestion includes NW Branch trail, Catonsville Branch trail and the Baltimore and Annapolis trail.
- Improve community outreach and engagement.
- How will the County staff get the buy-in from the community to actually use the trail?
- Need to encourage more young people to attend the public meetings and get their buy-in.

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THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION
PRINCE GEORGE'S COUNTY PLANNING DEPARTMENT

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