AUGUST 2013

Purple Line

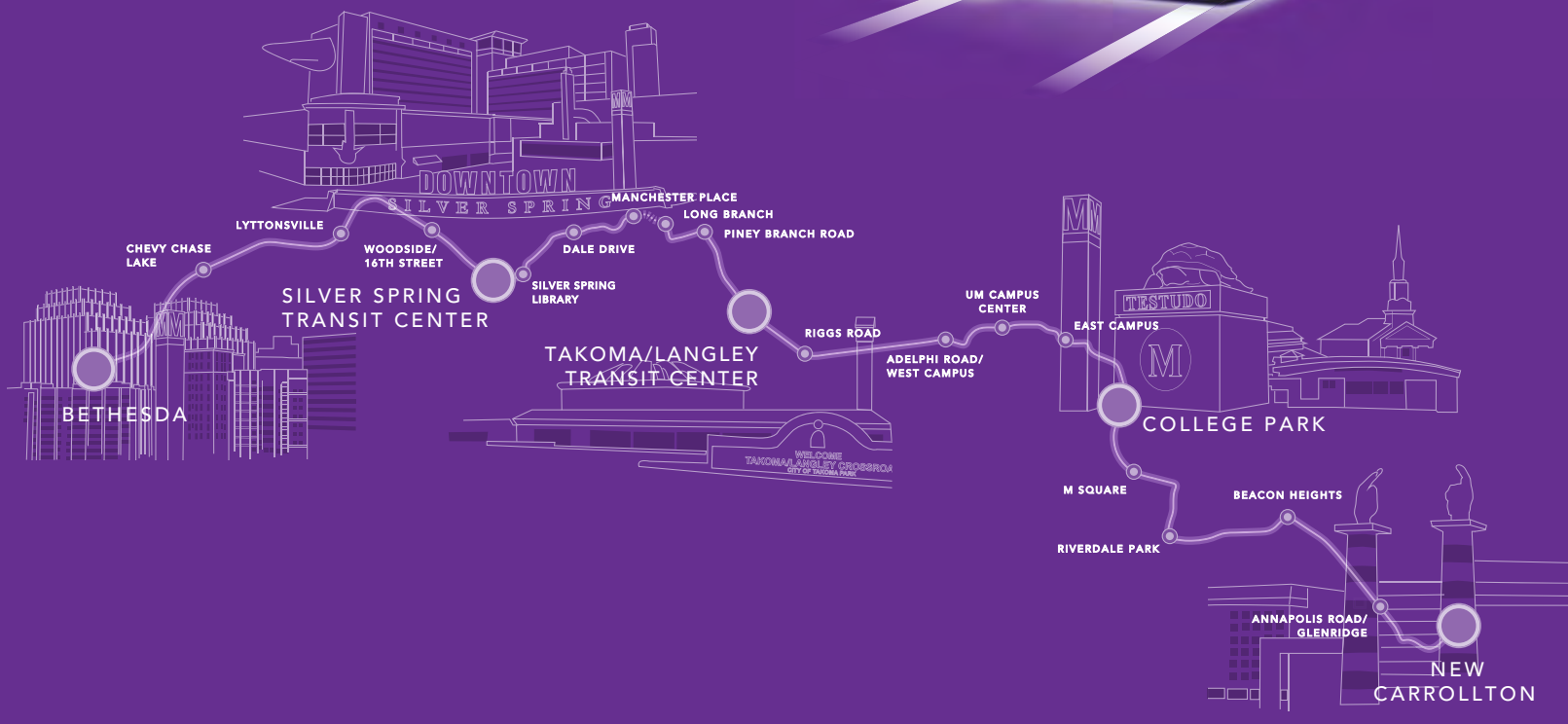
FINAL
ENVIRONMENTAL IMPACT STATEMENT
& DRAFT SECTION 4(F) EVALUATION

VOLUME I

Maryland Department of Transportation

MTA Maryland

U.S. Department of Transportation Federal Transit Administration



Purple Line
Montgomery and Prince George's Counties, Maryland
Final Environmental Impact Statement and Draft Section 4(f) Evaluation

Prepared pursuant to the National Environmental Policy Act of 1969, Section 102 (42 USC §4332); and Federal Transit Laws (49 USC §5323(c) and §5309; 49 USC §303 [formerly Department of Transportation Act of 1966, Section 4(f)]); National Historic Preservation Act of 1966, Section 106 (16 USC §470f); Executive Order 11990 (Protection of Wetlands); Executive Order 11988 (Floodplain Management); Section 402 of the Clean Water Act; Executive Order 12898 (Environmental Justice); the Endangered Species Act of 1973, 16 USC §1531; the Clean Air Act, 42 USC 7401; and the Uniform Relocation Assistance and Real Property Acquisition Polices Act of 1970 (42 USC §4601).

by the
Federal Transit Administration
U.S. Department of Transportation

and the
Maryland Transit Administration
Maryland Department of Transportation

in cooperation with the
Department of the Interior, National Park Service,
and the National Capital Planning Commission

Reginald B. Lovelace — 8/28/2013

for Brigid Hynes-Cherin — Date
Regional Administrator
Federal Transit Administration

Robert L. Smith — 8/28/13

Robert L. Smith — Date
Administrator/CEO
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Abstract

This Final Environmental Impact Statement and Draft Section 4(f) Evaluation (FEIS) for the Purple Line project describes and summarizes the transportation and environmental impacts of implementing a new east-west light rail transit service in Montgomery and Prince George's Counties, Maryland. The Purple Line project is proposed to:

- Provide faster, more direct, and more reliable east-west transit service connecting the major activity centers in the Purple Line corridor at Bethesda, Silver Spring, Takoma/Langley Park, College Park, and New Carrollton
- Provide better connections to Metrorail services located in the corridor
- Improve connectivity to the communities located between the Metrorail lines

The Purple Line would extend between the Bethesda Metrorail station in Montgomery County and the New Carrollton Metrorail/MARC/Amtrak station in Prince George's County. The "Purple Line corridor" includes a western terminus in Bethesda, an eastern terminus in New Carrollton, and the following major activity centers located between those termini: Silver Spring, Takoma/Langley Park, and College Park. The corridor is 16.2 miles in length.

This FEIS includes a description of the alternatives, as well as a comparative evaluation of the No Build Alternative and the Preferred Alternative benefits and effects. These alternatives were analyzed for both long-term (operational) and short-term (construction-related) impacts to public transportation; highways and roadways; pedestrian and bicycle facilities; parking facilities; delivery and service access; freight and passenger railroad operations and facilities; safety and security; land use, zoning, and public policy; neighborhoods and community facilities; property acquisition and displacements; economic activity; parks, recreational land, and open space; historic resources, archeological resources, and visual resources; air quality; noise; vibration; habitat and wildlife; water resources; topography, geology and soils; hazardous materials; utilities; energy use; environmental justice; construction; Section 4(f) resources; indirect and cumulative effects; and irreversible and irretrievable resources. Measures to avoid, minimize, or mitigate impacts are identified.

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This FEIS is available for viewing on the project website, located at www.purplelinemd.com, and is available at public libraries throughout the project corridor. A 30-day review period has been established for this document, beginning on the publication date of this FEIS. Comments may be submitted in writing to Henry Kay at the address above, via e-mail at outreach@purplelinemd.com, or through the project website. The date of the comment deadline is posted on the project website.

Document Availability

Printed copies of the FEIS are available for public review at the following locations:

Bethesda Library
Bladensburg Library
Chevy Chase Library
Greenbelt Library
Hyattsville Library
Long Branch Library
Maryland Department of Legislative Services Library
Maryland State Archives
Maryland State Law Library
M-NCPPC–Montgomery County
M-NCPPC–Prince George's County
New Carrollton Library
Silver Spring Library
Silver Spring Regional Services Center
State Library Resource Center
Takoma Park Maryland Library
University of Maryland Library

The Technical Reports are available for public review (upon request) at the MTA-TDD offices located at 100 S. Charles St, Tower 2, Suite 700, Baltimore, MD 21202, or via the project website at www.purplelinemd.com. Any person with special needs, such as English language assistance or Braille, should contact MTA for assistance.

Printed copies of the Technical Reports can also be viewed at:

M-NCPPC–Montgomery County
M-NCPPC–Prince George's County
Silver Spring Regional Services Center

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Executive Summary

The Purple Line Final Environmental Impact Statement and Draft Section 4(f) Evaluation (FEIS) describes and summarizes the transportation and environmental effects of implementing a new east-west light rail transit (LRT) service between Bethesda in Montgomery County and New Carrollton in Prince George's County, Maryland. Briefly, the Purple Line is a proposed 16.2-mile transit service located north and northeast of Washington, DC, inside the circumferential I-95/I-495 Capital Beltway (Figure ES-1). The "Purple Line corridor" includes five major activity centers: Bethesda, Silver Spring, Takoma/Langley Park, College Park, and New Carrollton. The Federal Transit Administration (FTA) is the lead federal agency for this project, and the Maryland Transit Administration (MTA) is serving as the project sponsor. The National Park Service and the National Capital Planning Commission are cooperating agencies.

ES.1 Purpose of the Final Environmental Impact Statement

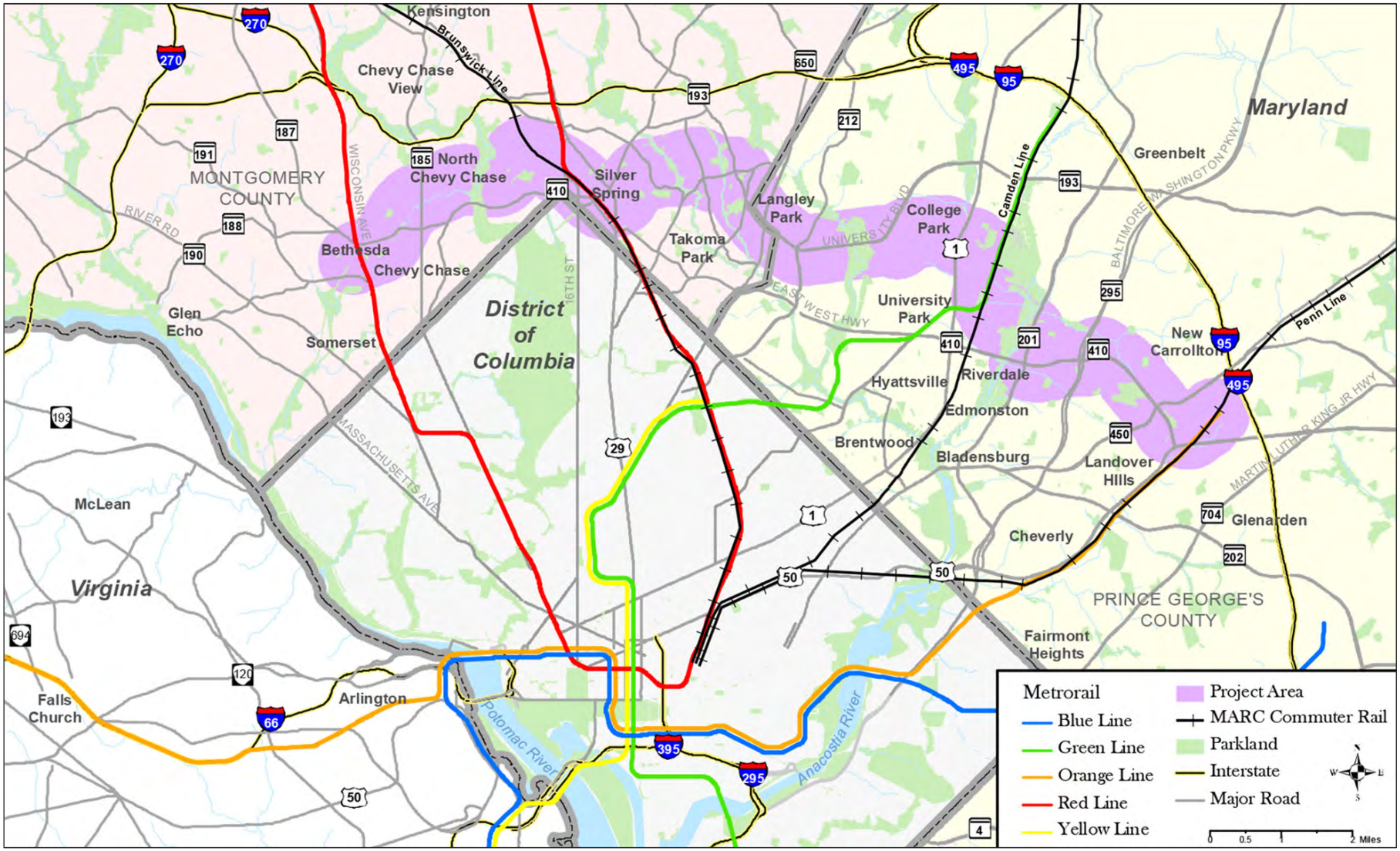
The FEIS builds upon the Alternatives Analysis/ Draft Environmental Impact Statement (AA/DEIS) completed in October 2008. The FEIS assesses the potential transportation and environmental impacts and benefits of the Purple Line Preferred Alternative and the No Build Alternative. The FEIS was prepared by FTA, in cooperation with MTA, in accordance with the National Environmental Policy Act of 1969 (NEPA). It includes a Draft Section 4(f) Evaluation, prepared in accordance with Section 4(f) of the U.S. Department of Transportation Act of 1966, as well as other applicable laws. The FEIS addresses comments on the AA/DEIS, guides decision-making, and meets the federal and state regulatory obligations of FTA and MTA.

ES.2 Project Purpose and Need

The purpose of the Purple Line project is to provide faster, more direct, and more reliable east-west transit service connecting major activity centers in the Purple Line corridor at Bethesda, Silver Spring, Takoma/Langley Park, College Park, and New Carrollton; to provide better connections to Metrorail services located in the corridor; and to improve connectivity to the communities in the corridor located between the Metrorail lines.

For more than 20 years, regional studies and local land use plans have identified a deficiency in east-west transit services in Montgomery and Prince George's Counties. Growing population and employment in the region have resulted in increasingly congested roadways. Changing land use patterns have increased the amount of suburb-to-suburb travel to and from the corridor's major activity centers. The existing transit system is primarily oriented to accommodate travel to and from Washington, DC. The only transit service available for east-west travel is bus service, which often can be slow and unreliable because it operates on a congested roadway system. East-west travel on Metrorail within the corridor is possible but requires a circuitous trip into and then out of Washington, DC. The constraints of growing traffic congestion, lack of opportunity to increase roadway capacity, physical geography, and existing rail infrastructure limit the possible solutions for addressing these needs.

Figure ES-1. Project Area



ES.3 Alternatives Development

In 2003, FTA and MTA initiated the NEPA process for the Purple Line. Between 2004 and 2008, FTA and MTA examined various alternatives and design concepts, retaining eight alternatives and several design options for study in the AA/DEIS. The 90-day public comment period from October 17, 2008 to January 14, 2009, and four public hearings for the AA/DEIS yielded over 3,300 comments. Based on the AA/DEIS findings, as well as input from the public, the local jurisdictions, and elected officials, Governor Martin O'Malley identified a Locally Preferred Alternative (LPA) on August 4, 2009. The LPA was the Medium Investment LRT Alternative, as defined in the AA/DEIS, with elements of the High Investment LRT Alternative.

Since the Governor's announcement, MTA has conducted technical studies and continued to work with the study corridor communities to refine the LPA, yielding the Preferred Alternative that is the subject of this FEIS.

The Locally Preferred Alternative

The **Locally Preferred Alternative (LPA)** is the project alternative announced by the Governor of Maryland on August 4, 2009, as a result of the federal AA/DEIS project development process. In the AA/DEIS process, the LPA was deemed best suited to meet the region's transportation goals, is responsive to community concerns and input, and has been examined and declared superior to the other alternatives that are identified and studied in relation to its social, economic and environmental impacts.

The **Preferred Alternative** is a result of technical studies and MTA's continued work with communities in the study area to refine the LPA.

In accordance with 23 CFR Part 771.129, MTA prepared a re-evaluation because more than three years had passed since publication of the AA/DEIS for this project. MTA submitted the re-evaluation to FTA on August 8, 2012. The re-evaluation compared the current Preferred Alternative as examined in the FEIS to the build alternatives in the AA/DEIS and concluded that a Supplemental Environmental Impact Statement of the AA/DEIS is not required because there are no new significant environmental impacts beyond those evaluated in the AA/DEIS. In correspondence dated October 2, 2012, FTA concurred with the findings in the re-evaluation but indicated that the FEIS should include information on the changes in the project so that these changes could be subject to public review.

This FEIS discusses why alternatives evaluated in the AA/DEIS were eliminated, describes the selection of the LPA, describes the Preferred Alternative, and explains the refinements made to the LPA that led to the Preferred Alternative examined in the FEIS. In addition, the FEIS evaluates the effects of the Preferred Alternative and the No Build Alternative. The No Build Alternative is the future condition of transportation facilities and services in 2040 within the corridor if the Purple Line is not implemented. The Preferred Alternative is the future of transportation facilities and services in 2040 within the corridor if the Purple Line is implemented. The Preferred Alternative assumes the implementation of the funded transportation improvement projects included in the National Capital Region Transportation Planning Board's Constrained Long Range Plan (CLRP) for implementation by 2040 within the Purple Line corridor. The No Build Alternative assumes all the projects in the CLRP except the Purple Line. The No Build Alternative provides the basis against which the Preferred Alternative is compared.

The Preferred Alternative transitway would operate mainly in exclusive or dedicated lanes along existing roadways. (An "exclusive" lane is a right-of-way that is solely for use of transit vehicles and is not occupied by any other type of vehicle or by pedestrians. A "dedicated" lane is used solely for transit vehicles, separated and protected from parallel

traffic but crossed by roads, driveways, and pedestrian pathways at-grade.) The Preferred Alternative transitway would be at would be at grade except for one short tunnel section (a 0.3-mile tunnel between Wayne Avenue and Arliss Street) and three sections elevated on structures. The Preferred Alternative would have 21 stations. The station locations were selected based on connections with existing transit services; urban design principles, including access and safety; public space availability; local plans; ridership catchment areas; and engineering feasibility. Seventeen stations would be at street level, three would be on aerial structures, and one would be in the tunnel portal. The Preferred Alternative would not provide new station parking; passengers would access the Purple Line by walking, bicycling, transferring from other transit lines, or from existing parking facilities. The Preferred Alternative would include constructing the permanent Capital Crescent Trail from Bethesda to Silver Spring. The completion of the trail along the CSXT corridor is contingent on agreement with CSXT on the use of their property on the north side of the CSXT tracks for the trail. If agreement is not reached by the time the Purple Line construction occurs, MTA would construct the trail from Bethesda to Talbot Avenue. From Talbot Avenue to Silver Spring an interim signed bike route on local streets would be used until such time as agreement is obtained.

The transitway, stations, and related infrastructure would be integrated with existing and planned transportation facilities in a manner that accommodates or enhances automobile, bus, bicycle, and pedestrian circulation. For example, MTA's conceptual plans for the Purple Line include roadway and intersection improvements consistent with applicable design standards for safety, enabling the Purple Line and other transportation modes to operate together as efficiently and safely as possible. The Purple Line would comply with the Americans with Disabilities Act of 1990, as amended.

Two maintenance and storage facilities would support the Purple Line. A storage yard would be located along Brookville Road in Lyttonsville. A maintenance facility would be located along Veterans Parkway on the site of the M-NCPPC Northern Area Maintenance – Glenridge Service Center. The Lyttonsville facility would be the primary vehicle storage area and would house the operations and control center, while the Glenridge site would be the primary maintenance and repair shop.

The Purple Line system infrastructure would include an overhead contact system (OCS), providing electricity and operating signals for the light rail vehicles. The traction power substations would convert electric power to the appropriate voltage for light rail operations. Based on the current level of design, the Purple Line would require 18 substations, placed approximately every mile along the transitway, as well as one each at the maintenance facility and yard. In addition, 14 central instrument houses would be at track crossover locations along the transitway.

Additional description of the alignment and station locations of the Preferred Alternative is provided in Section 2.3.2 and shown on Figure 2-6.

ES.4 Transportation Effects

ES.4.1 Public Transportation

The current end-to-end travel time between Bethesda and New Carrollton on Metrorail is 55 minutes, but this route does not provide access to any of the intermediate stops that would be available on the Purple Line. Current bus travel times are longer, and they are expected to increase due to increased traffic congestion under the No Build Alternative. The travel time for peak hour bus service between Bethesda and New Carrollton currently is 92 minutes, and under the No Build Alternative it would increase to 108 minutes. The No Build Alternative would not add a new east-west transit service, and it would not address or improve corridor-wide transit travel times. Under the Preferred Alternative, the peak hour travel time between Bethesda and New Carrollton would be 63 minutes, including stops at all stations.

The Preferred Alternative provides faster travel times than bus service because it is a direct route that would operate in dedicated or exclusive lanes for 13.9 miles of its 16.2-mile length, free from

traffic congestion, allowing for greater efficiency and reliability. The Preferred Alternative would enable east-west transit service to adhere more regularly to its operations schedule and provide more predictable transit times for travelers.

The Preferred Alternative also would connect four Washington Metropolitan Area Transit Authority (WMATA) Metrorail stations and another transit center, thereby enhancing transit connectivity throughout the region. Projections show that the Preferred Alternative would have over 74,000 daily boardings in 2040. Stations associated with WMATA Metrorail stations would have the greatest number of daily boardings, with Bethesda and Silver Spring Transit Center each having over 10,000 daily boardings (Table ES-1).

Daily corridor-related transit trips would be 11 percent higher under the Preferred Alternative than under the No Build Alternative (Table ES-2).

Table ES-1. Year 2040 Daily Purple Line Boardings by Station

Station	Boardings
Bethesda	14,990
Chevy Chase Lake	2,250
Lyttonsville	1,340
Woodside/16th Street	1,620
Silver Spring Transit Center	13,320
Silver Spring Library	3,010
Dale Drive	960
Manchester Place	1,910
Long Branch	890
Piney Branch Road	1,240
Takoma/Langley Transit Center	2,190
Riggs Road	2,320
Adelphi Road/West Campus	1,390
Campus Center	2,500
East Campus	4,600
College Park Metro	7,740
M Square	1,730
Riverdale Park	2,390
Beacon Heights	1,900
Annapolis Road/Glenridge	1,410
New Carrollton	4,460
Total Boardings	**74,160**

Boardings include UMD students and special events.

Source: Travel Forecasts Results Report, (2013)

ES.4.2 Highways and Roadways

Existing and horizon year 2040 roadway network and traffic patterns were analyzed using the Metropolitan Washington Council of Governments' travel demand model.

Currently, 12 (24 percent) of the 51 signalized intersections along the Purple Line alignment operate near or at capacity (level of service [LOS] E or F). Under the No Build Alternative this number would increase to 18 (35 percent) while under the Preferred Alternative it would increase to 14 (27 percent) because of the addition of turn lanes or the modification of the signals. Also, under the Preferred Alternative, 18 of the currently unsignalized intersections along the alignment will be studied to determine if signals would be warranted.

No roadway or traffic impacts would occur as a result of the Yard or Maintenance Facility.

ES.4.3 Pedestrian and Bicycle Facilities

The study corridor includes portions of eight multi-use trails, sidewalks, and a number of bicycle lanes within roadway rights-of-way. The multi-use trails that are adjacent to or cross the Preferred Alternative are Capital Crescent (Georgetown to Bethesda), Georgetown Branch Interim, Rock Creek, planned Green, Sligo Creek, Long Branch, Northwest Branch, Paint Branch, and Northeast Branch. As part of the Preferred Alternative, MTA would make the following improvements to bicycle and pedestrian facilities:

- Construct eastern 4.3-miles of Capital Crescent Trail, replacing Georgetown Branch Interim Trail and extending the permanent trail from Bethesda to Silver Spring (using Montgomery

Table ES-2. Comparative Summary of Transportation Conditions, 2040

	Alternative		Difference	
	No Build	Preferred Alternative	Number	Percentage
Daily transit trips—region	1,655,075	1,683,701	28,626	2%
Corridor –related transit trips	221,833	247,178	25,345	11%
Transit Travel Time (in minutes)				
Bethesda–Silver Spring	17	9	8	-47%
College Park–New Carrollton	20	16	4	-20%
Bethesda–New Carrollton	108	63	29	-42%
Failing or near failing intersections	18	14	4	-22%

County funding). If CSXT allows, the section between Stewart Avenue and Silver Spring will utilize CSXT right-of-way; otherwise, this section will be routed along local streets.
- Provide sidewalks along new and reconstructed roadways at selected locations
- Provide wider outside roadway travel lanes and a 5-foot bicycle lane on some roadways
- Make provision for bicycle racks and storage facilities at stations, where reasonably feasible
- Construct additional sidewalks or crosswalks in station areas where needed

ES.4.4 Safety and Security

MTA's safety and security process and activities for the Purple Line, from planning through Preliminary Engineering, further design development, construction, testing and verification, and pre-revenue operations leading to commencement of revenue service, are governed by FTA requirements, MTA's multi-modal System Safety Program Plan, MTA's System Security and Emergency Preparedness Plan, MTA's LRT Design Criteria Manual, the Maryland Department of Transportation State Safety Oversight Standard, and programs managed by other federal departments, such as the Department of Homeland Security. The Preferred Alternative would feature current safety and security systems and procedures to protect passengers, workers, and adjacent communities.

ES.5 Summary of FEIS Findings

The FEIS evaluated both the No Build and Preferred Alternatives to assess their effectiveness in meeting the proposed project's purpose and need and their overall effects. This evaluation provides a basis for decision-makers and the public to assess the benefits and consequences of implementing the Purple Line.

Definitions of the study area vary according to the environmental resource evaluated. However, generally the study area is the defined by a distance of 500 feet on either side of the Preferred Alternative centerline.

ES.5.1 Effectiveness in Meeting the Purpose and Need

The Preferred Alternative strongly achieves the project's purpose and need (summarized in Section ES.2). It would provide faster end-to-end travel times and would ensure more reliability in transit service in the project study corridor than would occur under the No Build Alternative. The Preferred Alternative also would provide better connectivity to Metrorail, Maryland Regional Commuter (MARC), Amtrak, and other transit services within the project study corridor, as well as direct and improved access to communities, employment centers, educational facilities, activity centers, and other destinations of interest. The value of these benefits of the Preferred Alternative is evident in the projected increases in daily transit trips and projected passenger boardings over the No Build Alternative.

ES.5.2 Impacts to the Natural and Human Environment

Throughout the Preferred Alternative corridor, MTA has refined the alignment, geometry, and right-of-way needs wherever possible to avoid or minimize effects. Yet, some effects cannot be overcome due to the design and safety standards MTA must meet, the developed character of the communities the Purple Line is intended to serve, and the need to avoid adversely affecting future operations of other transportation facilities in the corridor. Therefore, MTA also is committed to mitigating the impacts of the Preferred Alternative, as well as striving to further minimize effects, through specific strategies and actions that this FEIS identifies.

A comparison of the key benefits and effects of the No Build Alternative and the Preferred Alternative indicates that the Preferred Alternative would have high transportation and land use and development benefits compared with the No Build Alternative. Some natural and built environment impacts of the Preferred Alternative would occur despite MTA's refinements to minimize impacts. However, in several cases MTA's mitigation measures will provide a net benefit. In contrast, the No Build

Alternative incurs relatively fewer impacts to the natural and built environment, but it does not meet the project purpose and need.

Table ES-3 summarizes the effects of the Preferred Alternative on transportation and the natural and built environment, and it lists MTA's commitments to minimize and mitigate the effects of implementing the Preferred Alternative.

The Draft Section 4(f) Evaluation in the FEIS, which examines potential uses of publicly-owned parks and historical properties, was prepared pursuant to federal regulations contained in 23 CFR Part 774, which implements 49 USC 303. The Preferred Alternative would use parts of 14 publicly-owned parks or historic properties protected by Section 4(f). Nine of these uses primarily involve acquisition of strips of land adjacent to existing roadways and do not affect the features, attributes, or activities qualifying the properties for protection under Section 4(f). FTA is proposing *de minimis* impact findings for these relatively minor uses.

The following terms are used frequently in this FEIS:

Adverse: A negative or unfavorable condition.

Avoidance: The act of avoiding impacts to, or keeping away from, something or someone.

Minimization: Measures taken to reduce the severity of adverse impacts.

Mitigation: Measures taken to alleviate adverse impacts that remain after minimization.

The Preferred Alternative would require five permanent uses; it would require the complete removal of one resource (Talbot Avenue Bridge), and it would use portions of four properties (Long Branch Local Park, Glenridge Community Park, Metropolitan Branch, and Falkland Apartments). The Draft Section 4(f) Evaluation includes detailed avoidance and least harm analyses for each of these proposed uses. The Preferred Alternative would cause no constructive uses. The Draft Section 4(f) Evaluation considers the views of the officials with jurisdiction, the Section 106 consulting parties (historic properties), and the public.

In accordance with Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations at 36 CFR 800, and subject to input from the Maryland Historical Trust (MHT) and Consulting Parties, the preliminary effect finding of the Preferred Alternative is an "adverse effect" on three historic properties because it would remove all or part of the resource (all of Talbot Avenue Bridge, a portion of the Falkland Apartments, and a contributing element of the Metropolitan Branch). MTA's on-going consultation with the State Historic Preservation Officer, as required by Section 106, has included determinations of property eligibility for the National Register of Historic Places and the effects of the Preferred Alternative on those eligible properties, including assessments of the means to avoid or minimize effects on protected properties. A preliminary Draft Section 106 Programmatic Agreement for mitigation of adverse effects to historic properties for the Purple Line is included in this FEIS for review in accordance with 36 CFR Part 800.6 and is subject to change based on comments from the public and consulting parties. The preliminary Draft Section 106 Programmatic Agreement (PA) is provided in Appendix H of the FEIS. FTA, MTA, and SHPO, in coordination with the consulting parties and invited signatories, will finalize this PA prior to the Record of Decision (ROD).

ES.5.3 Public Involvement and Outreach

MTA has strived to develop and refine the Preferred Alternative by working with stakeholders and the communities and incorporating their input into the project design. Since the initiation of the Purple Line NEPA process, MTA has undertaken a public involvement and agency outreach program, holding over 900 meetings, including scoping meetings, public open houses, community focus group meetings, stakeholder meetings, agency coordination meetings, public hearings, neighborhood work groups, and general community outreach events.

The culmination of this program is a Preferred Alternative that reflects the community's input.

Chapter 8 provides details on the public involvement and agency outreach efforts. MTA received over 3,300 comments via hard copy written response, email, or verbal testimony during the 90-day public comment period (which included four public hearings) following the release of the AA/DEIS. Comments came from elected officials, community organizations, government and regulatory agencies, residents, special interest groups, and non-profit organizations. MTA reviewed and responded to the comments and opinions in Appendix A of the FEIS. Opinions included support or opposition to all or parts of the project and the alternatives in the AA/DEIS; comments pertained to the type of transit, the transitway alignment, existing natural and human environment features, costs and funding, and natural and human environment effects of the Purple Line alternatives.

During Preliminary Engineering and the preparation of the FEIS, MTA continued its public involvement and agency outreach program with Open Houses to provide information on how the proposed Purple Line would operate as a complete system, benefit communities within the project corridor, and help to connect communities, as well as to solicit public input on the project and its design. Also, MTA used Neighborhood Work Groups to encourage and facilitate detailed discussion regarding location-specific issues.

Coordination and outreach to federal, state, and local agencies also has continued during the FEIS. In addition to meeting with resource agencies at Interagency Review Meetings, MTA has conducted coordination with federal, state, and local agencies and entities, including the National Park Service, National Capital Planning Commission, Montgomery County Department of Transportation, Washington Metropolitan Area Transit Authority, Maryland Department of Transportation, Maryland Historical Trust, Maryland Department of Natural Resources, Maryland Department of the Environment, State Highway Administration, University of Maryland, Montgomery and Prince George's Counties, Maryland-National Capital Park and Planning Commission (Montgomery and Prince George's counties), Prince George's County Department of Public Works, and Washington Suburban Sanitary Commission. MTA also created a Purple Line Project Team, which includes local planners, state and county agencies, and elected officials that meet twice a year; these meetings were used as a forum to evaluate and review proposed refinements to the Preferred Alternative.

Section 4.19.4 provides details on the public involvement and outreach activities, especially as they relate to minority and low-income populations. Table 4-47 presents the range of outreach activities, and Table 4-48 outlines community concerns and MTA actions and responses. Among the key outcomes of the public involvement process are design refinements to avoid or reduce community impacts, such as relocating and redesigning the proposed yard sites; MTA's commitment to specific minimization and mitigation strategies, such as preparing a Business Impact Mitigation Plan to address anticipated impacts to local businesses during construction; and identifying solutions to localized issues, such as identifying opportunities for additional short-term parking during construction.

ES.6 Balancing Benefits and Effects

Throughout the Preferred Alternative corridor, MTA has refined the alignment, geometry, and right-of-way needs wherever possible to avoid or minimize effects. Yet some adverse effects would occur due to the design and safety standards MTA must meet, the developed character of the communities the Purple Line is intended to serve, and the need to avoid adversely affecting future operations of other transportation facilities in the corridor (e.g., reducing the capacity of existing arterial roads). Throughout the project, MTA has worked with the communities and stakeholders to balance the trade-offs between the benefits and the effects of the Purple Line.

On the benefits side, the Preferred Alternative strongly achieves the purpose and need. It would provide faster, more direct, and reliable east-west

transit service in the corridor; it would connect major activity centers, better connect to Metrorail services, and improve connectivity to the communities between the Metrorail lines. It also strongly supports county land use and economic development plans and goals.

The Preferred Alternative also would affect numerous environmental resources in the corridor. Many of the project effects are a result of the need for right-of-way. Unfortunately, while the developed character of the corridor makes it an ideal candidate for LRT transit service, it also poses challenges to introducing a new transportation facility.

On the one hand, MTA desires to make the system as convenient for the community as possible; on the other hand, it has an obligation to preserve existing and planned roadway, transit, freight rail, bicycle, and pedestrian operations. To strike this balance between benefits and effects, MTA has worked with affected parties and the communities to minimize right-of-way needs. It will continue this iterative process beyond the NEPA process, focusing in equal measure on improving the fit of the Preferred Alternative in relation to neighborhoods, historic properties, parks, other community facilities, businesses, and private property owners.

Recognizing that transit projects have the potential to induce community change, MTA is encouraging the counties to put in place land use planning and programs to preserve neighborhood character and affordable housing and to support local businesses.

On the natural environment side, the Purple Line's primary use of existing transportation corridors inherently minimizes effects on land and water resources. MTA will continue to coordinate with the regulatory agencies to identify measures to avoid or minimize natural resource effects during the design and permitting phase of the project. Where adverse effects of the Preferred Alternative remain, MTA has identified mitigation measures intended to offset remaining effects to the natural and human environment. Although some mitigation measures are enforced by federal and state regulations, most of MTA's mitigation measures are project-specific commitments it has made with the affected stakeholders and communities in the Purple Line corridor.

ES.7 Next Steps

FTA has signed the FEIS and distributed it to federal, state, and local agencies, as well as community organizations and other interested parties. There is a 30-day review period for the FEIS; the comment deadline is posted on the project website (www.purplelinemd.com). During the review period, the FEIS is available in local libraries throughout the project study corridor and on the project website. MTA will coordinate with NPS and NCPC regarding any comments received on the Baltimore-Washington Parkway or any properties overseen by NCPC. Following the review period, FTA will consider the comments received on the FEIS and will prepare a ROD. The ROD will summarize the purpose and needs of the project, the alternatives considered, the comments received during the review period and FTA's responses to those comments, the factors that support the selection of the selected alternative, and the commitments to be carried into further engineering and construction of the project.

Once the ROD is signed, MTA would then complete further design, purchase needed right-of-way, and begin construction. MTA is considering a variety of methods for constructing and operating the Purple Line, including the possibility of a Public-Private Partnership (P3), in which one entity would be contracted by MTA to design, build, operate and maintain the facilities, equipment and services, as well as provide project financing. Under any method of constructing and operating the Purple Line, MTA will remain responsible for the Purple Line and will be responsible for honoring all commitments made as part of this NEPA process.

Throughout these steps and throughout construction, MTA will continue to coordinate with stakeholders and communities, including informing the public of construction schedules and activities.

Table ES-3. Summary of Effects - Minimization and Mitigation

Resources	Preferred Alternative Effects	Minimization and Mitigation
Transportation (Chapter 3)	▪ Failing levels of service at two intersections ▪ Modified roadway configurations, traffic patterns, and intersection operations ▪ Transitway/roadway interface safety ▪ Loss of some on-street and off-street parking ▪ The Lyttonsville Yard would displace the parking lot of the Montgomery County maintenance facility	▪ Prior to construction, a Transportation Management Plan for the Purple Line would be developed to minimize potential negative impacts to traffic, transit and pedestrians as described in Section 5.3. This plan will include traffic control plans that illustrate how to maintain transit, vehicular, pedestrian, and bicycle traffic during construction, as well as emergency vehicle and property access. It also will include a public information and outreach program, which is intended to inform motorists, residents, businesses, schools, emergency service and delivery providers, and the public regarding temporary changes to traffic patterns and detours. ▪ Pedestrian movements would be maintained to the extent reasonably feasible and pedestrian access to adjacent properties would be maintained during construction. Where it is not possible to maintain existing movements, alternate routing with appropriate signing would be designated. ▪ Mitigation of permanent impacts to on-street parking on Bonifant Street will be addressed through coordination with Montgomery County. ▪ The parking lot used by Montgomery County Department of Transportation employees at Lyttonsville will be replaced. ▪ On Bonifant Street, where the Purple Line would eliminate parking and loading zones on the north side of the street, MTA will work with Montgomery County and local businesses to identify alternative loading zones. ▪ MTA will work with stakeholders and local businesses affected by the temporary loss of loading zones, or access to loading zones, to identify alternate or temporary loading areas.
Land Use, Public Policy, and Zoning (Section 4.2)	▪ The Preferred Alternative supports current land use plans and zoning because these anticipate the Purple Line project	▪ MTA will provide alternative access for properties that would be subject to changes in access or closures of portions of their property during construction, as necessary.
Neighborhoods and Community Facilities (Section 4.3)	▪ Vehicular and pedestrian access would be affected at some community facilities by changes in driveway locations and circulation patterns ▪ Public parking would be permanently affected at some locations where existing parking is removed ▪ Neighborhood cohesion effects are not anticipated because the proposed transit service would operate largely on existing roadways or transportation corridors	▪ The Purple Line Fire Life/Safety & Security Committee will continue to meet prior to and during construction with emergency responders to identify and resolve issues arising from construction and operation. ▪ MTA will work to negotiate just compensation or mitigation to the First Korean Presbyterian Church on Kenilworth Avenue. ▪ MTA will construct the Glenridge Maintenance Facility at a lower grade than the existing park maintenance facility and provide a landscape buffer, as appropriate, to the adjacent park and school; MTA will install retaining walls to minimize the area of grading needed. ▪ MTA will coordinate with the counties to identify alternative access or temporary off-site parking for community facilities and businesses where access or parking may be temporarily removed, as appropriate. ▪ MTA will coordinate with UMD, Rosemary Hills Elementary School, Sligo Creek Elementary School, and Silver Spring International Middle School to minimize disruptions to the extent reasonably feasible. ▪ MTA will provide alternative access to community facilities if access is temporarily removed, where practical.

Table ES-3. Summary of Effects—Minimization and Mitigation (continued)

Resources	Preferred Alternative Effects	Minimization and Mitigation
Property Acquisitions and Displacements (Section 4.4)	▪ 389 full or partial property acquisitions ▪ Full acquisitions result in 60 commercial, 53 residential, and 3 institutional displacements	▪ MTA will perform property acquisition and relocation activities in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) as amended and Federal Transit Administration (FTA) Circular 5010.1D, Grants Management Requirements and all applicable Maryland State laws that establish the process through which Maryland Transit Administration (MTA) may acquire real property through a negotiated purchase or through condemnation. – For areas that would be subject to construction easements for staging or access areas, MTA will compensate owners based on fair market appraisal. ▪ MTA will use vacant or publicly-owned property, rather than privately-owned, developed property, for temporary construction activities to the extent reasonably feasible. ▪ MTA will restore properties affected through a temporary easement to an acceptable pre-construction condition following construction activities, in accordance with the individual easement agreements. ▪ MTA will provide a parking facility for both County and MTA employees in Lyttonsville.
Economic Activity (Section 4.5)	▪ Regional and local economic benefits of improved east-west travel, access to and between activity centers, connections to other transit services, better access to jobs, creation of MTA jobs	▪ MTA will continue to coordinate with affected commercial property owners to identify strategies to minimize the effects of temporary construction easements, lane or road closures, and other property restrictions on existing corridor businesses. ▪ MTA will implement a Business Impact Minimization Plan as described in the Environmental Justice section.
Parks, Recreational Land, and Open Space (Section 4.6)	▪ Road and intersection widening or transitway construction would require partial land acquisition from several parks ▪ Land would be acquired from Glenridge Community Park for the Glenridge Maintenance Facility ▪ The bridges carrying the Baltimore-Washington Parkway over Riverdale Road would be replaced; the abutments would be moved, encroaching upon the park ▪ Access to Long Branch Local Park would be changed to right-in/right-out only ▪ Direct connections would be created between many parks and the Capital Crescent Trail	▪ MTA will include drainage improvements and water quality facilities in four stream valley parks (Sligo Creek, Long Branch, Northwest Branch, and Anacostia River), Long Branch Local Park, and New Hampshire Estates Neighborhood Park. ▪ MTA, through coordination with M-NCPPC, the NCPC, the NPS, and the public, will implement the following measures: – Expand and upgrade facilities and plant trees in Glenridge Community Park, as well as convert approximately 2 acres of land currently used for the Prince George's County Parks' Northern Area Maintenance—Glenridge Service Center either to parkland within Glenridge Community Park or to upgrade and expand athletic fields at the Glenridge Elementary School; – Restore park properties that are disturbed as a result of construction activities to acceptable conditions through coordination with the park owners; – Provide replacement parkland for all park impacts; the amount and location of replacement parkland will be determined by MTA in consultation with park owners; and – Coordinate selective tree clearing and identification of significant or champion trees with agencies having jurisdiction. ▪ MTA will continue to coordinate with the public and agencies to develop appropriate minimization strategies during construction. Efforts will include the following: – Roadway or sidewalk closures will be staged to maintain pedestrian and vehicular access. – Trail detours needed during construction will be coordinated with the agency having jurisdiction over the trail to identify and develop a plan for a temporary detour route, and the trail routes would be restored at the end of construction. ▪ MTA will continue to coordinate during further design development with the agencies having jurisdiction over the affected parks to develop additional appropriate long-term minimization and mitigation.

Table ES-3. Summary of Effects—Minimization and Mitigation (continued)

Resources	Preferred Alternative Effects	Minimization and Mitigation
Historic Properties (Section 4.7) and Archeological Resources (Section 4.8)	▪ Adverse effect on three eligible properties: Talbot Avenue Bridge, Metropolitan Branch, and Falkland Apartments; overall project finding of Section 106 effect is adverse effect	▪ MTA and the Maryland Historic Trust (MHT), in coordination with Consulting Parties, are preparing a Programmatic Agreement that outlines commitments and mitigations concerning historic and archeological resources under Section 106. ▪ MTA will implement the project in accordance with the Section 106 Programmatic Agreement. Preliminary Section 106 mitigation concepts include: – Prepare Historic American Buildings Survey/Historic American Engineering Record documentation for the historic properties that will be demolished – Prepare web-based map providing documentation and educational information on historic properties within the APE – Develop an interpretive plan that will include historically themed signage or incorporation of historic images at stations – Provide Consulting Parties with the opportunity to review and comment on project plans during engineering design phases – Develop a plan to monitor impacts to historic properties during construction – Continue coordination with Consulting Parties throughout design and construction ▪ MTA will continue to plan and implement the project design elements negotiated with the Columbia Country Club and the MHT minimize impacts to the Club. ▪ MTA, in coordination with the M-NCPPC, will provide transitway and pedestrian structures through the Rock Creek Park that include design elements to minimize the effects of the project. ▪ MTA will continue to coordinate with UMD regarding the aesthetic design of the transitway. ▪ Minimization measures for the Baltimore-Washington Parkway, in addition to what is listed above for Parks, Recreational Facilities and Open Space (4.6), are as follows: ▪ The permanent replacement bridges of the Baltimore-Washington Parkway over Riverdale Road will have a similar arch design as the existing bridge structures and would include horizontal arched shields above the transitway overhead wires. ▪ The stone façade from the existing bridge abutments will be re-used on the new bridge abutments. If additional stone is required, it will come from the same source or would be selected in consultation with the NPS to match the existing stone. ▪ The catenary wires will be attached to the bridges to minimize the number of poles throughout the Parkway. ▪ Landscape plans for the Baltimore-Washington Parkway will be developed in accordance with the Baltimore-Washington Parkway Design Elements-Section 2: Parkway Landscape-Recommendations, and submitted to NPS for review and approval. ▪ Protected resources will be identified and marked for protection in field prior to construction activities (i.e., trees, archeological sites). ▪ The proposed temporary bridges to carry Baltimore-Washington Parkway over Riverdale Road will be constructed between the existing ramps and the existing bridges to completely avoid the archaeological site identified in the median.

Table ES-3. Summary of Effects—Minimization and Mitigation (continued)

Resources	Preferred Alternative Effects	Minimization and Mitigation
Visual Resources (Section 4.9)	▪ New visual features introduced; of 10 visual units in the study area, the project would have an overall "Low" visual effect on three units, a "medium" effect on four units, a "medium to high" effect on two units, and a "high" on one unit ▪ An extensive change to visual character constituting a high visual effect would occur along the Georgetown Branch right-of-way, along Wayne Avenue, and as a result of the aerial structure and Riverdale Park Station across the intersection of Kenilworth Avenue and Riverdale Road	▪ MTA and Montgomery County will continue to coordinate and consult on the design of the future Capital Crescent Trail to provide an aesthetically pleasing facility while meeting safety and ADA requirements. ▪ MTA will continue to coordinate with the Columbia Country Club on the visual and aesthetic elements of the transitway. ▪ MTA will continue to coordinate and consult with Montgomery County and the local community regarding the aesthetic treatment of the bridge structures over Connecticut Avenue. ▪ MTA will continue to coordinate with M-NPPC and the NCPC regarding the design and construction of the Rock Creek bridges. ▪ MTA will continue to coordinate and consult with affected communities regarding the aesthetic treatments of the transitway elements. ▪ MTA will require that the construction contractor utilize best management practices to maintain an orderly appearance of active work zones and staging areas. ▪ MTA will use the state-funded Art-In-Transit program to enhance key elements of the project as appropriate. ▪ MTA will build traction power substations with landscaping or appropriate architectural treatments to be compatible with adjacent land uses in areas of moderate or high visual sensitivity
Air Quality (Section 4.10)	▪ Annual regional VMT would be slightly less than in the No Build Alternative ▪ No violations of air quality standards are predicted	▪ MTA will require the construction contractor to implement dust control measures in accordance with MDE requirements and assure that construction equipment complies with EPA's Tier 2 engine emission standards. Possible dust and emission control measures include the following: – Minimizing land disturbance – Constructing stabilized construction site entrances per construction standard specifications – Covering trucks when hauling soil, stone, and debris – Using water trucks or calcium chloride to minimize dust – Stabilizing or covering stockpiles – Minimization of dirt tracking by washing or cleaning trucks before leaving the construction site – Using ultra-low sulfur diesel fuel for diesel equipment – Equipping some construction equipment with emission control devices such as diesel particulate filters – Permanently stabilizing and seeding any remaining disturbed areas

Table ES-3. Summary of Effects—Minimization and Mitigation (continued)

Resources	Preferred Alternative Effects	Minimization and Mitigation
Noise (Section 4.11)	▪ Moderate noise impacts to a few properties, largely due to train horns	▪ MTA will minimize noise resulting from Purple Line operations as follows: – Between Bethesda and Rock Creek Stream Valley Park, there will be a minimum four-foot noise wall or retaining wall adjacent to residential areas. – LRT vehicles will include vehicle skirt panels to reduce the noise caused by the vehicles on the track. – Public address systems at stations will have volume adjustment controls designed to maintain announcement volume at the specified noise levels, as appropriate. – The traction power substations will be designed in accordance with design criteria intended to minimize the noise from transformer hum. ▪ Possible noise minimization measures during construction include the following: – Conducting the majority of construction activities during the daytime as reasonably feasible. – Routing construction equipment and other vehicles carrying spoil, concrete, or other materials, where reasonably feasible, over designated truck routes that would minimize disturbance to residents. – Locating stationary equipment away from residential areas to the extent reasonably feasible within the site/staging area – Employing control technologies to limit excessive noise when working near residences – Adequately notifying the public of construction operations and schedules.
Vibration (Section 4.12)	▪ Vibration impacts to three properties	▪ MTA will perform site-specific assessments of those areas identified in the FEIS as having potential vibration impacts. MTA will develop appropriate mitigation measures. ▪ MTA will analyze extremely vibration-sensitive buildings located within the UMD campus, as agreed upon by MTA and UMD. The study will establish criteria; measures regarding mitigation for vibration will be specified in the MTA UMD agreement. MTA will develop appropriate mitigation measures. ▪ MTA will identify control measures be implemented by the contractor during construction activities to minimize the potential for vibration impacts.

Table ES-3. Summary of Effects—Minimization and Mitigation (continued)

Resources	Preferred Alternative Effects	Minimization and Mitigation
Habitat and Wildlife (Section 4.13)	▪ Partial land acquisitions impact forest edge habitat ▪ Impact of roadway widening and culvert extensions at stream crossings on stream habitat, affecting fish and aquatic biota ▪ No long-term impacts on known rare, threatened or endangered species	▪ MTA will prepare a Forest Conservation Plan, or similar, during the design phase of the project. This plan will detail additional impact avoidance and minimization techniques to be applied during construction. ▪ MTA will comply with MDNR requirements for reforestation. ▪ MTA will continue to coordinate with the NMFS and other regulatory agencies to identify measures to avoid or minimize such as: – Creation of in-stream barriers that block migratory fish from upstream spawning grounds – Alterations of stream configuration, characteristics, and hydrology – Incremental changes to in-stream water quality from deforestation of the riparian zone ▪ MTA will provide a spill management plan and water quality and quantity controls for work area containment, use and storage of fuels and other potential contaminants based on current regulations and project permit conditions. ▪ MTA will design culverts and bridges to MDE standards to avoid or minimize secondary and cumulative impacts to migratory fish and the alteration of habitat. ▪ MTA will restore and stabilize temporarily disturbed aquatic habitat at the end of construction according to a restoration plan developed in coordination with the USACE and MDE permits. ▪ MTA will not undertake in-stream construction during state-mandated stream closure periods. ▪ MTA will coordinate with the MDNR regarding the heron colony located within Coquelin Run.
Water Resources (Section 4.14) and Topography, Geology, and Soils (Section 4.15)	▪ Increased impervious surfaces, stormwater run-off, and non-point source water pollution ▪ Minor wetland impacts primarily due to roadway widening and culvert extensions at stream crossings ▪ Relocate Sligo Creek north of Wayne Avenue ▪ Minor floodplain impacts primarily due to roadway widening and culvert extensions at stream crossings	▪ MTA will mitigate project impacts to Waters of the US, including wetlands, by complying with the Federal Compensatory Mitigation Rule, as well as stipulations from federal and state resource agencies. ▪ MTA will coordinate with regulatory agencies to develop a project-wide compensatory mitigation strategy to offset impacts to wetlands and aquatic resources. ▪ MTA will minimize the area of disturbance to Maryland-designated wild and scenic rivers by clearly marking and fencing the work area and prohibiting activity outside the work area. ▪ MTA will restore Sligo Creek approximately 180 feet upstream and 180 feet downstream of the project bridge to provide long-term benefits and enhance its inherent characteristics. ▪ MTA will submit project plans to MDNR for evaluation in compliance with the Maryland Scenic and Wild Rivers Act to assure that the project will not jeopardize the scenic value of the designated rivers. ▪ MTA will perform hydraulic and hydrologic studies. If these studies find that flood elevation would change, floodplain storage mitigation will be implemented, if required. ▪ MTA will submit project plans to MDE for approval of structural evaluations, fill volumes, proposed grading elevations, structural flood-proofing, and flood protection measures in compliance with FEMA requirements, USDOT Order 5650.2 "Floodplain Management and Protection," and Executive Order 11988. ▪ MTA will obtain applicable environmental permits for water resources. ▪ MTA will develop an Erosion and Sediment Control Plan, in accordance with the Stormwater Management Act of 2007, which will specify proper slope and soil stabilization techniques, erosion and sediment controls, and stormwater management facilities.

Table ES-3. Summary of Effects—Minimization and Mitigation (continued)

Resources	Preferred Alternative Effects	Minimization and Mitigation
Hazardous Materials (Section 4.16)	▪ Residual contaminants potentially exist along portions of the study area in the underlying soils resulting from former industrial sites, existing and former gasoline service stations, and railroad yards. ▪ While effects are not anticipated, the operation and maintenance of the Purple Line could be associated with petroleum releases from the equipment and materials stored at yard and maintenance facility.	▪ MTA will establish procedures and staff training for proper storage and maintenance of equipment and hazardous materials. ▪ MTA will develop a site-specific health and safety plan including: – Equipment and procedures to protect the workers and general public – Procedures for monitoring contaminant exposures – Identification of the contractor's chain of command for health and safety ▪ MTA will perform a Phase II Environmental Site Assessment (ESA) prior to acquisition of any property with a high potential for concern (sites ranked 1 or 2 in the Phase I ESA) unless the property can be classified accurately by other means or methods. MTA also will perform further records research on sites with a ranking of 4 to determine potential presence of PCBs. ▪ MTA will identify remediation actions to be implemented as needed, if unexpected soil or groundwater contamination is encountered. ▪ If contaminated soils are identified or encountered during construction, MTA will evaluate off-site remediation, chemical stabilization, or other treatments and disposal options, in cooperation with MDE. ▪ MTA will coordinate with MDE to determine the mitigation response and reporting required should a release of hazardous materials occur during operations
Utilities (Section 4.17) and Energy Use (Section 4.18)	▪ Relocation of some utilities in advance of or during construction ▪ Overall reduction in total study area energy consumption by 0.033 percent compared to the No Build Alternative	None

Table ES-3. Summary of Effects—Minimization and Mitigation (continued)

Resources	Preferred Alternative Effects	Minimization and Mitigation
Environmental Justice (Section 4.19)	▪ No disproportionately high and adverse effects on environmental justice populations. However, many of the commercial areas in the corridor are in environmental justice communities; MTA understands small, local, and EJ businesses will require some unique engagement.	In addition to the commitments described above, MTA will work with Montgomery and Prince George's Counties on business improvement initiatives, including: ▪ To address access restrictions or detours to businesses, MTA will work with local business liaisons to understand the characteristics of local businesses (customer origins, peak business times, etc.) and to establish construction stage plans to minimize business disruptions. ▪ MTA will implement a business impact minimization plan. MTA will develop this plan after evaluation of best practices and lessons learned from other light rail construction projects (see Sections 8.2.2). These practices could include: – Maintaining Spanish-speaking outreach staff – Constructing the project in segments to keep disruption to a small area at a time – Maintaining access to businesses during construction for customers and deliveries – Maintaining or relocating bus stops – Maintaining parking lot access – Providing directional signage – Developing "open for business" marketing and advertising tools for use during construction, translated where appropriate – Promotion of local businesses – Providing a construction hotline open 24/7 – Maintaining open communication between the project outreach team and local businesses – Maintaining communication with local support and advocacy groups ▪ MTA will continue communication with local businesses during construction to monitor effects and modify construction plans, if possible, to further reduce impacts. ▪ MTA will work with the counties and other stakeholders to leverage existing resources to support and strengthen small businesses in the corridor. ▪ MTA will work with Montgomery and Prince George's counties to create opportunities for project-related local economic benefits including workforce development programs. ▪ MTA will continue working with the counties and advocacy groups to support engagement of local elected officials regarding affordable housing and increased commercial rents resulting from increased property values as the project moves forward
Draft Section 4(f) Evaluation (Chapter 6)	▪ Use portions of 14 properties protected by Section 4(f) ▪ *De minimis* use finding for 9 of 14 properties	▪ On-going coordination with officials with jurisdiction and public to minimize use and develop appropriate mitigation to minimize harm
Indirect and Cumulative Impacts (Chapter 7)	▪ Induced development in 11 station areas due to new service and related local planning efforts ▪ Incremental cumulative effect	▪ MTA will continue working with the counties and advocacy groups to support engagement of local elected officials regarding land use changes such as gentrification

Chapter 1.0
Purpose and Need

The Purple Line is a proposed 16.2-mile transit line located north and northeast of Washington DC, inside the circumferential I-95/I-495 Capital Beltway (Figure 1-1). The Purple Line would extend between Bethesda in Montgomery County and New Carrollton in Prince George's County. The "Purple Line corridor" includes five major activity centers: Bethesda, Silver Spring, Takoma/Langley Park, College Park, and New Carrollton.

The need for an east-west transit route in Montgomery and Prince George's counties has been identified, in various forms, for more than 20 years in regional studies and local land use plans. The Federal Transit Administration (FTA) and the Maryland Transit Administration (MTA) developed the purpose and need for the Purple Line project during the National Environmental Policy Act (NEPA) scoping process and presented it to the public in 2003. The Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS) was completed and published in 2008. This Final Environmental Impact Statement (FEIS)/Draft Section 4(f) Evaluation updates the purpose and need in light of currently available data.

Changes to this Chapter since the AA/DEIS

This chapter follows the general format of Chapter 1.0 of the AA/DEIS, with some minor organizational changes. For example, Chapter 1.0 of the AA/DEIS described the public involvement program, which now appears in Chapter 8.0 of this FEIS. This FEIS also updates population, employment, and traffic data. Year 2040 is now the horizon year versus 2030 in the AA/DEIS.[1]

Because the DEIS was prepared concurrently with an AA for FTA's New Starts program, Chapter 1.0 of the AA/DEIS presented goals and objectives for the project developed to support decision-making for the alternatives analysis. These goals and objectives covered a broader range of issues beyond those directly arising from the purpose and need. The AA/DEIS considered the goals and objectives in the evaluation of the alternatives, as part of the requirements for an Alternatives Analysis required by FTA, in addition to considering the alternatives' ability to meet the purpose and need. Chapter 9.0 of this FEIS evaluates how well the Preferred Alternative addresses the purpose and need.

1.1 Purpose of the Project

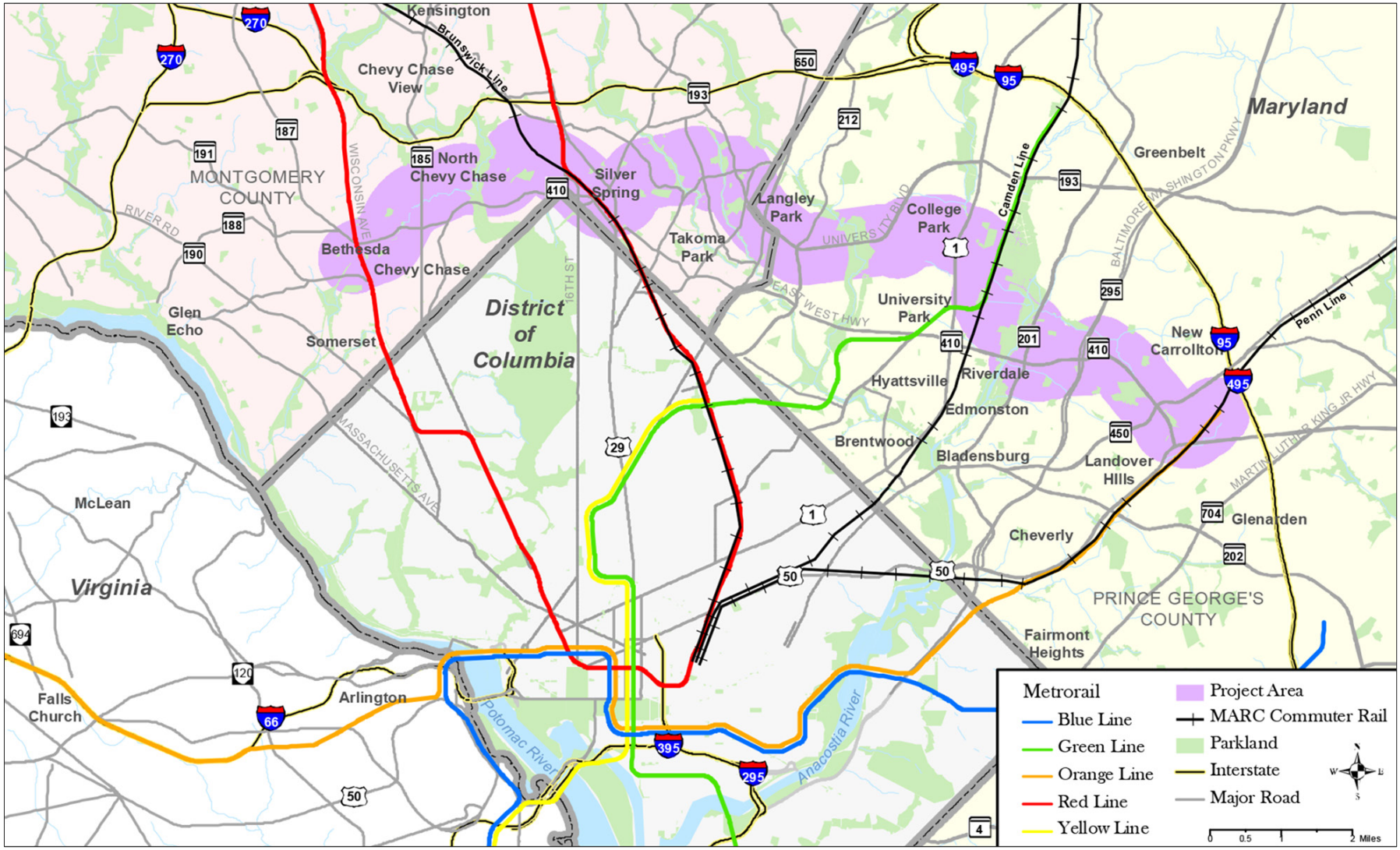
The purpose of the Purple Line project includes the following:

- Provide faster, more direct, and more reliable east-west transit service connecting the major activity centers in the Purple Line corridor at Bethesda, Silver Spring, Takoma/Langley Park, College Park, and New Carrollton,
- Provide better connections to Metrorail services located in the corridor, and
- Improve connectivity to the communities in the corridor located between the Metrorail lines.

Growing population and employment in the region has resulted in increasingly congested roadways.

[1] FTA requires that a project sponsor quantify measures using at least a 20-year horizon. The AA/DEIS, completed in 2008, used a horizon year of 2030; five years later, the FEIS uses 2040 to be consistent with the MWCOG Transportation Planning Board forecasts.

Figure 1-1. Project Area



Changing land use patterns in Montgomery and Prince George's counties have increased the amount of suburb-to-suburb travel to and from the corridor's major activity centers. The existing transit system is primarily oriented to accommodate travel in and out of Washington DC. The only transit service available for direct east-west travel is bus service, which is often slow and unreliable because it operates on a congested roadway system. East-west travel on Metrorail within the corridor is possible, but requires a trip into and then out of Washington DC. The Purple Line project proposes to reduce or eliminate these deficiencies.

The constraints of traffic congestion, lack of opportunity to increase roadway capacity, topography of steep stream valleys, and existing heavy rail corridors, which constrain the physical environment, limit the solutions which could be used to address the needs described above.

1.2 Project History

In 1983, CSX Transportation (CSXT) proposed the abandonment of freight rail operations on the Georgetown Branch between Georgetown and the CSXT Metropolitan Subdivision. Montgomery County evaluated the use of the Georgetown Branch right-of way for transit between Bethesda and Silver Spring in the East-West Transitway Feasibility Study (1986) and began discussions with the railroad about acquiring the right-of-way.

In 1988, Montgomery County purchased the Georgetown Branch railroad right-of-way between the CSXT Metropolitan Subdivision and the Washington DC limits under section 8(d) of the National Trails Systems Act.[2] This act encourages the establishment of trails to preserve existing railroad rights-of-way that are no longer in service for potential future reactivation of rail service. The Montgomery County Parks Department was given jurisdiction over the right-of-way from the Washington DC line to Bethesda for the construction of a multi-use trail. The portion east of Bethesda was put under the jurisdiction of the Montgomery County Department of Transportation for the purpose of building both a transitway and a trail. These dual uses of this portion of the right-of-way have been a part of the Georgetown Branch Master Plan since 1990.[3] The 1990 Master Plan amendment recommended that the trail and transitway be built at the same time to reduce community impacts.

The Purple Line in the CLRP

The National Capital Region Transportation Planning Board of the Metropolitan Washington Council of Governments is the federally-designated Metropolitan Planning Organization (MPO) for the region and is the regional forum for transportation planning. The federally-mandated metropolitan planning process requires all MPOs across the country to produce two documents:

- A short-range Transportation Improvement Plan providing a 6-year schedule for obligating federal funds for transportation projects in the region
- A long-range plan, which in the Washington region is called the Financially Constrained Long-Range Transportation Plan (CLRP)

The "Georgetown Branch Trolley," a proposed transit line between Bethesda and Silver Spring, was first included as a project in the 2000 update to the CLRP. The segment from Silver Spring to New Carrollton was added to the CLRP in 2003 as a study. In 2009 the CLRP was amended to include the entire Purple Line as a light rail project. The Purple Line is now included in the 2013-2018 Transportation Improvement Program and in the July 2012 update to the National Capital Region's CLRP.

[2] National Trails System Act, 16 USC 1247 (d)

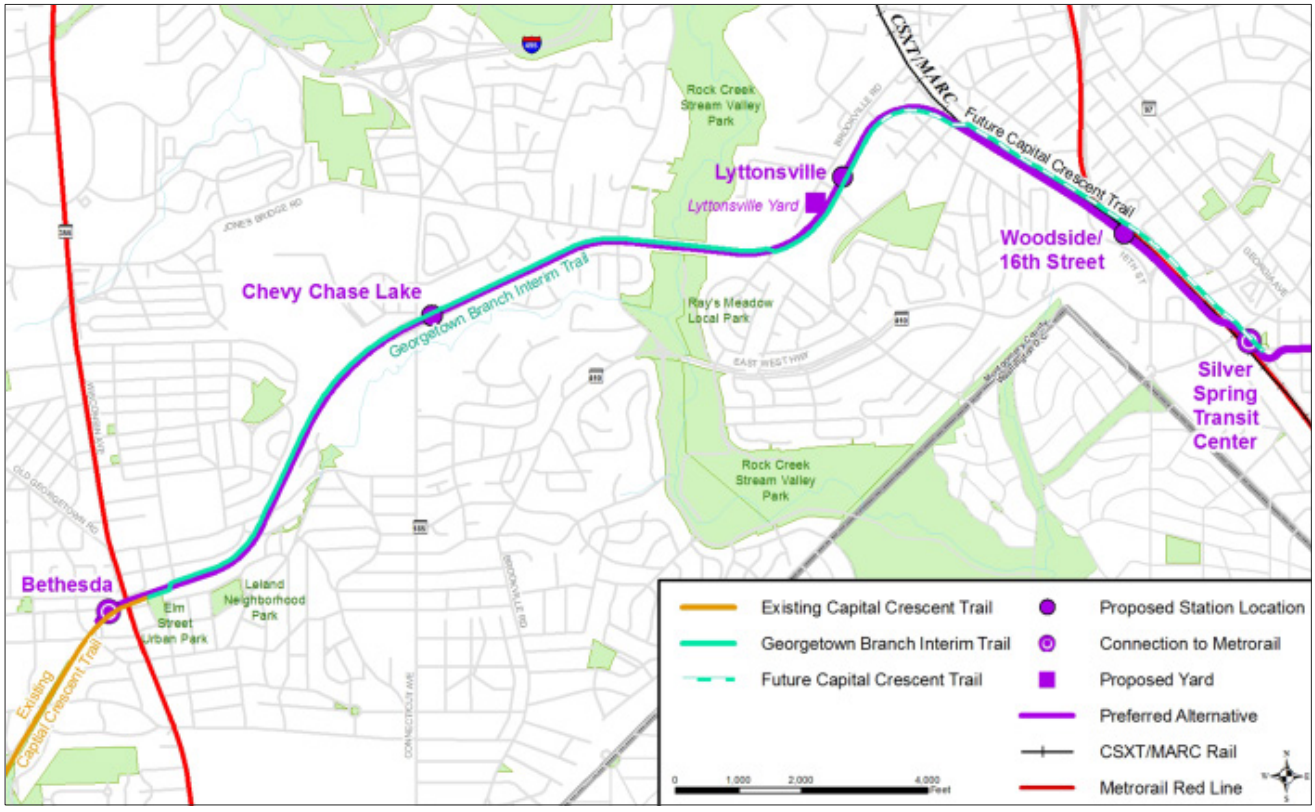
[3] Maryland-National Capital Park and Planning Commission, *Georgetown Branch Master Plan Amendment*, 1990

In 1996, pending a decision on the construction of a transitway, the county removed the tracks and ties and built a temporary, or interim, trail using crushed stone between Bethesda and Lyttonsville. The Rock Creek trestle bridge east of Jones Mill Road had been damaged by fire resulting in a gap in the trail until a new trestle bridge was constructed in 2003. East of Lyttonsville, the interim trail extends to Silver Spring as a signed route on local streets. As shown in Figure 1-2, the interim trail between Bethesda and Lyttonsville, the Georgetown Branch Interim Trail, is a segment of the larger Capital Crescent Trail, which currently extends 7 miles farther southwest to Georgetown and would be extended east to Silver Spring under the current Master Plan.

The larger Purple Line project between Bethesda and New Carrollton is a direct outgrowth of prior transportation planning activities in the study area, specifically, *The Potential for Circumferential Transit in the Washington Region* (MWCOG Transportation Planning Board, 1993) and the *Capital Beltway High Occupancy Vehicle (HOV) Lane Study* (initiated by the State Highway Authority [SHA] in 1993), which in 1998 became the *Capital Beltway Corridor Transportation Study*.

The Potential for Circumferential Transit in the Washington Region assessed the potential for circumferential rail, bus, and HOV services to provide viable links between suburban residential, commercial, and employment centers, thereby enhancing mobility in the Washington metropolitan area. The report concluded that the pattern of suburban land activity inherent in 20-year forecasts would not provide a viable basis for circumferential rail transit along the Capital Beltway or along outer suburban corridors; whereas the "Inner Purple Line corridor," inside the Capital Beltway, would be a viable circumferential rail transit line. It also identified the Georgetown Branch connection between the Bethesda and Silver Spring Metro stations as the most promising circumferential rail linkage inside the Capital Beltway.

Figure 1-2. Georgetown Branch Interim Trail



In 1993, the SHA initiated the *Capital Beltway High Occupancy Vehicle (HOV) Lane Study*. This study was renamed the *Capital Beltway Corridor Transportation Study* in 1998 and broadened to include rail transit alternatives inside and outside of the Capital Beltway, based on a recognition that congestion could not be addressed by widening the Capital Beltway alone, and it was concluded that a multimodal solution was necessary. Based on this conclusion, the SHA and MTA jointly conducted the *Capital Beltway/Purple Line Study (2002),* which considered several heavy rail (Metrorail) and light rail lines that extended parallel to the 42-mile segment of the Capital Beltway in Maryland, from the American Legion Bridge to the Woodrow Wilson Bridge. The corridors included routes located along, outside, inside, and crossing the Capital Beltway. In all, six different corridors using either heavy rail or light rail technology were considered. Of the *Capital Beltway/Purple Line Study* corridors, Options P2 (heavy rail) and P6 (light rail) extended from Bethesda to New Carrollton. The *Capital Beltway/Purple Line Study* recommended the "Inner Purple Line" (inside the Capital Beltway between Bethesda and New Carrollton) as the priority transit corridor. The name "Purple Line" was adopted in the *Capital Beltway/Purple Line Study* to be consistent with the Washington Metropolitan Area Transit Authority's (WMATA) practice of naming Metrorail routes by color and to emphasize the connections with the existing Metrorail system. The use of this term does not mean that the project would become part of the existing heavy rail Metrorail system.

The *Capital Beltway/Purple Line Study* eliminated several transit modes from further consideration, specifically heavy rail and monorail, due to their high capital cost, and, for monorail, excessive community impacts. The study included an environmental overview that described the affected environment, potential impacts to resources such as streams, parklands, and communities, and potential mitigation needs.

Table 1-1 presents a timeline of key studies and activities related to the Purple Line project.

1.3 Corridor Setting

The five major activity centers in the Purple Line corridor are Bethesda, Silver Spring, Takoma/Langley Park, College Park, and New Carrollton. Each has a substantial employment base and surrounding residential communities, and all have a Metrorail station except Takoma/Langley Park. The Purple Line corridor also contains five major stream valleys: Rock Creek, Sligo Creek, Long Branch, Northwest Branch, and Northeast Branch. The topographic features of these stream valleys and the long linear parks that protect them effectively constrain the roadway network to a limited number of stream crossings. Two railroad corridors have a similar effect on the roadway network.

The Purple Line corridor is marked by high transit usage and contains a large number of residents who do not own a vehicle. The WMATA Metrorail system and the MARC commuter rail lines provide fast and reliable rail transit service along radial (north-south) routes that pass through the corridor into Washington DC. By contrast, the east-west transit service within the corridor is more limited and of lower quality. There is no east-west rail transit service in the corridor. East-west bus transit service is available, but it is often slow and unreliable because it operates in traffic on a congested roadway network. The bus service is provided by multiple operators and often requires that patrons transfer between routes and providers.

The following subsections describe the existing and expected future land use patterns, existing transit services, transit service markets, projected population and employment growth, traffic conditions, and lack of transit system connectivity in the Purple Line corridor, which provide the context for the project need.

Table 1-1. Purple Line History Timeline

Date	Event
1986	*East-West Transitway Feasibility Study* evaluated the use of the Georgetown Branch right-of way for transit. (Montgomery County)
1986	*Georgetown Branch Master Plan Amendment* designated the right-of-way as a public right-of-way for use for public purposes. (Montgomery County)
1988	Montgomery County purchased the unused Georgetown Branch railroad right-of-way for use as a transitway and trail.
1988	*Study of the Appropriateness and Applicability of Light Rail Transit in Maryland* identified the Georgetown Branch as the most cost-effective area for light rail. (MDOT)
1990	*Georgetown Branch Master Plan Amendment* recommended use of the Georgetown Branch for trolley and trail. (Montgomery County)
1990	*Georgetown Branch Trolley/Trail Conceptual Report* identified results of MTA's evaluations and cost estimates for light rail and a trail. (MTA)
1993	*Potential for Circumferential Transit in the Washington Region* identified the Georgetown Branch as the most promising circumferential rail linkage inside the Beltway. (MWCOG TPB)
1996	*Georgetown Branch Transitway/Trail Major Investment Study/Draft Environmental Impact Statement* evaluated bus and light rail and a trail between Bethesda and Silver Spring. A Final Environmental Impact Statement was never produced for this study. *(MTA)*
2002	*Capital Beltway/Purple Line Study* recommended "Inner Purple Line" between Bethesda and New Carrollton as the priority transit corridor to address congestion on the Capital Beltway. (SHA/MTA)
2002	*Purple Line East, Silver Spring to New Carrollton Study* initiated. (WMATA) *Georgetown Branch Study* renamed *Purple Line West, Bethesda to Silver Spring. (MTA)*
2003	Both studies combined to become *Bi-County Transitway Study*, Notice of Intent is published. (MTA/FTA)
2007	Project returned to the name "Purple Line." (MTA/FTA)
2008	*Purple Line AA/DEIS* distributed for public review.
2009	Governor Martin O'Malley identified a Locally Preferred Alternative.

FTA = Federal Transit Administration
MDOT = Maryland Department of Transportation
MTA = Maryland Transit Administration
MWCOG = Metropolitan Washington Council of Governments
SHA = Maryland State Highway Administration
TPB = National Capital Region Transportation Planning Board
WMATA = Washington Metropolitan Area Transit Authority

1.3.1 Existing Land Use

The area northwest of Washington DC within the Capital Beltway experienced rapid development following World War II and now contains mature neighborhoods, with most housing constructed prior to 1960. The Purple Line corridor includes established inner-ring communities that contain areas of higher-density development in Bethesda, Silver Spring, Takoma/Langley Park, College Park, and New Carrollton. Many commercial areas in the corridor are primarily retail (e.g., strip shopping centers) and are often older in design and function. These areas have substantial deficiencies in transit access and pedestrian circulation. The residential communities are of varying income levels.

Land use in the Montgomery County portion of the Purple Line corridor is primarily residential, with large concentrations of commercial development in Bethesda and Silver Spring. The communities in the corridor include a mix of housing types and densities. Much of the newer development, particularly in Bethesda and Silver Spring, is mixed-use high-rise development compatible with transit-oriented development (TOD) principles. Most of these areas have, in part or in whole, plans that emphasize transit-oriented mixed-use development in areas adjacent to transit stations.

Land uses in the Prince George's County portion of the Purple Line corridor include both residential and commercial uses. Much of the residential development is single-family homes and garden apartments. The retail uses are primarily strip shopping centers. The more recent development includes institutional and office uses.

There is notable institutional development in the Purple Line corridor, including the University of Maryland at College Park (UMD). UMD is the largest employer in Prince George's County with over 13,000 employees and 37,000 students. An increasing number of federal agencies have relocated to the corridor, including medical and research facilities such as the Forest Glen Annex of

Fort Detrick (formerly the Walter Reed Medical Center Annex), the National Oceanic and Atmospheric Administration, the US Department of Agriculture, the Internal Revenue Service (IRS), and the Food and Drug Administration. This trend is expected to continue with further relocations in the future.

Bethesda

The Bethesda central business district (CBD) is characterized by high-density mixed uses. Montgomery County planned for, and encouraged, the dense development of Bethesda around the Metro station by adopting zoning that encouraged high-rise development. The CBD has developed as planned and continues to grow, particularly in the south and west. Indicative of this development is Montgomery County's decision to move forward with the construction of a new south entrance to the Bethesda Metro station. The need for this entrance was anticipated when the station was initially built but deferred until station usage required it (see Chapters 2.2.1, 2.3.1, and 7.2.1, for further discussion of the proposed South Entrance).

East of the Bethesda CBD in the Purple Line corridor, single-family and some multi-family residences predominate, with some small-scale commercial development at Chevy Chase Lake on Connecticut Avenue.

Silver Spring

Downtown Silver Spring is experiencing extensive redevelopment. This development, centered on the multimodal Silver Spring Metro station, is urban in character with a mix of commercial, residential, and entertainment uses. As part of a public/private venture at the existing Silver Spring Metrorail station, the MTA, Montgomery County, and WMATA are building a new expanded transit center with adjacent TOD. The Silver Spring Transit Center (SSTC) will serve Metrorail, MARC commuter rail, WMATA Metrobus, Montgomery County Ride On, the Shuttle-UM, and intercity buses. The SSTC also would accommodate a Purple Line station. The county has leveraged this exceptional accessibility by successfully encouraging dense development in the area with zoning and density bonuses around the SSTC. More than $450 million in public investment has attracted about $2 billion in private dollars to revitalize the urban core in downtown Silver Spring.[4]

The eastern Silver Spring and Long Branch communities are characterized by established residential neighborhoods that are compactly developed, containing a mix of single-family and multi-family dwellings.

Takoma/Langley Park

At the border of Montgomery and Prince George's counties, Takoma/Langley Park is characterized by garden apartments, single-family homes, older automobile-oriented commercial areas, and diverse ethnic populations, who typically rely on transit. The area along University Boulevard, known as Maryland's International Corridor, is a major shopping and entertainment center, particularly for the many immigrant communities in the area. Despite relatively low levels of automobile ownership among residents, this area is very congested, with many pedestrians crossing busy roadways to access transit and shopping. The intersection of University Boulevard and New Hampshire Avenue, site of the future Takoma/Langley Transit Center, is one of the busiest bus transfer points in the region.

Land use from Langley Park to New Carrollton, except for UMD, is primarily comprised of residential uses, with several large parks and some commercial areas. Housing types and densities in this area are largely single-family dwellings interspersed with low-rise apartment complexes.

The University of Maryland/College Park

UMD is the largest employer and trip generator in Prince George's County. UMD's hotel and conference center and sports and performing arts facilities are additional sources of activity. Two other developments are currently underway near the UMD campus: the East Campus Redevelopment Initiative and M Square Research Park.

[4] Greater Silver Spring Chamber of Commerce, *About Greater Silver Spring*, www.silverspringchamber.com/silverspring/about_silver_spring/index.html, retrieved 6/21/12

East Campus is a mixed-use project on UMD-owned land on the east side of US 1, south of Paint Branch Parkway. This development will be a mix of residential and commercial uses.

M Square Research Park, located on River Road, south of the College Park-UMD Metro and MARC stations, is a UMD-affiliated public/private partnership that includes research, laboratory, and incubator facilities dedicated to the advancement of technology, computer science, mathematics, engineering, biotechnology, and physical and life sciences. Current tenants include the National Oceanic and Atmospheric Administration, the US Department of Agriculture's Animal and Plant Health Inspection Service, the US Food and Drug Administration's Center for Food Safety and Applied Nutrition, and the American Center for Physics. Additional construction is underway, and as Maryland's largest research park, it is expected to employ more than 6,500 people at completion.

WMATA is currently working with private developers to plan future joint development at the College Park-UMD Metro station. This TOD will be a combination of residential and commercial uses.

New Carrollton

The New Carrollton station is a transit hub surpassed only by Union Station in Washington DC for regional accessibility. The New Carrollton station serves the Metrorail Orange Line, the MARC Penn Line from Baltimore and areas north, Amtrak's Northeast Corridor, and a multitude of bus lines. Several large institutional trip generators, including the IRS, are currently located in New Carrollton.

In March 2011, WMATA and the State of Maryland selected a private development team to create a major mixed-use development surrounding the station. The 39-acre site is currently vacant land, parking lots, and access roads. The proposal will allow up to 5.5 million square feet of office, retail, and residential space. A joint development agreement approved December 20, 2012 allows the private development team to move forward. At full build-out, this development will include 2 to 4 million square feet of mixed uses.

1.3.2 Traffic Conditions

The Purple Line corridor faces numerous transportation challenges as a result of limited infrastructure for east-west travel. The primary east-west travel routes in the corridor are heavily congested during peak periods and on weekends.

Many major intersections, such as University Boulevard and New Hampshire Avenue, already experience failing levels of service (LOS) in both morning and evening peak periods. During the peak periods, it currently takes approximately 14 to 24 minutes to travel five miles by car between Bethesda and Silver Spring; 15 to 28 minutes to travel seven miles by car between Silver Spring and UMD; and 18 to 24 minutes to travel 6 miles by car between UMD and New Carrollton, depending on the direction. By 2040, travel times in the morning peak period are expected to increase by approximately 30 percent, and travel times in the evening peak period are expected to increase by approximately 40 percent.[5]

Table 1-2 shows the average daily traffic volumes and LOS for a number of the primary east-west travel routes within the Purple Line corridor and key intersections on these roads.

Because the Purple Line corridor is largely developed, expanding or building new roadways to address the congested conditions on the existing roadway system would be difficult. The projected increases in employment and population will exacerbate the existing conditions (see Section 1.3.5). The impacts of these traffic conditions on bus service are already substantial (as described below), and future conditions will be worse. The congested roadways mean that buses cannot consistently operate on schedule, and travel times are not predictable. Not only does this inconvenience riders, it also means that it is very difficult to operate the network of services reliably and in a manner that optimizes interconnectivity and mobility.

[5] Multiple travel time runs were conducted in both the eastbound and westbound directions during the AM and PM peak periods. Year 2040 travel times were estimated using the average increase in delay across the corridor, based on the projected 2040 traffic conditions.

Table 1-2. Annual Average Daily Traffic Levels and Levels of Service

Location	2010		2040	
	AADT[1]	LOS[2] (AM/PM)	AADT	LOS (AM/PM)
Capital Beltway, Wisconsin Avenue to Georgia Avenue	240,000	F/F	323,000	F/F
Capital Beltway, Georgia Avenue to I-95	221,000	F/F	298,000	F/F
Capital Beltway, I-95 to US 50	219,000	F/F	295,000	F/F
Jones Bridge Road at Connecticut Avenue	79,000	F/F	106,000	F/F
University Boulevard at New Hampshire Avenue	62,000	F/F	84,000	F/F
East West Highway at Connecticut Avenue	70,000	F/F	94,000	F/F
East West Highway at 16th Street	60,000	F/F	81,000	F/F
East West Highway at Baltimore Avenue	63,000	F/F	85,000	F/F
East West Highway at Kenilworth Avenue	65,000	F/F	88,000	F/F
Annapolis Road at Veterans Parkway	66,000	F/F	89,000	F/F

[1] Annual Average Daily Traffic
[2] Level of Service
The 2040 AADT was generated by applying the MDAA II modeled growth rate to 2010.

Source: Maryland SHA, Internet Traffic Monitoring System, http://shagbhisdadt.mdot.state.md.us/itms_public/default.aspx, retrieved September 2012

1.3.3 Existing Transit Service

The Washington DC region has a well-developed transit network, which extends into and through the Purple Line corridor. However, as described below, the transit service in the corridor is primarily oriented to serve north-south trips. East-west transit service exists in the corridor, but it is slower and less reliable.

Stations on both branches of the WMATA Metrorail Red Line, one at Bethesda and one at Silver Spring; the Metrorail Green Line at College Park; and the Orange Line at New Carrollton serve the Purple Line corridor (Figure 1-3). These Metrorail lines are all radial lines into and out of Washington DC. In addition to Metrorail, the corridor is also served by MARC at Silver Spring, College Park, and New Carrollton; Amtrak at New Carrollton; and multiple bus routes.

Although the Purple Line corridor contains a substantial population that relies heavily on transit to reach employment and activity centers, new transit services in this east-west corridor have been limited to bus service on local roads that are subject to the same roadway congestion as automobile traffic. To date, there has been no investment in fixed guideway transit systems to facilitate east-west travel and enhance links between the employment and residential centers along circumferential transportation routes in the Purple Line corridor, nor have new highways been developed in this corridor in recent years. The built-up character of the corridor limits the opportunities to widen existing roads or build new ones.

The Purple Line corridor is faced with increasing travel times which limit accessibility, particularly for those without access to an automobile, and can negatively affect the local economy and residents' quality of life.[6] Table 1-3 shows existing transit travel times between Purple Line corridor activity centers. However, the congested roadways mean that actual travel times, at least for those using bus services, are often slower.

Three public transit operators, WMATA Metrobus, Montgomery County Ride On, and Prince George's County TheBus, provide bus service in the corridor. These bus services accommodate east-west trips in the corridor. However, existing bus services terminate at the county boundary in Langley Park, so bus travel is often disconnected. Congested roadway conditions contribute to slow and unreliable bus services. The demand for east-west travel is shown in the model. Most of these trips are short distances, not end-to-end trips between Bethesda and New Carrollton. The discontinuity of the bus service is simply one more problem with the existing services.

[6] The value of travel time savings and reliability, both in terms of economic costs and quality of life, is discussed in *Economic Impact of Public Transportation Investments*, Glen Weisbrod and Arlee Reno, prepared for APTA, October 2009.

Figure 1-3. Purple Line Connections to Metrorail and MARC

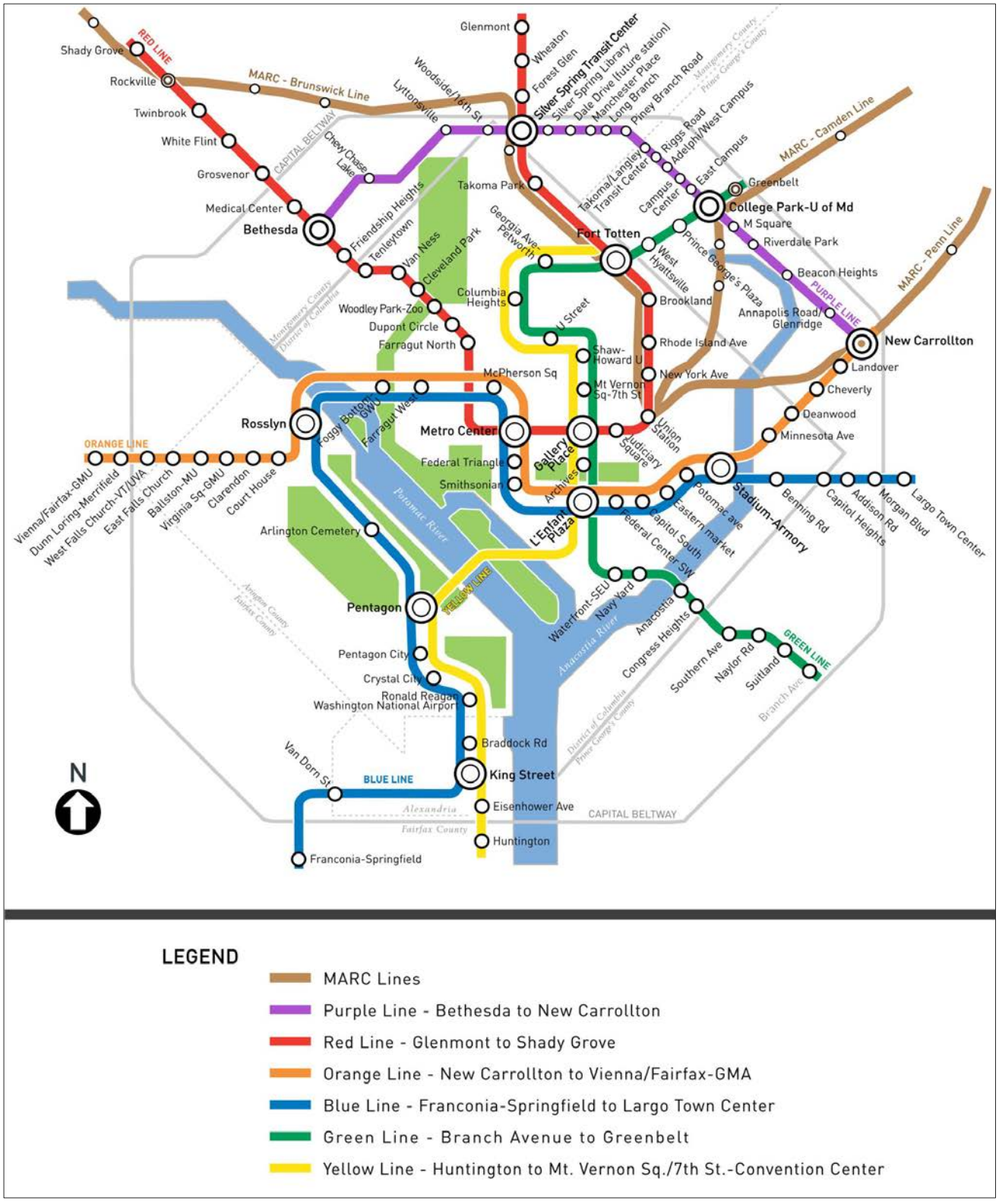


Table 1-3. Average Scheduled Transit Travel Times on Existing Services during Peak Hours, 2012

Location	Metrorail[1]		Bus[2]		
	Distance (miles)	Time (min.)	Bus Route	Distance (miles)	Time (min.)
Bethesda to Silver Spring	16.5	39	J2/J4	4.4	17
Bethesda to Takoma/Langley Park	No Service	No Service	J4	7.7	33
Bethesda to College Park	18.0	48	J4	11.2	49
Bethesda to New Carrollton	19.2	55	J4 & F6	15.6	92
Silver Spring to Takoma/Langley Park	No Service	No Service	J4	3.3	16
Silver Spring to College Park	18.5	25	J4	7.3	36
Silver Spring to New Carrollton	19.4	54	F4	11.2	52
Takoma/Langley Park to College Park	No Service	No Service	J4	4.0	18
Takoma/Langley Park to New Carrollton	No Service	No Service	C4 & F4	9.3	57
College Park to New Carrollton	21.6	56	F6	5.1	18

Note: Metrorail distances are longer because riders must travel into and out of Washington DC to complete these trips.
[1] WMATA does not publish Metrorail schedules for the morning peak period due to the high frequency of trains; Metrorail times are based on peak-hour travel (7:00-7:30 and 4:00-4:30) and calculated from Trip Planner http://www.wmata.com/rider_tools/tripplanner/tripplanner_form_solo.cfm, retrieved May 2012.
[2] WMATA Metrobus schedules; J4, 9-30-12; J2, 1-22-12; F4, 6-17-12; F6,6-17-12, C4, 1-22-12; bus times are based on the fastest scheduled time at 7 AM on a Wednesday morning.

More than 75 bus routes operate in the Purple Line corridor, but of these, just 20 provide east-west service, many only for short distances. Existing public bus service operating east-west in the corridor consists of several overlapping or inter-connecting routes as shown in Figure 1-4. WMATA operates the regional bus routes and those that are inter-jurisdictional, while each of the counties operates local bus routes. WMATA routes J1, J2, and J3 run every six minutes in the peak hours, serving the long-haul trips between Montgomery Mall, Medical Center, Bethesda, and Silver Spring, with 5,900 daily weekday passenger trips.[7] Montgomery County Ride On routes 15 and 16 are the primary bus services between Silver Spring and Langley Park with six- and ten-minute headways, respectively, in the peak hours, and 8,600 daily passenger trips.[8] East of Langley Park, WMATA bus routes C2 and C4 carry most of the passengers, with route C4 diverting south to Prince George's Plaza at Riggs Road and route C2 continuing through the UMD campus, then traveling north on US 1 to the Greenbelt Metro station. WMATA route F6 also serves a portion of the corridor, connecting Prince George's Plaza Metro station with the UMD campus, the College Park-UMD Metro station, and the New Carrollton Metro station.

UMD operates a shuttle bus service for its students, faculty, and staff who make two million trips per year. Three of the 18 Shuttle-UM routes operate in the Purple Line corridor, serving destinations such as the Silver Spring Metro station, the College Park-UMD Metro station, and M Square Research Park. Shuttle-UM 111 duplicates much of the proposed Purple Line alignment, operating on University Boulevard, Piney Branch Road, and Wayne Avenue; and Shuttle-UM 104 provides service between the UMD campus and the College Park-UMD Metro station.

The Metrorail stations in the corridor are all important intermodal transfer points. Table 1-4 shows the daily Metrorail boardings at the four stations.

[7] WMATA, FY 11 Metrobus Weekday Average Ridership, www.wmata.com/pdfs/planning/FY11_Average_Weekday_Bus_Ridership.pdf, retrieved 6/19/12
[8] Montgomery County Ride On, Ride On 2009 Profile of Ridership

Figure 1-4. Existing East-West Bus Service

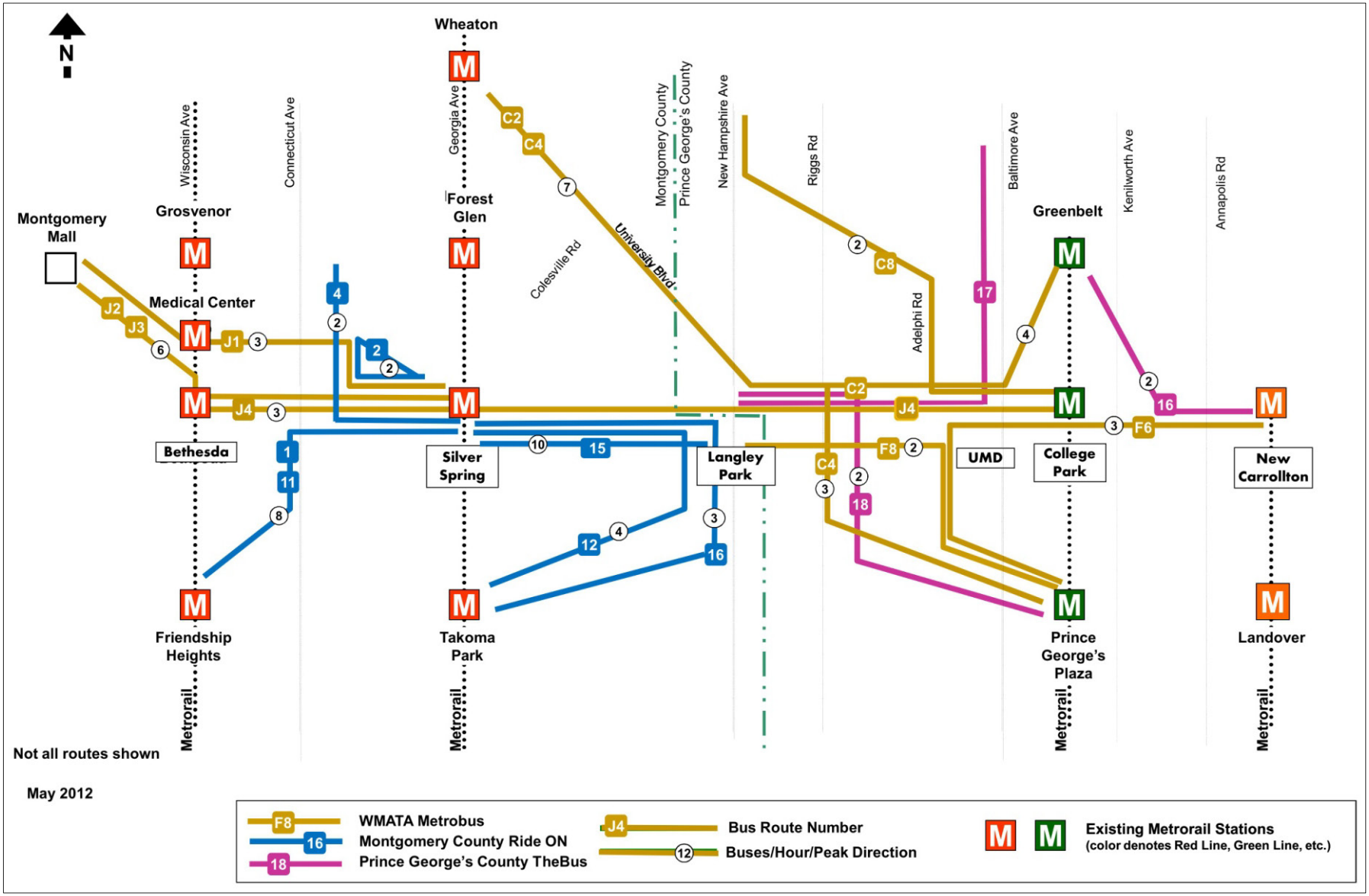


Table 1-4. Daily Metrorail Boardings in Purple Line Corridor, 2010

Metrorail Station	Daily Boardings
Bethesda	10,600
Silver Spring	13,400
College Park/UMD	4,700
New Carrollton	10,300

Source: WMATA, Metrorail Passenger Surveys, Average Weekday Passenger Boardings, rev. 6/2011

The Silver Spring Metro station is a major transportation hub in the region, with more than 160 buses per hour stopping there in the peak hours. It had over 13,300 daily boardings[9] on Metrobus and more than 6,350 weekday boardings on Montgomery County Ride On[10] in 2009. Twenty-seven Metrobus and 22 Ride On routes serve the Silver Spring Metro station, the majority of which terminate in Silver Spring. WMATA route J4 is the only east-west bus route that does not terminate at Silver Spring (thus avoiding a transfer time penalty and ridership loss) for those traveling through Silver Spring. WMATA routes C2 and C4, which travel along University Boulevard in the Purple Line corridor,[11] have the second highest Metrobus ridership in Maryland. Metrobus routes F4 and F6, which serve the area between Silver Spring and New Carrollton, have the highest ridership of any line in Prince George's County other than routes C2 and C4, and experienced ridership growth of five percent between May 2011 and May 2012.[12]

As stated earlier, the New Carrollton Metro station is second only to Union Station in the Washington metropolitan area as a major multimodal transportation hub, with Metrorail, Amtrak, MARC, Greyhound intercity bus, and both regional (Metrobus) and county (TheBus) bus service. Metrobus serves the station with 21 routes, and TheBus serves it with four routes.

1.3.4 Changing Land Use Patterns

Historically, downtown Washington DC has been the location of most jobs in the region, while employees typically lived in residential areas located at the outer edges of Washington DC or in the suburbs. As the suburbs grew, more people commuted longer distances into the center, and the radial Metrorail system was built to serve this travel. However, employers are increasingly moving to suburban areas, resulting in suburb-to-suburb travel patterns. This is reflected in the relocation of many federal agencies to the corridor. Much of the new development has been mixed-use, with both residential and commercial uses in the same areas, if not the same buildings. In the Washington metropolitan area, as is true throughout the United States, suburb-to-suburb travel has increased dramatically in the past 25 years. By 2030, the majority of all trips will be suburb-to-suburb travel.[13] The creation of new jobs and new activity centers in the suburbs means these new travel patterns will continue to grow in the corridor.

1.3.5 Population and Employment Growth

MWCOG has projected increases in population and employment in the Maryland suburbs by 2040. The Purple Line corridor contains 181,395 jobs.[14] Montgomery and Prince George's counties will experience the greatest increases in employment from 2010 to 2040 in the region, with growth of 43 percent and 32 percent, respectively.[15] Population growth in Montgomery County is expected be the highest in the region.[16] Table 1-5 provides growth projections for the major activity centers in the corridor. The planned TOD at New Carrollton is reflected in the 335 percent projected growth in population in the area.

[9] WMATA, Metrorail Passenger Surveys, Average Weekday Passenger Boardings, rev. 6/2011

[10] Montgomery County Ride On, Ride On 2009 Profile of Ridership

[11] WMATA, FY 11 Metrobus Weekday Average Ridership

[12] WMATA, FY 11 Metrobus Weekday Average Ridership www.wmata.com/pdfs/planning/FY11_Average_Weekday_Bus_Ridership.pdf, retrieved 6/19/12

[13] MWCOG/TPB, *Citizen's Guide to Transportation Decision Making in the Metropolitan Washington Region*, (2008)

[14] MTA, *Purple Line Economic Effects Technical Report, (2013)*

[15] MWCOG, *Growth Trends to 2040: Cooperative Forecasting in the Washington Region, Round 8.0*, (Fall 2010) p. 4.

[16] Ibid. p. 6.

Table 1-5. Population and Employment Forecasts at Regional Activity Centers

Location	Population			Employment		
	2010	2040	Change	2010	2040	Change
Bethesda CBD	13,949	24,827	78%	35,503	41,207	16%
Silver Spring CBD	14,123	23,953	70%	30,857	38,860	26%
Takoma/Langley Park	36,803	43,838	19%	7,245	11,386	57%
University of Maryland/College Park	28,641	47,580	66%	31,581	48,604	54%
New Carrollton	1,374	5,983	335%	10,513	17,540	67%

Source: MWCOG Regional Activity Centers, Round 8.0 Cooperative Forecasting: Employment Forecasts to 2040 by Traffic Analysis Zone *(2010).*

1.3.6 Transit Service Markets

The diversity of land uses in the Purple Line corridor means that both origins and destinations for transit patrons are present. The major activity centers in the corridor include businesses, retail, government agency employment centers, educational institutions, and sports and entertainment facilities. With 181,395 jobs in the corridor and 247,024 residents, there is substantial ridership demand. Three distinct travel markets are the following:

- *Travel within the corridor*—A substantial amount of travel occurs entirely within the Purple Line corridor, which contains a variety of land use types. The dominant pattern for this travel reflects people traveling from the residential communities in the corridor to the major activity centers within the corridor: Bethesda, Silver Spring, Takoma/Langley Park, College Park, and New Carrollton. Typically, this type of travel is from the communities adjoining major attractions and is not a lengthy trip across the entire corridor.
- *Travel from within the corridor to destinations outside the corridor*—This pattern reflects people traveling from the residential communities in the corridor, especially Bethesda, Silver Spring, Takoma/Langley Park, College Park, and Riverdale Park, to Washington DC. There is also travel to destinations north of the corridor along the Metrorail Red Line and the Green Line. This travel pattern is typically a relatively short to moderate trip across a portion of the corridor as part of a longer trip. Trips are characteristically from residential communities in the corridor to access the Metrorail and north-south bus services for longer trips to Washington DC and other destinations.
- *Travel from outside the corridor to destinations in the corridor*—This pattern reflects people traveling from the residential communities outside the corridor, especially from the south (northern and eastern Washington DC), from the north (Glenmont and Laurel), and from the east (Bowie) through the New Carrollton Metro station, to destinations in Bethesda, Silver Spring, and College Park. These trips use Metrorail and north-south bus services to access the corridor. These trips involve relatively short distance, travel within the corridor as part of a longer trip.

The Purple Line corridor has approximately 149,000 daily transit trips that have one or both ends of the trip in the corridor. This transit ridership represents 13 percent of the transit trips for the Washington region. About 13,000 of these transit trips have both ends of the trip within the Purple Line corridor while 132,000 transit trips are between the corridor and some part of Washington DC.[17] Most remaining trips involve travel to or from districts to the north or northeast of the Purple Line corridor along the Metrorail lines. This information shows that there are many trips associated with areas outside the corridor, not only Washington DC, but also the areas to the north along the Metrorail Red, Green and Orange lines, especially Shady Grove, the Rockville area, and the Glenmont area.

Daily transit trips in the MWCOG region are forecasted to grow 44 percent from 1,151,994 in 2011 to 1,655,074 by 2040. Similarly, transit trips

[17] MTA, *Purple Line Travel Forecast Results Report (2013)*

related to the corridor are forecasted to grow by 49 percent to 221,833 without the Purple Line.[18] While the general pattern and distribution of these future transit trips would be similar to current trips, the mobility of transit users would be reduced as street-running bus service is slowed by increasing traffic volumes.

1.3.7 Access for Transit-Dependent Populations

Many residents in the corridor are dependent on transit. Table 1-6 presents data from the American Community Survey, which highlights the high percentage of households without a vehicle in many communities in the corridor.[19] Bethesda, Rock Creek (including Lyttonsville and Woodside), Silver Spring, Takoma Park, Langley Park, Riverdale, and West Lanham Hills have rates of zero-car households ranging from 16 percent to 33 percent, which are double or more the overall Montgomery County and Prince George's County rates of eight percent and nine percent, respectively, and the State of Maryland's rate of nine percent. Some communities, notably Bethesda, have low rates of vehicle ownership because of the mobility provided by the existing transit system, particularly Metrorail, rather than because of personal financial constraints. The transit-dependent populations in the corridor are affected adversely by the poor connectivity and unreliability of the existing east-west transit services.

1.3.8 Transit System Connectivity

Although several modal choices (automobiles, Metrorail, commuter rail, and bus service) are available in the Purple Line corridor, current transit options are limited in many areas because the only modes serving east-west markets are automobiles and regular buses, both severely affected by the existing traffic congestion and making access to the radial routes difficult and inconvenient.

The corridor has a lack of direct routes between major activity centers. As a result, a need exists for faster, more reliable, and more direct transit service, with greater capacity and improved system connectivity to address the mobility and accessibility deficiencies in the corridor.

Table 1-6. Households with No Vehicle Available, 2010

Neighborhood/Area	Households with No Vehicle Available (%)
Bethesda	17%
Chevy Chase	8%
Rock Creek	16%
Woodside	14%
Silver Spring	18%
East Silver Spring	10%
Long Branch	15%
Takoma Park	18%
Langley Park	33%
Lewisdale	12%
Adelphi	8%
College Park	9%
Riverdale	18%
Glenridge/ Beacon Heights	12%
New Carrollton	4%
West Lanham Hills	15%
Corridor	**15%**
Montgomery County	**8%**
Prince George's County	**9%**
Maryland	**9%**

Note: Shaded rows are higher than the corresponding County percentage.

Source: U.S. Census, American Community Survey, File B08201, 2006-2010 ACS Five-Year Estimate

Currently, transit riders can travel between Bethesda, Silver Spring, College Park, and New Carrollton on an existing Metrorail line. However, travel between these stations requires either riding into Washington DC and then, in most cases, transferring onto a different radial line, or traveling circumferentially on one or more of the many slow, often discontinuous, indirect bus routes.

Bus services between Bethesda and New Carrollton are limited and generally require transfers between existing bus routes. This necessity further slows travel times and decreases travel convenience and dependability.

Bus utilization in the corridor is constrained by trip times. In most cases, bus travel times are slower than individual automobile trips, since buses typically make frequent stops. These slow speeds do

[18] Ibid

[19] US Census Bureau, American Community Survey, File B08201, 2006-2010 ACS Five-Year Estimate

not provide an incentive for those with automobiles to use transit. Every transfer between bus routes adds substantially to travel times, which inconveniences transit patrons and discourages transit use. A faster, more reliable, and more direct transit service with greater capacity would address the mobility and access deficiencies of the Purple Line corridor.

1.4 Need for the Project

As shown in the description of the corridor in Section 1.3, *Corridor Setting,* there is a demand for high quality east-west transit service in the Purple Line corridor; however this demand is not being met because of the limitations of the existing transportation infrastructure. Specifically, the need for improved east-west transit service in the Purple Line corridor has three distinct components: (1) the need for faster and more reliable east-west transit service, (2) the need for more direct east-west transit connections with Metrorail, and (3) the need for improved east-west transit connections within the corridor.

1.4.1 Need for Faster and More Reliable Transit Service

Faster and more reliable transit service is needed in the Purple Line corridor to address two related transportation problems arising from existing and forecasted transit service market demands: the increasingly detrimental effect of existing and expected future roadway congestion in the corridor on travel times, and the resulting unreliability of the east-west bus transit services in the corridor. The congested roadways mean that bus travel times are not predictable.

The transit service market demands described in Section 1.3 *Corridor Setting* demonstrate the nature and importance of the local and regional travel occurring in the project corridor. Expected growth in population, employment, and activity centers will place a substantial burden on the roadway and transit service networks in the corridor between now and the design year. Road-based bus dependability will deteriorate as traffic congestion grows, making access to destinations such as major activity centers and radial transit services slow and unreliable. Populations that are transit-dependent will be particularly adversely affected by these conditions.

1.4.2 Need for More Direct Transit Connections to Metrorail

The corridor is deficient in fast, reliable east-west transit services providing access to and from the Metrorail system. WMATA's Metrorail service connects Bethesda, Silver Spring, College Park, and New Carrollton. However, since this service is radially oriented, rail travel between these centers requires a lengthy, time-consuming trip into Washington DC and then, in most cases, transferring to a different radial line. A Metrorail trip between Bethesda and Silver Spring requires taking the Red Line into the Washington DC core and then traveling back out. To travel from Silver Spring to College Park by Metrorail requires taking the Red Line to the Washington DC core and then transferring to the Green Line to College Park. The Metrorail station at College Park is approximately one mile from the eastern edge of the UMD campus, requiring a bus transfer to get to or from UMD.

1.4.3 Need for Better Connectivity to the Communities In Between the Metrorail Lines

As noted above, the corridor lacks fast, reliable east-west transit to serve the communities located in the wedges between the Metrorail lines. These communities are dependent on local bus services, which are often slow and unreliable because of the existing congested roadways.

The county bus services, provided by Montgomery County Ride On and Prince George's TheBus, both terminate in Takoma/Langley Park at the county boundary, requiring the through traveler to transfer to continue an east-west trip. The majority of these bus transfers take place at the intersection of University Boulevard and New Hampshire Avenue, which is the planned location of the Takoma/Langley Park Transit Center and a planned Purple Line station.

Chapter 2.0
Alternatives Considered

This chapter summarizes the alternatives analysis and evaluation process that defined the Preferred Alternative. It presents the two alternatives that are the subject of this Final Environmental Impact Statement (FEIS): the No Build Alternative and the Preferred Alternative.

Changes to this Chapter since the AA/DEIS

This chapter includes an updated analysis of alternatives, which is organized into the following sections:

Section 2.1 describes the development and evaluation of the alternatives that were documented in the AA/DEIS. It summarized the previous phases of the study: the initiation of the AA/DEIS, scoping and alternatives development, the screening of alternatives, and the evaluation of the alternatives in the AA/DEIS.

Section 2.2 describes the Locally Preferred Alternative (LPA) identified in August 2009. It then describes the refinement made to the LPA as well as some refinements evaluated but not incorporated. The revised LPA is referred to in this FEIS as the "Preferred Alternative."

Section 2.3 describes the No Build Alternative and the Preferred Alternative, including its proposed alignment, stations, track types, storage and maintenance facilities, and ancillary facilities; and the Capital Crescent Trail. It describes the service and operating characteristics, costs, and implementation schedule.

This chapter also includes a section that updates the information presented in the Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS) Chapter 5.0 Costs and Funding with an operating plan and refined estimates of capital and operating and maintenance costs for the Preferred Alternative.

2.1 Alternatives Development and Evaluation

This section provides a summary of the previous phases of the study.

For additional information refer to the following technical reports: *Supporting Documentation on Alternatives Development (2013) and the Definition of Alternatives Report (2008)*. The 2012 document summarizes the alternatives and includes memoranda prepared on specific alignments since the publication of the AA/DEIS, while the 2008 report describes the alternatives analyses that led to the publication of the AA/DEIS.

As discussed in Chapter 1.0, the need for improved east-west transit within the corridor, particularly between Bethesda and Silver Spring, has been identified for more than 20 years, and has been the subject of many studies. Most of the ridership of the Purple Line would be short trips, and the area of heaviest ridership is between Bethesda and Silver Spring. These studies ranged from general feasibility studies of corridors and modes to a major investment study of a transitway between Bethesda and Silver Spring. In 2003, FTA and MTA initiated this study of a transitway between Bethesda and New Carrollton.

2.1.1 Initiation of AA/DEIS

FTA and MTA initiated the NEPA process for the Purple Line on September 3, 2003 with the publication of a Notice of Intent (NOI) to prepare an Environmental Impact Statement for the Bi-County Transitway project[1] in Montgomery and Prince George's Counties extending from the Bethesda Metrorail station on the western branch of the Metrorail Red Line to the New Carrollton Metrorail station on the Metrorail Orange Line. The NOI stated that the project would provide high-capacity transit in the corridor addressing "the need to improve travel access, reduce travel times and improve connectivity in response to regional growth, traffic congestion and land use plans for the area." The NOI further stated that the project included the alignment on the Georgetown Branch Transitway/Trail (Bethesda to Silver Spring); but it did not preclude other alignments between Bethesda and Silver Spring. The modal alternatives identified for evaluation were a No Build Alternative, a Transportation System Management (TSM) Alternative, and light rail transit (LRT) and bus rapid transit (BRT) alternatives. The NOI identified twelve potential stations for the Build Alternatives.

2.1.2 Scoping and Alternatives Development

Upon publication of the NOI, MTA initiated the scoping process by inviting interested individuals, organizations, and agencies to provide their ideas, comments and concerns regarding possible modes, alignments, and station locations in the Purple Line corridor. Four public scoping meetings and an agency scoping meeting were held, and a corridor tour was provided for regulatory agencies. The following five project goals were presented during scoping meetings based on both the transportation needs and community concerns:

- Optimize public investment
- Improve regional mobility
- Improve system connectivity
- Support economic development
- Support regional air quality goals

As described in Chapter 1.0, these goals were developed to support a decision on the Alternatives Analysis and so covered a broader range of issues than those directly arising from the purpose and need.

Public and agency scoping meetings and early public participation activities (a newsletter and a project website) yielded discussion and assessment of concepts from previous studies, as well as new concepts. See *Bi-County Transitway Scoping Report, May 2004 f*or a description of the scoping process, the alternatives presented, and comments received.

Beginning at scoping and continuing to this day, MTA and FTA have conducted an extensive public outreach program throughout the project that has resulted in the development and refinement of the alternatives. For a description of the public involvement process see Chapter 8.0.

Build Alternatives Presented at Scoping Meetings

The Build Alternatives presented at scoping included a number of alignments for BRT and LRT, which were proposed at-grade, underground, elevated, or a combination of these. They were as follows:

- **BRT: Option A**—Mixed-use bus lanes, where BRT shares lanes with regular traffic
- **BRT: Option B**—BRT operated on existing roadways with a combination of mixed-use lanes and dedicated bus lanes and exclusive right-of-way
- **BRT: Option C**—BRT operated in dedicated and exclusive bus lanes, including some aerial structures or tunnels
- **LRT: Option A**—LRT operated primarily at-grade
- **LRT: Option B**—LRT operated primarily in exclusive lanes, often grade-separated (tunnel and aerial structures)

All alignments began in Bethesda with a connection to the Metrorail station, served the future Silver Spring Transit Center (SSTC), and continued to the New Carrollton Metro station. A BRT alignment on Jones Bridge Road was included at scoping as a low cost BRT alternative because of its use of existing roadways, opposed to the Georgetown Branch right-of-way.

[1] The name "Bi-County Transitway" was selected by the governor for the full Bethesda-to-New Carrollton project. Four years later in 2007 the project returned to the name "Purple Line".

Alternatives Analysis (AA) Requirements under FTA's New Starts Program

MTA is pursuing federal funding for this project under FTA's New Starts program for major capital investment grants. As part of the application process for New Starts funding, MTA was required to prepare an AA under 49 USC § 5309.1 at the time this study was initiated. The requirement to prepare an AA was eliminated by the Moving Ahead for Progress in the 21st Century Act (MAP-21), which was enacted on July 6, 2012 and took effect on October 1, 2012.

The requirement to prepare an AA was separate from the requirement to prepare an EIS under NEPA. Like an EIS, an AA involved a comparison of alternatives that are intended to address a transportation problem; however, the purpose of an AA was to assist FTA in determining whether a project meets the financial justification requirements that must be satisfied before a project can be advanced into the preliminary engineering stage of FTA's project development process. As a result, an AA included a more detailed assessment of cost and cost-effectiveness issues than would be required under NEPA alone.

Because an AA addressed many of the same issues that are covered in an EIS, FTA allowed AAs, including the Purple Line project, to be combined with NEPA documents in certain instances, satisfying both News Starts and NEPA requirements.

LRT on Jones Bridge Road was considered in scoping but was not carried forward for detailed study in the AA/DEIS. An LRT alignment on Jones Bridge Road would require the transitway to be aligned on one-way routes through the Bethesda CBD on Wisconsin and Woodmont Avenues. These two roads are very congested and have narrow rights-of-way. There are six signalized intersections on Wisconsin Avenue and nine on Woodmont Avenue. Given the physical constraints of this route, the possibility of aligning LRT in dedicated or exclusive lanes would not be likely; as a result, LRT travel times would be greatly increased compared to the BRT Alternative. On such narrow congested roadways, reliable LRT operations would be very difficult to achieve. One of the benefits of BRT over LRT is the vehicles' ability to maneuver or pass obstacles. An LRT alternative operating in mixed-use travel lanes would be less reliable and would add considerable travel time for riders going to and from Bethesda. The Bethesda CBD is one of the largest travel markets of the project and it would not make sense to penalize such a large number of riders, for the benefit of a far smaller number of riders. See Section 2.1.4 *Variations on Medium Investment BRT Alternatives* for further discussion of these travel markets.

The availability of the Georgetown Branch right-of-way, owned by Montgomery County and designated for use as a transitway and trail, provides the potential to build a transitway within a nearly exclusive operating environment with few, if any, grade crossings. This, in turn, provides the opportunity for a transit service unimpeded by traffic conflicts resulting in reliable service and faster speeds between Bethesda and Silver Spring. However, the capital cost of constructing a transitway and trail along this alignment is relatively high, so a lower cost alternative using Jones Bridge Road was considered between Bethesda and Rock Creek.

This lower cost alternative consisted of in-street running BRT along Jones Bridge Road and Jones Mill Road and along Woodmont Avenue west of Jones Bridge Road connecting to downtown Bethesda. For BRT this would have a lower cost, since the buses would be operating on the existing roadways. However, LRT along Jones Bridge Road would require the reconstruction of the street for the installation of the rails and catenary, and therefore would not offer the same savings over the use of the Georgetown Branch right-of-way.

For these reasons, and the constrained right-of-way between Jones Bridge Road and the Bethesda station described above, LRT was not considered on Jones Bridge Road. However, MTA continued to study the use of Jones Bridge Road for BRT.

Some alignments were considered for both BRT and LRT, while others were considered for only one mode because of environmental, operational, or engineering constraints.

Based on the public and agency comments received during scoping, a range of alternatives was developed for consideration in the evaluation process. These alternatives included most of the alignments presented at scoping, as well as others identified during scoping.

Exclusive Lanes—A right-of-way that is solely for use of transit vehicles and is not occupied by any other type of vehicle or by pedestrians. Exclusive lanes may be either grade-separated or protected by a fence or substantial permanent barrier. All crossings are grade-separated.

Dedicated Lanes—Lanes used solely for transit vehicles, separated and protected from parallel traffic, but which crosses roads, driveways, and pedestrian pathways at-grade. Separation may be achieved by mountable or un-mountable curbs, barriers, or fences. If the transit is light rail, protection at grade-crossings would be provided at some locations by railroad-style flashers and gates if required, or traffic signals at others.

Mixed-use Lanes— Lanes in which the transit vehicles operate in mixed traffic, sharing the same space with other types of road users. Transit vehicles in mixed-use lanes would be controlled by the existing traffic signals and signs.

Consideration of Other Transit Modes

During scoping, two modes were proposed by MTA: LRT and BRT. Monorail and heavy rail were not included in the alternatives initially presented during scoping. These modes had been eliminated in previous studies based on prohibitive capital costs, environmental impacts, and other factors. Based on the *Capital Beltway Purple Line Study (2002)*, FTA and MTA concluded that monorail and heavy rail would not be reasonable.[2]

During the scoping process, a few commenters suggested additional consideration of heavy rail alternatives. FTA and MTA considered these comments and determined that heavy rail was not a reasonable alternative for meeting the purpose and need of this project, as concluded earlier in the *Capital Beltway Purple Line Study*. After scoping was completed, the County Executive of Montgomery County recommended consideration of a heavy rail alternative referred to as the Red Line or Metrorail Loop which would connect the Metrorail Red Line from Bethesda to Silver Spring along the Capital Beltway. MTA and FTA conducted additional analysis of this heavy rail alternative, and concluded that it should not be carried forward for detailed study because it did not meet the purpose and need of this project, and because it had other drawbacks, including environmental impacts and cost (see *Definition of Alternatives (2008), pages 1-8,* and *Supporting Documentation on Alternatives Development (2013)).*

2.1.3 Screening of Alternatives

Screening Methodology

Between 2004 and 2008, FTA and MTA examined a number of alternatives and design concepts. The screening process evaluated the alternatives based on a number of factors, including ability to meet the project's Purpose and Need, engineering feasibility, natural and social environmental impacts, preliminary cost estimates, and input from the public and agencies. Alternatives that did not meet these criteria were not considered reasonable.[3] Alternatives that were not considered reasonable were eliminated from further consideration and not included in the AA/DEIS (see *Definition of Alternatives (2008*) pages 1-7).

Many alternatives met the reasonableness standard. In order to reduce the number of reasonable alternatives for study in the AA/DEIS, the screening process focused on weighing the relative merits or disadvantages of the various alignments or options within the definition of low, medium and high investment. For example, where two low investment surface options for a particular mode were under consideration, if one had appreciably greater impacts to the environment or the local

[2] *Capital Beltway/Purple Line Study,* SHA/MTA, 2002

[3] *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*, 46 Fed. Reg. 18026 (1981), Response to Question 2a.

community, it was eliminated from further consideration. This approach followed the Council on Environmental Quality's (CEQ) guidance for determining the range of alternatives in an EIS, which states "When there are potentially a very large number of alternatives, only a reasonable number of examples, covering the full spectrum of alternatives, must be analyzed and compared in the EIS."[4]

Involvement of the Public, Elected Officials, and Agencies

During the screening process, MTA created eight geographically-organized Community Focus Groups to foster dialogue with the local communities about their concerns and to compare alignment options at a local level. These groups met multiple times during the screening process, which supported the refinement of alternatives including station locations and more detailed information about potential impacts.

MTA created a Project Team that included local planners, state and county agencies, and elected officials. MTA has had regular meetings with the Project Team throughout the Purple Line study; and these meetings were used extensively during the alternative analysis process as a forum to evaluate and review proposed alternatives.

Once the Project Team agreed on the alternatives to be carried forward for further study, the alternatives were presented to the public in a series of open houses held in the corridor in November 2004, June 2006, and December 2007, in the ongoing Community Focus Group meetings, and in presentations to both the Montgomery and Prince George's County Councils.

2.1.4 Alternatives Evaluated in the AA/DEIS

The AA/DEIS advanced eight alternatives and several design options for further study. These included the No Build Alternative, the TSM Alternative, and six Build Alternatives: three BRT alternatives and three LRT alternatives, differentiated by levels of investment. The AA/DEIS also presented several design options (alignment variations). Chapter 2 of the AA/DEIS described these alternatives in detail and this FEIS summarizes the analysis conducted.

No Build Alternative

The No Build Alternative assumed no new improvements to the transportation system in the corridor, other than those in the 2007 Financially Constrained Long-Range Transportation Plan (CLRP) of the National Capital Region Transportation Planning Board. As defined in the AA/DEIS, the No Build Alternative consisted of transit service levels, highway networks, traffic volumes, and forecasted demographics for the horizon year of 2030.

TSM Alternative

The TSM Alternative included improvements to transit service that would enhance mobility, without constructing a new transit guideway. The TSM Alternative included improved bus service in the Purple Line corridor and a new through-route from Bethesda to New Carrollton replacing the existing J4 route and overlaying service on portions of the F4 and F6 routes between College Park and New Carrollton. A combination of less frequent stops and queue jump lanes (allowing the buses to bypass long lines of vehicles at intersections) and signal priority (special treatment given to transit vehicles at traffic signals) comprised the core of service improvements. This alternative assumed the use of 60-foot articulated buses.

Build Alternatives — BRT and LRT

The alignments for the BRT and LRT alternatives extended the full length of the corridor between the Bethesda Metro station and the New Carrollton Metro station. For each mode, the alternatives were differentiated from one another mainly by the level of investment that would be required for construction: low, medium, or high. The six distinct Build Alternatives are listed in Table 2-1.

Table 2-1. BRT and LRT Alternatives Evaluated in the AA/DEIS, 2008

Bus Rapid Transit	Light Rail Transit
Low Investment BRT	Low Investment LRT
Medium Investment BRT	Medium Investment LRT
High Investment BRT	High Investment LRT

[4] Ibid, Response to Question 1b. See also FTA, Office of Planning and Environment, *Procedures and Technical Methods for Transit Project Planning*, Chapter 3, Framework for Alternative Analysis, October 2005, Page 3-3.

Because the alternatives generally followed the same alignment, the varying levels of investment facilitated a comparison of the benefits and costs of different elements of the alternatives. As explained below, the variation in the levels of investment depended on the extent to which each alternative incorporated design features such as tunnels and aerial structures, which improve travel times but increase costs.

Low Investment

The Low Investment Alternatives primarily operated in shared traffic lanes on existing streets to avoid the cost of grade separation, right-of-way acquisition, and roadway reconstruction. They incorporated signal, signage, and lane improvements such as queue jump lanes wherever these would provide benefits. Aerial structures and tunnels were proposed only where existing roadway grades were outside the Purple Line design criteria.

Medium Investment

The Medium Investment Alternatives operated in dedicated or exclusive lanes (see Section 3.1.3) where possible or most beneficial, with some key grade-separations. These alternatives were developed to include those elements deemed most beneficial while remaining within moderate cost constraints.

High Investment

The High Investment Alternatives were intended to provide the most rapid travel times. They operated almost entirely in exclusive or dedicated lanes and were grade-separated, either on aerial structures or in tunnels in areas of high congestion such as crossings of the major radial roadways.

The other distinguishing factor among the AA/DEIS alternatives was the alignment of the Low Investment BRT alternative between Bethesda and Jones Mill Road, which followed Woodmont Avenue and Jones Bridge Road from Bethesda to Jones Mill Road, avoiding using the Georgetown Branch right-of-way west of Jones Mill Road. There was public support for studying an alternative that would not impact the Georgetown Branch Interim Trail. The Medium and High Investment BRT Alternatives and the LRT Alternatives used the Georgetown Branch right-of-way.

The AA/DEIS explained that, while it analyzed six end-to-end BRT and LRT alternatives, an alternative could include a combination of segments from different Build Alternatives. See AA/DEIS, Section 2.4.3.

Stations for BRT and LRT Alternatives

The scoping process considered twelve potential stations. Nine additional stations were added between the scoping process in 2003 and completion of the screening of the alternatives in 2007. The following is a complete list of the 21 proposed stations; the stations shown in italics were added to the Build Alternatives after the scoping process began.

- Bethesda
- Connecticut Avenue/Chevy Chase Lake
- Lyttonsville
- Woodside/16th Street
- Silver Spring Transit Center
- *Silver Spring Library/Fenton Street*
- *Dale Drive*
- *Manchester Place*
- *Long Branch/Arliss Street*
- Piney Branch/University Blvd
- Takoma/Langley Transit Center
- *Riggs Road*
- Adelphi Road/West Campus
- UM Campus Center
- *East Campus*
- College Park Metro
- *M Square/River Road*
- Riverdale Park
- *Beacon Heights/Riverdale Road*
- *Annapolis Road*
- New Carrollton

Many of the nine additional stations were proposed by local stakeholders or members of the public and were supported by a better understanding of the corridor and the existing markets, gained during the study. An early assumption about the corridor was that many riders would travel longer distances east-west and that travel time would be at a premium. As the study progressed, however, it became apparent that most of the riders would be using the Purple Line for short trips to destinations within the corridor or as part of longer trips transferring to or from north-south transit services. These travel

patterns supported the addition of more stations to better serve local residents or activity centers.

Permanent Capital Crescent Trail

As described in Section 2.1.1, a multi-use trail currently exists in the Georgetown Branch right-of-way. This unpaved trail was built as an interim trail until the construction of the Capital Crescent Trail; it is referred to in this document as the Georgetown Branch Interim Trail. In addition to providing a transitway, all of the BRT and LRT alternatives included the construction of the Capital Crescent Trail in those sections of the alternative that used the Georgetown Branch right-of-way (see AA/DEIS Section 2.4.3). The Low Investment BRT Alternative would not have included the construction of the Capital Crescent Trail between Bethesda and Jones Mill Road.

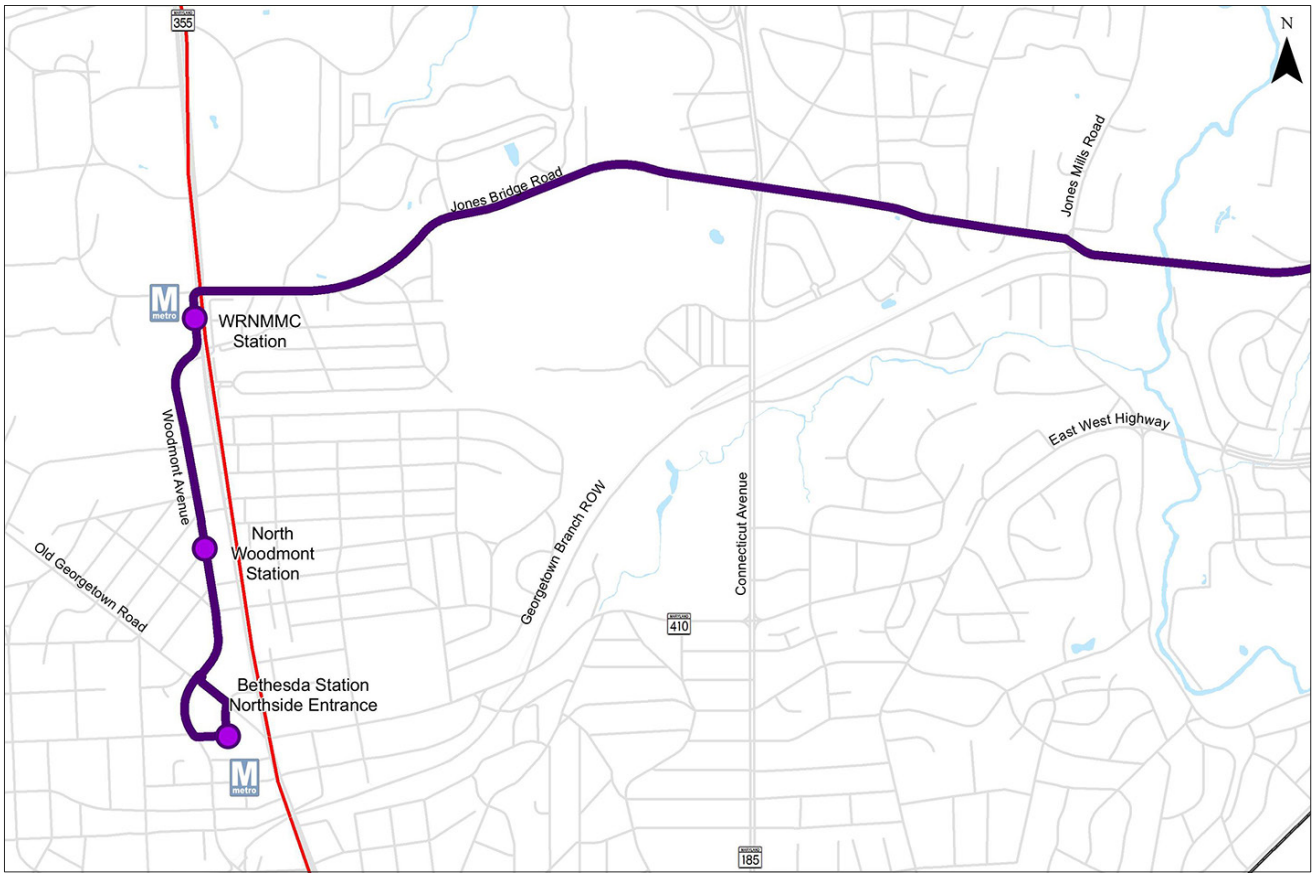
Variations on Medium Investment BRT Alternatives

In response to comments from stakeholders, MTA conducted additional studies of some variations of the BRT and LRT alternatives. This additional analysis included two options (described below) that would have provided service to the Walter Reed National Military Medical Center (WRNMMC) as well as downtown Bethesda. The WRNMMC is the former National Naval Medical Center. As a result of the Base Realignment and Closure (BRAC) process, the WRNMMC now includes the functions that were formerly provided at the Walter Reed Army Medical Center.

Medium Investment BRT Option 1

The Town of Chevy Chase asked MTA to evaluate a Medium Investment BRT option (Figure 2-1) that would use the alignment of the Low Investment BRT Alternative on Jones Bridge Road between Bethesda and Jones Mill Road, in combination with the Medium Investment BRT alignment in the rest of the corridor. This request reflected a concern that the Jones Bridge Road alignment was not being evaluated fairly since it was included only in a low

Figure 2-1. Medium Investment BRT Option 1



investment alternative. In response, MTA and FTA developed a medium investment option aligned on Jones Bridge Road that served the WRNMMC directly. From WRNMMC, the BRT would have followed Woodmont Avenue to the bus loop at the current entrance to the Bethesda Metro station.

Medium Investment BRT Option 2

MTA also evaluated a BRT option (Figure 2-2) that would have routed the Medium Investment BRT service to downtown Bethesda on the Georgetown Branch right-of-way and then north along Woodmont and Wisconsin Avenues to WRNMMC, avoiding Jones Bridge Road, while still providing a "one seat" ride to the WRNMMC. This option was not requested by the Town of Chevy Chase, but was developed by MTA and FTA as a basis for evaluating options for serving the WRNMMC.

MTA analyzed both options; the full analysis is presented in Medium Investment BRT Variations Serving the Medical Center, included in the *Supporting Documentation on Alternatives Development (2013)*.

Because of the indirect route of Option 1, the travel time between downtown Silver Spring and downtown Bethesda would have been 24 minutes, whereas the original Medium Investment BRT Alternative along the Georgetown Branch right-of-way would have completed this trip in 10 minutes. The longer travel time would result in a loss of more than 2,000 daily riders. While Option 1 would have provided more direct service to WRNMMC than the Medium Investment BRT Alternative, the travel market (defined as the number of residents and jobs near a proposed station) of downtown Bethesda is almost twice the size of the WRNMMC travel market (Figure 2-3). For these reasons this option was not carried forward.

Figure 2-2. Medium Investment BRT Option 2

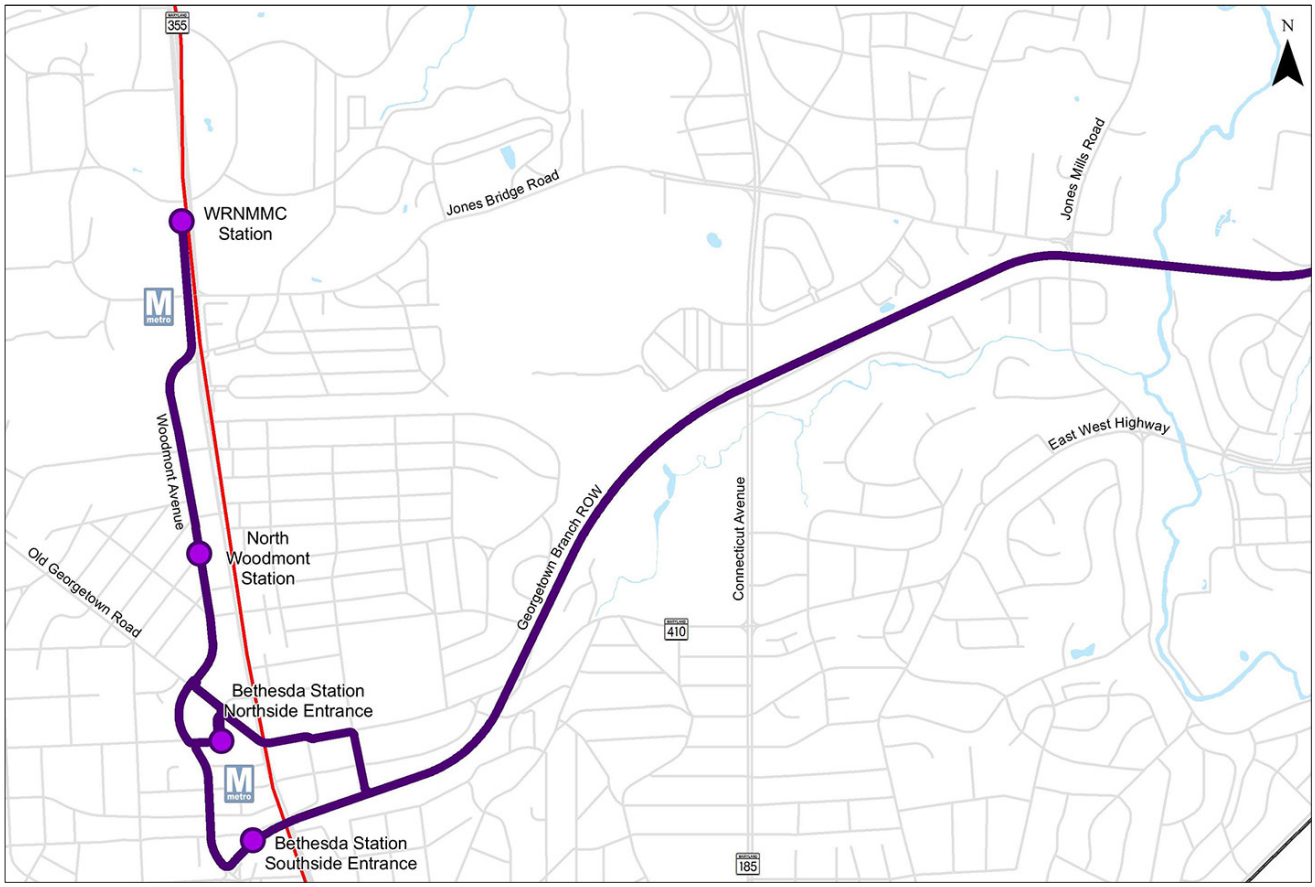
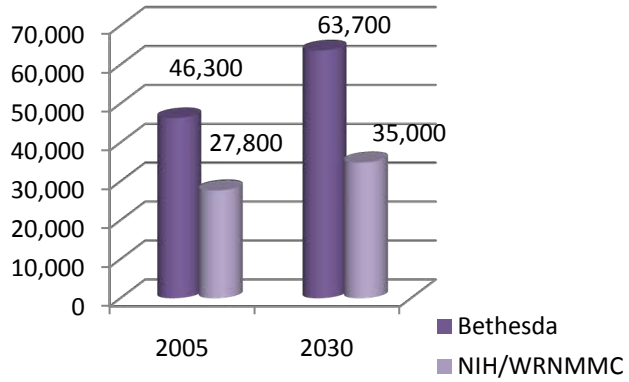


Figure 2-3. Comparison of Bethesda Central Business District and WRNMMC Travel Markets



Note: Data presented was developed at the time of the AA/DEIS, and for this reason uses the horizon year of 2030. This data includes the changes resulting from BRAC. NIH = National Institutes of Health, located near WRNMMC. Bethesda refers to the Bethesda central business district.
Source: Metropolitan Washington Council of Governments Travel Forecasting Model

Option 2 was developed by MTA as another possible approach to providing BRT service to the WRNMMC travel market. This option would have provided a fast ride via the Georgetown Branch right-of-way to downtown Bethesda, and it also would have provided a one-seat ride to WRNMMC. However, despite the benefit of a one-seat ride, transferring to the Metrorail Red Line would still provide a faster ride. There was no public support for this option as the advocates for serving WRNMMC did not support using the Georgetown Branch right-of-way.

Evaluation of AA/DEIS Alternatives

Chapter 6 of the AA/DEIS considered the environmental impacts of the No Build Alternative, TSM Alternative, and the six Build Alternatives, as well as several design options. In addition, a comprehensive evaluation of each alternative was conducted, based on the following framework used by FTA in the New Starts process:[5]

- **Effectiveness**—the extent to which an alternative achieves the purposes that the transportation improvements are intended to address.
- **Impacts**—the extent to which an alternative supports economic development, environmental or local policy goals.
- **Cost-Effectiveness**—the extent to which an alternative provides a level of benefits that is commensurate with its costs relative to other alternatives.
- **Financial Feasibility**—the extent to which sufficient funding is available or can be developed to support the construction, operation, and maintenance of an alternative.
- **Equity**—the extent to which an alternative provides fair distribution of costs and benefits across various communities in the corridor.

In determining effectiveness, the evaluation examined each alternative's ability to achieve the following goals of the project that had been identified in Chapter 1 of the AA/DEIS:

- Increase mobility and improve accessibility
- Improve transit operations efficiencies
- Enhance environmental quality
- Optimize public investment
- Support local plans for economic and community development
- Support attainment of regional air quality standards

For each of the six goals listed above, the AA/DEIS identified a series of objectives, as well as evaluation measures associated with each of the objectives (see AA/DEIS, Section 1.6).

Chapter 6 of the AA/DEIS included a table that summarized each alternative's ability to meet each of the project's goals and objectives (see AA/DEIS, Section 6.2, Attainment of Goals and Objectives). It then discussed each alternative's effectiveness, cost-effectiveness, financial feasibility, and equity. Lastly, it discussed the trade-offs among the alternatives.

The AA/DEIS acknowledged that the High Investment LRT Alternative would maximize achievement of the project's goals, but would have a much higher capital cost and require a higher annual operating subsidy. It found that "a substantial amount of the benefits [of High Investment LRT] could be achieved at a lower cost by Medium Investment LRT." Chapter 6 also found that "BRT alternatives would require lower capital and annual

[5] Federal Transit Administration, Office of Planning and Environment, *Procedures and Technical Methods for Transit Project Planning*, Chapter 9, Evaluation of the Alternatives. Undated.

operating subsidy investments and commitment of financial resources, but would provide lower achievements of mobility and other objectives."

While it discussed the trade-offs among the alternatives, the AA/DEIS did not identify a Preferred Alternative. Instead, MTA and FTA used the comments received on the AA/DEIS to gather input from agencies, elected officials, and the public, to inform the decision-making process, which led to the Preferred Alternative.

Public Comments on Alternatives Considered in AA/DEIS

Upon publication of the AA/DEIS in September 2008, MTA provided a 90-day public comment period from October 17, 2008 through January 14, 2009, and conducted four public hearings. Over 750 people attended the hearings, with 290 providing oral testimony. In total MTA received over 3,000 comments on the Purple Line, including several petitions. There were comments both supporting and opposing the project. Overall, the public hearings and comment process revealed widespread, strong support for the Purple Line. There were almost 1600 comments and over 3,300 signatures on twelve separate petitions supporting the project. Approximately 150 comments expressed opposition to the project as a whole, and 1090 people expressed opposition to the use of the Georgetown Branch right-of-way for transit. See Chapter 8.5 for more information on the Public Hearings. Specific public comments and a more detailed summary of issues presented during this process are provided in *Appendix A: AA/DEIS Comments and Responses.*

Montgomery and Prince George's Counties' Recommendations on Alternatives Considered in AA/DEIS

The Montgomery County Planning Board held public hearings on the project in January 2009 and recommended the adoption of the Medium Investment LRT Alternative with several modifications, by a vote of 5 to 1. The Montgomery County Council voted unanimously to concur with their recommendation. Subsequently, the County Council and the County Executive issued a joint letter on February 2, 2009, endorsing the Medium Investment LRT Alternative with the inclusion of the Capital Crescent Trail through the underpass under Wisconsin Avenue and the adjacent Apex and Air Rights buildings, which was part of the High Investment LRT Alternative. The joint letter also recommended postponing the construction of the Dale Drive station with the recommendation that the project be designed so the station easily could be added in the future. Light rail was identified as the "more viable long-term option" because of its consistency with the Georgetown Branch Master Plan, its higher projected ridership, its shorter travel times, and because the County Council believed it would better support transit-oriented development (TOD).

On January 27, 2009 the Montgomery County Council asked MTA to conduct additional analysis of the feasibility of the following prior to the selection of the LPA by the governor:

- Diesel-electric rail vehicles to avoid the need for an overhead wire propulsion system
- A single track segment along the Georgetown Branch right-of-way in Chevy Chase to minimize the removal of trees
- A longer tunnel under Wayne Avenue from the SSTC to Mansfield Road

These studies were completed, presented to the County Council, and made available to the public on the website (see *Supporting Documentation on Alternatives Development (2013).*

Consideration of the use of diesel-electric vehicles was not carried forward due to community impacts. The longer tunnel under Wayne Avenue was not carried forward due to cost, and community and environmental impacts. The single track segment was not carried forward because it would not have minimized the removal of trees and it would have resulted in substantial operation impacts to the Purple Line.

A November 18, 2008 statement from Prince George's County Council Chairman Samuel Dean and the County Council endorsed LRT as the preferred mode, but did not indicate a preferred alternative. The Council emphasized its desire for a future extension of the Purple Line beyond New Carrollton. In a January 13, 2009 letter, the Prince George's County Department of Public Works and Transportation supported High Investment LRT in Prince George's County. The Prince George's

County Planning Department agreed in a January 28, 2009 letter that the High Investment LRT Alternative would provide the most benefit, but acknowledged that the Medium Investment LRT Alternative would be an acceptable option. The Planning Department supported LRT based on its future capacity and because of the economic and TOD benefits. They specifically endorsed location of the alignment on Campus Drive through the University of Maryland (UMD) campus.

2.2 The Locally Preferred Alternative

Based on consideration of the information in the AA/DEIS, as well as input from the public, local jurisdictions, and elected officials, Governor Martin O'Malley identified an LPA on August 4, 2009. The phrase "Locally Preferred" reflects its selection by the local jurisdiction, in this case, the State of Maryland.

The LPA was largely the Medium Investment LRT Alternative as defined in the AA/DEIS, but included the following elements from the High Investment LRT Alternative:

- Maintaining the Capital Crescent Trail in the Bethesda underpass
- Lengthening the bridges of the Baltimore–Washington Parkway over Riverdale Road to accommodate the transitway in dedicated lanes
- Crossing under Annapolis Road

One element of the LPA that was not evaluated in the AA/DEIS was an aerial crossing of the intersection of Kenilworth Avenue and East West Highway. This intersection is very congested and would have resulted in substantial delays for the Purple Line. An elevated alignment was considered briefly, but MTA had been concerned about the potential visual impacts of an elevated alignment along Kenilworth Avenue. However the Town of Riverdale Park was interested in the redevelopment of this area, and in comments submitted on the AA/DEIS, suggested the evaluation of an elevated alignment. This was supported by Prince George's County. An elevated alignment was developed and added to the LPA.

The elevated alignment on Kenilworth Avenue, the dedicated lanes under the Baltimore-Washington Parkway, and the grade-separated crossing of Annapolis Road would all improve the travel time of the Purple Line.

The LPA also included a commitment to study postponing the construction of the Dale Drive station. The FEIS assumes the Dale Drive station since the issue is one of construction timing, when the station would be built, not whether.

The LPA's range of impacts and costs fell between the Medium Investment and High Investment LRT Alternatives and all of the elements of the LPA except the elevated Kenilworth alignment were studied as part of either of these two alternatives in the AA/DEIS. The LPA included those elements that provided improved travel times while balancing potential community and environmental impacts at an acceptable and affordable cost. The LPA had a high passenger capacity and the ability to accommodate projected future growth in ridership.

The selection of the LPA by the Governor was based on the following factors:

- The Medium Investment LRT Alternative had the second highest ridership, new transit trips and improved travel times of all the alternatives. The High Investment LRT Alternative was designed to be even faster and, therefore, had a 9-percent higher ridership but a 34-percent increase in cost. As discussed above, the LPA included three elements from the High Investment LRT Alternative that improved the travel times measurably, but at an affordable cost.
- The High Investment BRT Alternative was less expensive than the Medium Investment LRT Alternative, but had lower ridership. By attracting more riders and new transit trips compared with the BRT alternatives, the LRT alternatives would generate more user benefits and reduce more automobile trips from roadways albeit at higher initial construction costs.
- Another concern regarding the BRT alternatives was their limited capacity to handle increased ridership in the future. The carrying capacity of a BRT vehicle (140 people) is much less than a two-car train (280 people). The AA/DEIS did assume the addition of "trippers"

between Bethesda and Silver Spring during peak hours. "Trippers" are extra buses placed in operation for only the period of time needed to accommodate the demand. If ridership grows even higher in the future, adding even more BRT vehicles to the service and therefore further reducing headways would have caused operational problems including platooning of buses at major intersections.

- The LRT alternatives have the potential to provide a higher passenger-carrying capacity to meet long term ridership demand beyond what was projected for 2030. The higher capacity allows for reduced headways. An investment of this scale in public infrastructure must look beyond a 25-year time frame. Light rail transit also offers economic development and community revitalization benefits by providing improved and more permanent mobility and accessibility to the station areas, thus encouraging community investment. Because of these benefits, there was strong support from the public, both counties, and most of the local jurisdictions in the Purple Line corridor for the LRT alternatives, and particularly for the Medium Investment LRT Alternative.

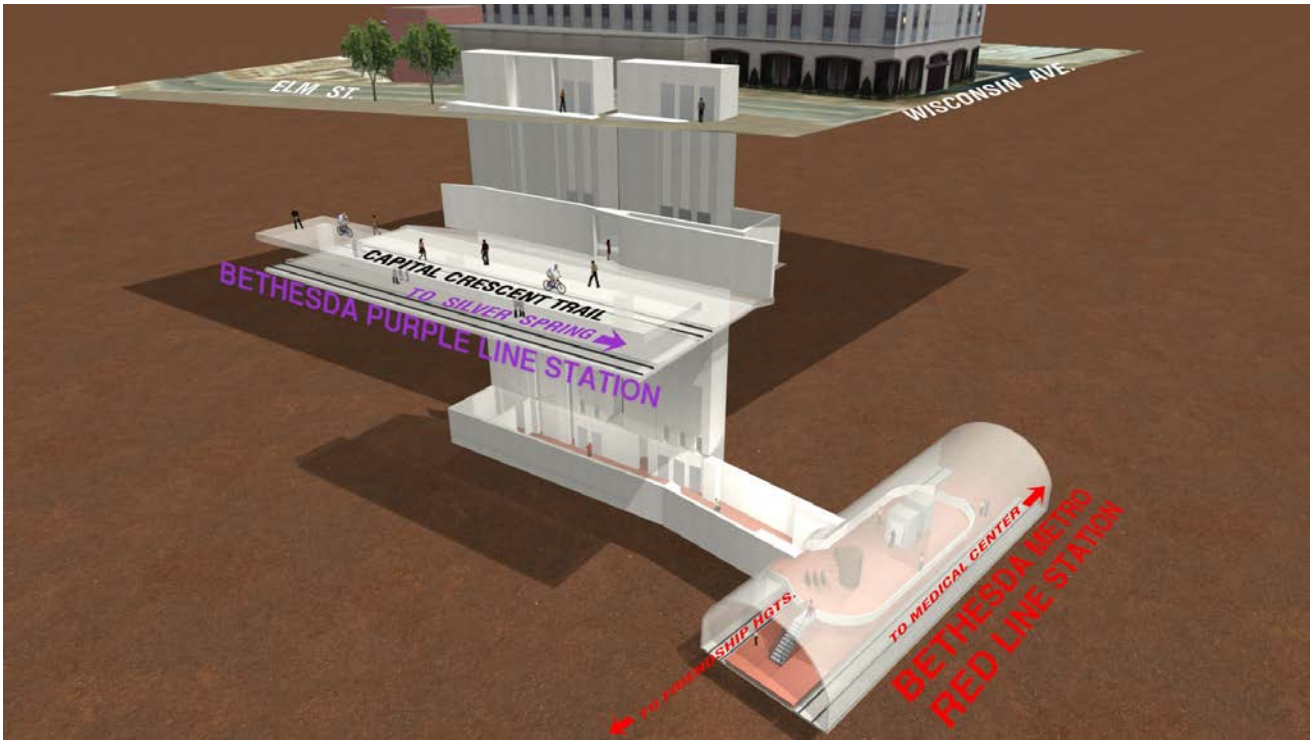
2.2.1 Description of the Locally Preferred Alternative (2009)

The following is a description of the Locally Preferred Alternative identified by Governor O'Malley in August 2009.

Downtown Bethesda

The LPA alignment began in the underpass of Wisconsin Avenue and the Apex and Air Rights buildings. The Bethesda station was located under the Apex building. At this location, the LPA connected to the elevators for the new south entrance to the Bethesda Metro station (Figure 2-4), a separate project funded by Montgomery County. The Capital Crescent Trail was placed on an aerial structure directly above the transitway, and would transition to grade into Woodmont Plaza.

Figure 2-4. Bethesda Station, Trail, and Connections to Metrorail Station under the LPA



Bethesda to Silver Spring

Heading east from Bethesda, the LPA followed an at-grade alignment along the Georgetown Branch right-of-way, crossing over Connecticut Avenue and under Jones Mill Road. The Capital Crescent Trail was completed (paved and landscaped) to provide a continuous trail between Bethesda and Silver Spring, replacing the existing Georgetown Branch Interim Trail between Bethesda and Stewart Avenue. A maintenance and storage facility was located along Brookville Road in Lyttonsville. At the CSXT right-of-way the trail crossed to the north side on a separate bridge near Talbot Avenue.

The LPA stayed on the south side of the CSXT corridor until just before Colesville Road, where it crossed over the CSXT and WMATA tracks to enter the SSTC on an aerial structure above the existing tracks.

Silver Spring to College Park

The LPA left the SSTC along Bonifant Street at grade to a station integrated into the new Silver Spring Library. It continued at grade on Wayne Avenue, in mixed-use lanes. Just past Manchester Road it entered a 1/4-mile-long tunnel under Plymouth Street and returned to the surface on Arliss Street in dedicated lanes, before turning left onto Piney Branch Road and then right onto University Boulevard.

The LPA continued at grade on University Boulevard, until west of Adelphi Road where University Boulevard rises steeply. At this point the LPA crossed under Adelphi Road, returning to grade just east of Adelphi Road, and continuing directly through the center of the UMD campus, crossing US 1 on Rossborough Lane to enter the new East Campus development.

It continued on Paint Branch Parkway in a short section of mixed-use lanes, passing under the CSXT/Metrorail tracks, and entering the College Park UMD Metro Station. It then followed the south side of River Road in dedicated lanes before it turned east onto Kenilworth Avenue.

College Park to New Carrollton

On Kenilworth Avenue, the LPA was located on the west side of the roadway transitioning to an aerial structure. It crossed over the intersection of East West Highway and Kenilworth Avenue, and turned left into an aerial station located in the small triangle formed by East West Highway, Kenilworth Avenue and Riverdale Road.

The LPA continued in dedicated lanes on Riverdale Road and then along the south side of Veterans Parkway, passing under Annapolis Road, before turning left onto Ellin Road to arrive at the New Carrollton Metro station. A second maintenance and storage facility was located along Veterans Parkway on the site of a Prince George's County park maintenance facility.

The LPA included the construction of the Capital Crescent Trail for the full 4.3 miles between downtown Bethesda and downtown Silver Spring.

2.2.2 Refinements to the Locally Preferred Alternative (2009–2012)

The LPA described above was a step toward the definition of the Preferred Alternative evaluated in this FEIS. After the LPA was selected, MTA continued with conceptual engineering until FTA approved the project's entry into preliminary engineering in October 2011. MTA also continued to engage in public involvement, soliciting input from the public about all aspects of the LPA. Through this process, many refinements were made that resulted in the Preferred Alternative.

In accordance with 23 CFR 771.129, MTA prepared a Re-evaluation because more than three years had passed since publication of the AA/DEIS for this project. MTA submitted the Re-evaluation to FTA on August 8, 2012. The Re-evaluation compared the current Preferred Alternative as examined in the FEIS to the build alternatives considered in the AA/DEIS, and concluded that a Supplemental Environmental Impact Statement (EIS) of the AA/DEIS is not required because there are no new significant environmental impacts beyond those evaluated in the AA/DEIS. In correspondence dated October 2, 2012, FTA concurred with the findings in the Re-evaluation but indicated that the FEIS should include the information on the changes in the project so that these changes could be subject to public review.

Refinements to the LPA largely consisted of minor shifts in alignment. For example, the transitway was originally located along the same roadway but was shifted from the middle of the road to the side of the road, or from the side of a road to the middle. Other refinements resulted in minor shifts to station locations and in the plans for the maintenance and storage facility sites. Many refinements were the result of input received from the public and stakeholders. Some were proposed to resolve outstanding design issues or to avoid or minimize environmental or community impacts, improve traffic or transit operations, improve safety, or reduce project costs. The refinements and the accompanying public involvement activities are described in greater detail in the *Purple Line DEIS Re-evaluation (2012)* included in *Supporting Documentation on Alternatives Development (2013)*.

The following sections provide a summary of these refinements which have been incorporated into the alternative, now referred to as the Preferred Alternative.

Alignment along Kenilworth Avenue (From River Road to East West Highway)

After the selection of the LPA, the Maryland State Highway Administration (SHA) informed MTA that its Highway Needs Inventory identified a need for the future widening of Kenilworth Avenue between River Road and East West Highway based on projected traffic generated by M Square Research Park. The additional lanes near River Road would affect the design of the Purple Line. In response, MTA modified its plans to accommodate the widening, resulting in the potential displacement of nine businesses and in substantial changes in access to businesses and residences on the west side of Kenilworth Avenue. After MTA presented these modifications to project stakeholders and the public, members of the public and representatives from Prince George's County and the Town of Riverdale Park expressed concern over the additional displacements and requested that MTA and SHA re-assess the need for the widening, and consider options to minimize impacts. MTA, SHA, and Prince George's County collaborated in a re-assessment of the future travel demand along Kenilworth Avenue in light of the changing nature of the area and other ongoing projects.

Dale Drive Station

The LPA included a commitment to further study of a Dale Drive station at the request of Montgomery County. Based on further study and community input, MTA has decided to include the Dale Drive station in the Preferred Alternative primarily to provide improved transit access for the East Silver Spring communities. Without the station, the communities would lack convenient access to the Purple Line. Therefore, the FEIS includes analysis of the benefits and impacts of the Dale Drive station.

MTA continues to assess community input regarding the timing of building the Dale Drive station. The design provides the space for the station platform. If construction of this station is deferred, the initial construction would include right-of-way acquisition, track layout and subsurface infrastructure to accommodate the station; the elements that would be deferred are the station platform, canopy and fare equipment.

The portion of Kenilworth Avenue to the south of the proposed Purple Line alignment had been narrowed from six to four lanes, and a current project was converting the existing wide shoulders to bike lanes and wider sidewalks in response to high transit use and increasing pedestrian activity in the area. The introduction of Purple Line stations at M Square Research Park and Riverdale Park is expected to further increase the need for better bicycle and pedestrian access.

MTA also re-assessed future travel demands, which confirmed the need for the proposed improvements at the intersection of River Road and Kenilworth Avenue in order to accommodate future development at M Square Research Park. However, further traffic analysis demonstrated that a future six-lane roadway section on Kenilworth Avenue was not warranted, nor were all of the existing three southbound lanes for the entire length of Kenilworth Avenue within the project corridor.

As a result of this new information, much of the proposed widening of Kenilworth Avenue was eliminated, which in turn enabled MTA to move the transitway to the median of Kenilworth Avenue, and to include new sidewalks on both sides of the roadway and bicycle-compatible outside lanes. This refinement would reduce the potential business displacements to three, and would maintain access to businesses and local roads. Because the construction of the Purple Line would require realignment of the road, the roadway improvements would be constructed concurrently.

Alignment along East West Highway/Riverdale Road (Kenilworth Avenue to Veterans Parkway)

Both shared and dedicated lanes in the median of East West Highway/Riverdale Road between Kenilworth Avenue and Veterans Parkway were evaluated in the AA/DEIS. These alignments would have restricted access to homes and businesses along Riverdale Road to right-in/right-out, resulted in strip acquisitions of properties to widen the road, and required the re-grading of front yards and driveways. As the residential parcels closest to the Baltimore-Washington Parkway are very small with short, often steep, driveways, there was concern that the strip acquisitions could result in impacts unacceptable to the property owners. Prince George's County asked MTA to study a shift in the transitway to the south side of the roadway, displacing the residents on that side. MTA conducted an extensive public outreach effort with the affected residents and homeowners, which revealed that the majority of affected property owners preferred the shifted south side alignment to the median alignment, despite the resulting displacements. Therefore, MTA and Prince George's County have jointly endorsed the south side refinement along Riverdale Road.

Alignment along Veterans Parkway

Once the site for the Glenridge Maintenance Facility on Veterans Parkway was identified, the transitway alignment in the area was reconsidered to provide safe and efficient access to the facility. The median alignment in the LPA would have required transit vehicles entering and exiting the yard to cross southbound traffic on Veterans Parkway. Also, it was difficult to accommodate the required lead tracks and switches in the median. An alignment on the southwest side of the roadway would not require the transit vehicles to cross vehicular traffic and would accommodate the lead tracks and switches. Therefore, the alignment was shifted to the southwest side of Veterans Parkway but was still primarily within the state-owned right-of-way of Veterans Parkway.

Annapolis Road At-Grade Crossing

During project-wide value planning exercises, options were considered to address the following challenges presented by the transitway underpass at Annapolis Road proposed in the LPA:

- The Annapolis Road station would have been located under Annapolis Road. While this would have provided good access to both sides of Annapolis Road, it presented safety concerns because passengers would wait in an area of poor visibility, away from the pedestrian activity occurring at street level.
- This station location also would require stairs and elevators to provide access to the station.
- The grade-separated alignment would have resulted in a direct conflict with a 66-inch underground water main, which would require the relocation of a portion of the water line.
- Maintenance of traffic on Annapolis Road would have been difficult during construction of a new bridge carrying Annapolis Road over the Purple Line, since no reasonable detour routes exist.
- Large retaining walls would have been required to accommodate the grade separation.

In addition to the safety and construction difficulties, the cost of meeting these requirements would be considerable. Therefore, MTA determined that an at-grade crossing of Annapolis Road would be an appropriate refinement. Also, an at-grade station east of Annapolis Road would be in line with CPTED[6] principles for safety and reduced crime by improving visibility and integrating the station with

[6] Crime Prevention through Environmental Design (CPTED) is an approach to deterring criminal behavior through the design of the built environment. Often referred to as Defensible Space, several of the main principles are maximizing visibility, differentiating between public and private space, and controlling access with fencing, lighting and landscaping.

the pedestrian activity at street level, and it would support the county's plan for TOD in this location.

Lyttonsville and Glenridge Maintenance and Storage Facility Sites

Both of these maintenance and storage facility sites were identified in the AA/DEIS and LPA, but the site plans and work programs were not prepared at that stage of the project. The size and designs are dependent on the number of vehicles required, which, in turn, is dependent on the projected ridership.

As plans for the Purple Line were more fully developed and the number of trains increased in response to a larger projected ridership, the site in Lyttonsville expanded. Local residents expressed concerns about the proposed location and increased size because the facility would be close to homes and would have displaced a number of commercial and light industrial businesses along Brookville Road. MTA agreed to reexamine the plans for the facility to address the community's concerns.

MTA developed an option that would address both the community concerns and meet MTA's operational requirements. Working with owners of two large parcels of land in the area, Montgomery County and the Washington Suburban Sanitary Commission, MTA was able to shift most of the facility west of Lyttonsville Place and south of Brookville Road, away from the local residents and the commercial area.

In a continued effort to reduce both the capital and operating costs of the project and the community impacts, MTA programmed the activities at the two sites to serve separate purposes. The Lyttonsville site would be the primary vehicle storage area and would house the operations and control center while the Glenridge site would be the primary maintenance and repair shop. As a result, the Lyttonsville Yard design was consolidated to displace fewer adjacent businesses, and the Glenridge Maintenance Facility was shifted farther from an elementary school and from the active recreation facilities of Glenridge Park.

Adelphi Road At-grade Crossing

The grade of University Boulevard as it approaches Adelphi Road was outside the Purple Line LRT design criteria used during the conceptual planning for the AA/DEIS.[7] Consequently, the LRT alternatives in the AA/DEIS included an underpass at Adelphi Road. In 2012, after the project entered Preliminary Engineering, UMD requested that an at-grade crossing of Adelphi Road be considered to improve the visibility of the station, its connection to UMD University College and the main campus, safety for station users, and pedestrian access. MTA conducted additional survey work to obtain more information on the grades, developed more detailed designs, and obtained more detailed information on the capabilities of the LRT vehicles under consideration.

These studies determined that an adjustment in the vertical profile of the transitway in the median of University Boulevard to meet the elevation of Campus Drive would permit an at-grade crossing of Adelphi Road, which would achieve the goals cited by UMD and would simplify the maintenance of traffic during construction. This refinement also relocated the proposed station to street level on the south side of Campus Drive.

The Prince George's County Park and Planning Commission supported the change, noting that TOD opportunities would be enhanced by the at-grade option. The Prince George's County Purple Line TOD study assumes an at-grade station.[8]

2.2.3 Additional Refinements to the Alignments (post-August 2012)

After the completion of the Re-evaluation in August 2012 the MTA continued design refinement in response to additional community and stakeholder input, and further understanding of local conditions

[7] For the initial planning stage of the project MTA developed a set of design criteria including LRT vehicle capabilities (*Purple Line Corridor Transit Study General Vehicle Guidelines*, 2006). These early design criteria for vehicles were based on conservative assumptions for size, type, and other characteristics of potential light rail vehicles. Typical of these assumptions was the grade that the vehicles could handle.

[8] *Purple Line TOD Study*, M-NCPPC, draft, November 2012.

and constraints. The following are the refinements made.

Alignment along Ellin Road (Veterans Parkway to New Carrollton Metro Station)

Initial plans for the alignment on Ellin Road located both tracks of the transitway on the south side of Ellin Road from Veterans Parkway (MD 410) to the New Carrollton Metro Station. The alignment passed a substantial PEPCO electrical substation. During coordination with PEPCO, the MTA was advised that the alignment would need to be relocated due its proximity to an underground grid and several underground electrical vaults. The MTA evaluated several options and ultimately selected an option that located the tracks in the outside lanes of the existing roadway. The light rail would operate in mixed traffic conditions in these lanes along a portion of Ellin Road.

Alignment along Arliss Street (Flower Avenue to Piney Branch Road)

At the time of the AA/DEIS, the tunnel portal was planned in the center of the roadway and tracks remained in the center. In the context of the development of a new local sector plan MTA worked with the Montgomery County planners and DOT as well as local property owners to address concerns about changes in property access and property acquisition requirements. In response and through close coordination with the county, the MTA has shifted the portal to the south side of the roadway and realigned the tracks and station platform to that side of Arliss Street. Coordination with the property owner is ongoing regarding construction easements and short term impact minimization.

Reduction of University Boulevard from Six to Four General Traffic Lanes (Piney Branch Road to West Park Drive)

At the time of the AA/DEIS, University Boulevard between Piney Branch Road (MD 320) and West Park Drive would remain a six-lane roadway with three travel lanes in each direction. The addition of a dedicated transitway for the Purple Line in the center would have resulted in roadway widening of approximately 40 feet.

Community members and stakeholders proposed that MTA study the possibility of reducing the width of the transportation corridor right-of-way along University Boulevard in order to make the area safer and more pedestrian-friendly, facilitate transit-oriented development, and provide space for streetscape elements such as landscaping, cycle tracks and wider sidewalks. University Boulevard in this area is already notable for high levels of pedestrian activity, as well as a high number of pedestrian accidents.

After extensive coordination and study with SHA and both counties, it was agreed that University Boulevard would be reduced to a four-lane section between Piney Branch Road and West Park Drive with specific additional intersection improvements. The intersection improvements in conjunction with the minor estimated diversions would result in a four-lane configuration that would operate similar to the six-lane configuration included in the Locally Preferred Alternative. Benefits from this change include:

- Narrower transportation corridor
  - 22 feet narrower compared to LPA
  - Improves pedestrian facilities/safety
  - Provides opportunities for wider sidewalks and green buffers in some areas
  - Significantly reduces right-of-way impacts
  - Reduces displacements from 11 to 6 (down to 8 businesses)
  - Less impact on adjacent properties
  - Maintains a portion of several service drives and residential and commercial parking lots (120 fewer residential spaces lost)
- Reduces storm water management needs
- Balances needs of all users (pedestrians, motorists, transit)
- Provides more space for future sector plan improvements such as cycle tracks and/or wider sidewalks

This refinement has been coordinated with the local jurisdictions and supported by the community and local stakeholders.

2.2.4 Refinement Options Evaluated but Not Selected

Since the identification of the LPA in 2009, several design options were evaluated but not selected for inclusion in the Preferred Alternative (see *Supporting Documentation on Alternatives Development (2013)).*

North Side of Ellin Road

The residents of the Hanson Oaks neighborhood on the south side of Ellin Road in Prince George's County asked MTA to evaluate an option locating the transitway on the north side of Ellin Road, instead of the south to minimize impacts to their neighborhood. This option was evaluated, but rejected because it would have impacts to West Lanham Neighborhood Park. It also would have required acquisition of residential property, while the south side option did not take any private residential property. The north side option, although farther from the Hanson Oaks neighborhood, would have been closer to the West Lanham Hills neighborhood.

Single Track under the Baltimore-Washington Parkway

At the request of the National Park Service (NPS), MTA evaluated the option of single track operation on Riverdale Road as the Purple Line crosses under the Baltimore-Washington Parkway. This would have reduced the required widening of Riverdale Road, and thus reduced the impacts to the NPS property. The single-track segment would be approximately 1,600 feet long, and would be located in the eastbound left turn lane of Riverdale Road. As the transit vehicles and the motor vehicles could not use the lane at the same time, the shared use would require that the eastbound traffic be held at a signal when the light rail vehicle was in the lane. The resulting delay, both the time for the traffic to clear the lane and the time for the transit vehicle to traverse the single track, would cause queues of eastbound traffic over 4,000 feet long, extending to and beyond Kenilworth Avenue compared to queues of approximately 1,100 feet under the LPA. In addition, the projected traffic delay in the eastbound direction from west of Kenilworth Avenue to east of Veterans Parkway would increase from 5 minutes under the LPA, to 45 minutes. These traffic impacts would be so severe that this would not be a reasonable option.

Tunnel Option at Baltimore-Washington Parkway

Also at the request of the NPS, MTA evaluated the option of a putting the LRT in a tunnel where the alignment would cross the Baltimore-Washington Parkway, to avoid potential impacts to that facility. This option would have left the parkway bridges untouched and would not have impacted traffic at the signals at the parkway entrance and exit ramps and the nearby intersections on Riverdale Road. However, the tunnel would have been over 3,300 feet long, would have required ventilation and pumping, and would have resulted in additional residential displacements. It also would have required an underground station at Beacon Heights. The combined cost of the tunnel and the station was estimated at over $300 million dollars, which would have made the project financially infeasible.

2.3 Alternatives Evaluated in the FEIS

2.3.1 No Build Alternative

The No Build Alternative represents the future conditions of transportation facilities and services in 2040 in the corridor if the Purple Line were not built. The No Build Alternative has been updated since the publication of the AA/DEIS in 2008 and includes the existing highway network and transit service, plus those transportation projects listed in Table 2-2 for which funding sources have been identified, and have been included in the CLRP for implementation by 2040. The CLRP also includes some unfunded "illustrative projects," which could be built if additional funding is obtained, but are not included in the No Build Alternative. Maintenance projects, such as roadway resurfacing, cleaning or painting and the current Montgomery County consideration of a BRT network[9] also are not included. The Montgomery County BRT study involves a proposal for a countywide BRT network of multiple routes. The final draft of this proposed amendment to the Master Plan of Highways is scheduled for transmittal to the County Council

[9] *Master Plan of Highways Bus Rapid Transit Amendment*, Montgomery County Planning Department, M-NCPPC, September 2011

July 22, 2013. Because the Montgomery County BRT is still in development, and is not adopted or funded, it is not included in the No Build Alternative.

The following three projects are not part of the Preferred Alternative and are planned to be built absent the Purple Line project. While these three projects all have independent utility, each would be constructed in a manner that will accommodate the Purple Line.

Bethesda Metro Station South Entrance

This new entrance to the Bethesda Metro Station mezzanine at the south end of the Red Line Metrorail platform would provide a direct connection between the Purple Line and the Red Line. Montgomery County has committed $81 million for construction.

Montgomery County intended to initiate construction of the Metro Station South Bethesda Station Entrance as a separate project prior to the start of the Purple Line construction. However, based on recent discussions with the county, the building of this project is now likely to occur at the same time as the Purple Line, providing some construction interface and cost savings benefits. During the construction of the shaft containing the elevators and egress stairs providing the connection between the Metrorail station and the surface, Elm Street between Wisconsin Avenue and Woodmont Avenue would be closed to through traffic.

Silver Spring Transit Center

This is an integrated transit center at the Silver Spring Metro Station that includes bus bays for Metrobus and Ride On, an intercity bus facility, a taxi queue area, a kiss-and-ride facility, and a MARC ticketing office. Provision is also made for the Purple Line and the Capital Crescent Trail. This project is under construction.

Table 2-2. Transportation Projects in the CLRP

Jurisdiction	Agency	Project Name	Facility	Limits
Montgomery County	Montgomery County	Silver Spring Green Trail	Silver Spring Green Trail	Silver Spring Metro Station to Sligo Creek Trail
Montgomery County	Montgomery County	Silver Spring Transit Center	Silver Spring Transit Center	Silver Spring Metro Station
Montgomery County	Montgomery County	Bethesda Bikeway and Pedestrian Facilities	Bethesda Bikeway and Pedestrian Facilities	Bethesda CBD
Montgomery County	Montgomery County	Bethesda Metro South Entrance	Bethesda Metro Station	Bethesda Metro Station
Montgomery County	Montgomery County	Dale Drive Sidewalk	Dale Drive Sidewalk	Mansfield Road to Hartford Avenue
Montgomery County	Montgomery County	Silver Spring Traffic Improvements	Dale Drive	Dale Drive to US 29 Colesville Road
Montgomery County	Montgomery County	Bethesda Lot 31 Parking Garage	Bethesda Lot 31 Parking Garage	Bethesda Avenue at Woodmont Avenue
Montgomery County — Prince George's County	MTA	Takoma/Langley Park Transit Center	Takoma/Langley Park Transit Center	University Boulevard at New Hampshire Avenue
Prince George's County	MDOT/State Highway Administration	US 1, Baltimore Avenue	US 1 Baltimore Avenue	College Avenue to Sunnyside Avenue
Prince George's County	Prince George's County	US Route 1 Bus Enhancements	US Route 1	District Line to MD 198
Prince George's County	Prince George's County	Greenbelt Road MD 193 Bus Enhancement	MD 193 Greenbelt Road/University Blvd	MD 650 New Hampshire Avenue to MD 564 Lanham-Severn Road
Prince George's County	MDOT/State Highway Administration	MD 201, Kenilworth Avenue	MD 201	Rittenhouse Road to Pontiac Street

Takoma/Langley Park Transit Center

This transit center is a joint project of MTA and SHA with financial contributions by Prince George's and Montgomery Counties that includes pedestrian safety, roadway and intersection improvements including new sidewalks and crosswalks; and a shelter for patrons awaiting buses. It will be on the northwest corner of the University Boulevard and New Hampshire Avenue intersection in Langley Park. This transit center would be adjacent to the Purple Line station in the median of University Boulevard. This project received a U.S. Department of Transportation TIGER[10] grant award in February 2010. Notice to Proceed is anticipated in 2013.

2.3.2 Preferred Alternative

The term "Preferred Alternative" as used in this FEIS refers to MTA's current proposal, which is a refined version of the LPA. The Preferred Alternative is a 16.2-mile east-west LRT line that would extend from the Bethesda Metro station in Montgomery County to the New Carrollton Metro station in Prince George's County.

The Preferred Alternative would be at grade except for one short tunnel section and three sections elevated on structures. The Preferred Alternative would operate mainly in dedicated or exclusive lanes, providing fast, reliable transit operations. The alignment, stations, system elements, yard, maintenance facility and operating plan are summarized in Table 2-3, shown in Figure 2-5, and described below.

For plans and mapping of the Preferred Alternative see *Volume 2 – Conceptual Engineering Plans and Environmental Resource Mapping*.

Alignment

Bethesda to Silver Spring Transit Center — 4.3 miles

For mapping of this area see the conceptual engineering plans CV-1 though CV-20, and environmental resource maps 1 through 9.

The transitway would begin on the Georgetown Branch right-of-way in Bethesda. The Georgetown Branch right-of-way crosses under Wisconsin Avenue. On either side of the Wisconsin Avenue bridge, buildings have been built above the right-of-way; the Apex building west of Wisconsin Avenue, and the Air Rights building to the east. The western terminus would include a short section of track extending west outside the Apex building for approximately 100 feet. The Bethesda station would be under the Apex building.

For mapping of this area see the conceptual engineering plans CV-1 though CV-6, and environmental resource maps 1 through 3.

Table 2-3. Summary of Preferred Alternative

Measure	Preferred Alternative
Length	16.2 miles
Stations	21
Storage and maintenance facilities	2
Ancillary facilities	20 traction power substations — 18 along the alignment and 2 in yards Approximately 14 signal bungalows
Length in tunnel	0.3 miles
Travel time (Bethesda–New Carrollton)	63 minutes during peak hours 60 minutes during off peak hours

The station would connect to elevators serving a new south entrance to the Bethesda Metrorail station. The elevators would continue up to Elm Street. Access also would be provided from Woodmont Plaza to the west, and via a sidewalk from the Capital Crescent Trail. This sidewalk from the elevator lobby area adjacent to the Purple Line station and under the Air Rights building would provide access to the station from the east. The transitway would continue east under both Wisconsin Avenue and the Air Rights building. After emerging from under the Air Rights building, the transitway would continue in the Georgetown Branch right-of-way, crossing under East West Highway and passing through the Columbia Country Club (see Figure 2-6 for an illustration of a typical section in the Georgetown Branch right-of-way).

[10] Transportation Investment Generating Economic Recovery, a supplementary discretionary grant program included in the American Recovery and Reinvestment Act of 2009.

Figure 2-5. Purple Line Preferred Alternative

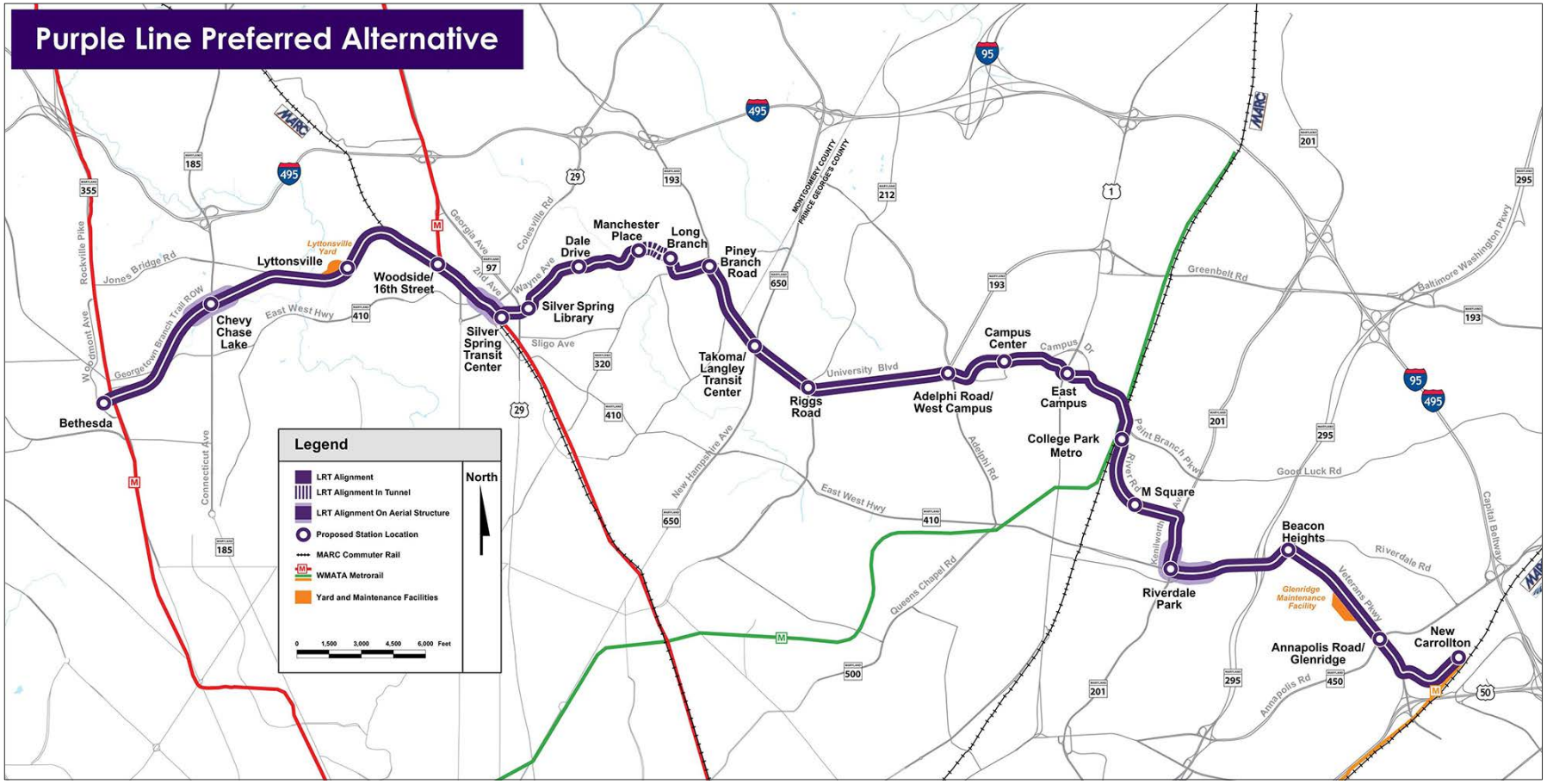
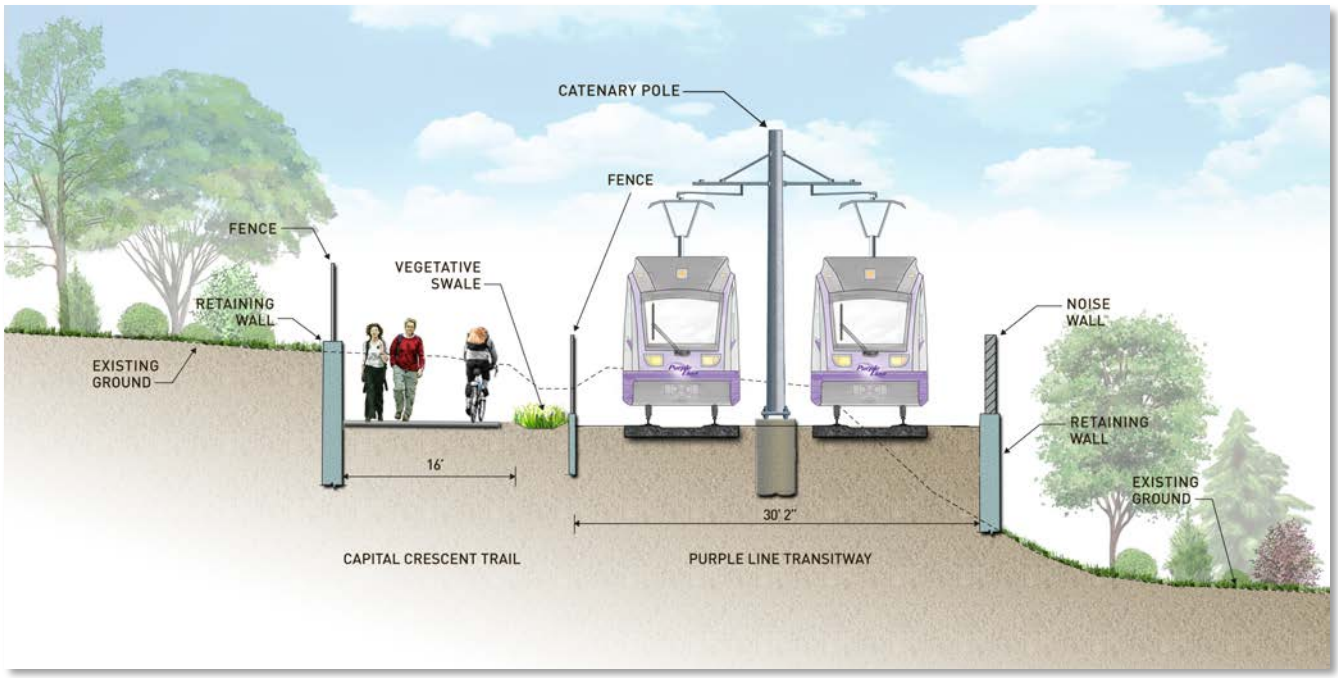


Figure 2-6. Typical Section in Georgetown Branch Right-of-way



Continuing along the Georgetown Branch right-of-way, the transitway would cross Connecticut Avenue on a bridge. The Chevy Chase Lake station would be on the east side of Connecticut Avenue, elevated at the level of the bridge with connections to street level provided by stairs and elevators. The transitway would continue east, returning to grade, and then pass under Jones Mill Road. A new bridge, approximately 10 to 15 feet lower than the existing pedestrian bridge, would carry the transitway across Rock Creek. The Lyttonsville Yard would be located on the north side of the transitway, mostly west of the Lyttonsville Place bridge. The Lyttonsville station would be located east of the bridge. Continuing east in the Georgetown Branch right-of-way to the CSXT right-of-way, the transitway would continue parallel to the CSXT right-of-way on the south side (see Figure 2-7 for an illustration of a typical section along the CSXT right-of-way).

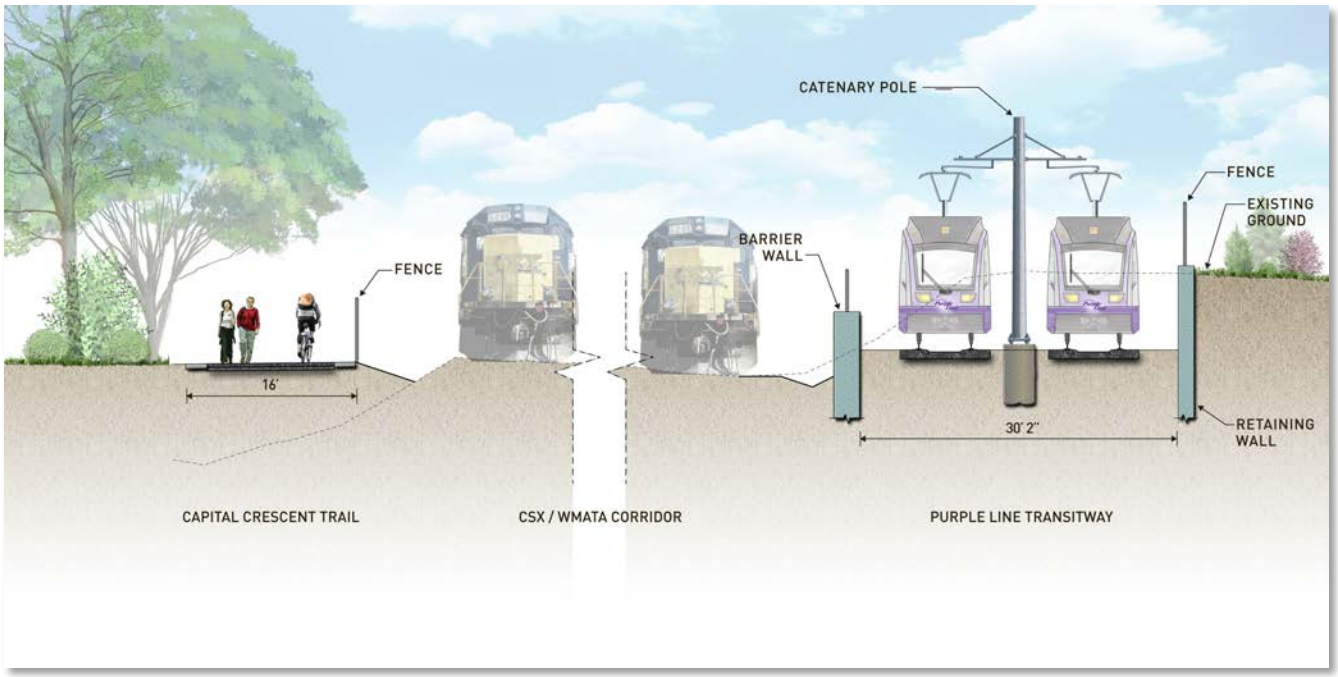
It would pass under the bridges at Talbot Avenue, 16th Street, and Spring Street within or adjacent to the CSXT right-of-way, at approximately the same elevation as the CSXT tracks. The Woodside station would be just east of the 16th Street Bridge. East of the Falkland Chase Apartments, the transitway would cross over the CSXT tracks to the north on an aerial structure and enter the SSTC parallel to, but higher than, the existing Metrorail tracks. The SSTC station platform would be located between the SSTC and the existing railroad tracks.

Silver Spring Transit Center to Takoma/Langley Park Transit Center — 3.2 miles

For mapping of this area see the conceptual engineering plans CV-20 though CV-37, and environmental resource maps 9 through 15.

East of the SSTC, the transitway would turn away from the CSXT right-of-way and descend to grade on the south side of Bonifant Street in dedicated lanes. The transitway would cross Georgia Avenue at grade, shifting to the north side of Bonifant Street. Just before reaching Fenton Street, the transitway would turn north to pass through the future Silver Spring Library building, the location of a station, and enter the intersection of Fenton Street and Wayne Avenue. The transitway would continue on Wayne Avenue in mixed-use lanes in the center of the roadway. The Preferred Alternative would have a station in the center of Wayne Avenue east of Dale Drive.

Figure 2-7. CSXT Right-of-Way Typical Section, Looking Southeast



Note: While this figure shows completing the Capital Crescent Trail in CSXT right-of-way, the completion of the trail along the CSXT corridor is contingent on agreement with CSXT on the use of their property on the north side of the CSXT tracks for the trail. If agreement is not reached by the time the Purple Line construction occurs, MTA would construct the trail from Bethesda to Talbot Avenue. From Talbot Avenue to Silver Spring an interim signed bike route on local streets would be used.

The transitway would continue along Wayne Avenue (Figure 2-8). After crossing the intersection of Sligo Creek Parkway, it would enter a tunnel from Wayne Avenue east of Manchester Road to avoid the steep grade of Wayne Avenue. The Manchester Place station in the portal of the tunnel would be accessed both at grade from Wayne Avenue or by stairs or elevators from Plymouth Street above. The transitway would emerge from the tunnel on the south side of Arliss Street in dedicated lanes and would continue to the intersection of Piney Branch Road. The Long Branch station would be on the west side of Arliss Street at this intersection.

The transitway would run in the median of Piney Branch Road to the intersection with University Boulevard. Piney Branch Road would be widened to accommodate the two new transit lanes.

The Piney Branch station would be in the median of University Boulevard at this intersection. The transitway would continue south in dedicated lanes in the median of University Boulevard to a station at the intersection with New Hampshire Avenue, adjacent to the Takoma/Langley Park Transit Center. On University Boulevard the Preferred Alternative would replace the two center traffic lanes with the transitway. As described in Section 2.2.2, this change would reduce University Boulevard from six lanes to four lanes. See Figure 2-9 for a typical section of the transitway in the median of University Boulevard.

Takoma/Langley Park Transit Center to College Park Metrorail station — 4.0 miles

For mapping of this area see the conceptual engineering plans CV-37 though CV-57, and environmental resource maps 15 through 22.

Continuing along University Boulevard, the Riggs Road station would be in the median of University Boulevard on the west side of the Riggs Road intersection. The transitway would continue on University Boulevard, crossing Adelphi Road at grade to enter the UMD campus. The Adelphi Road/West Campus station would be located here directly across from UMD University College.

Figure 2-8. Wayne Avenue Typical Section, Looking East

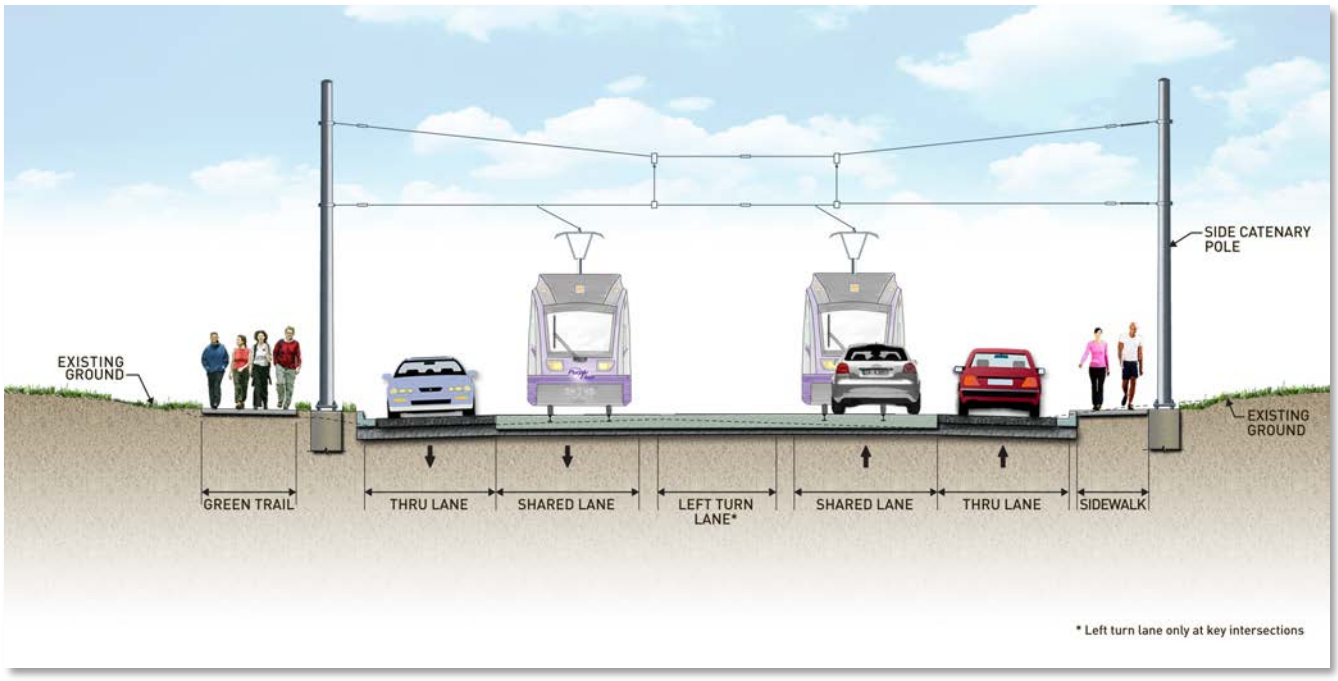
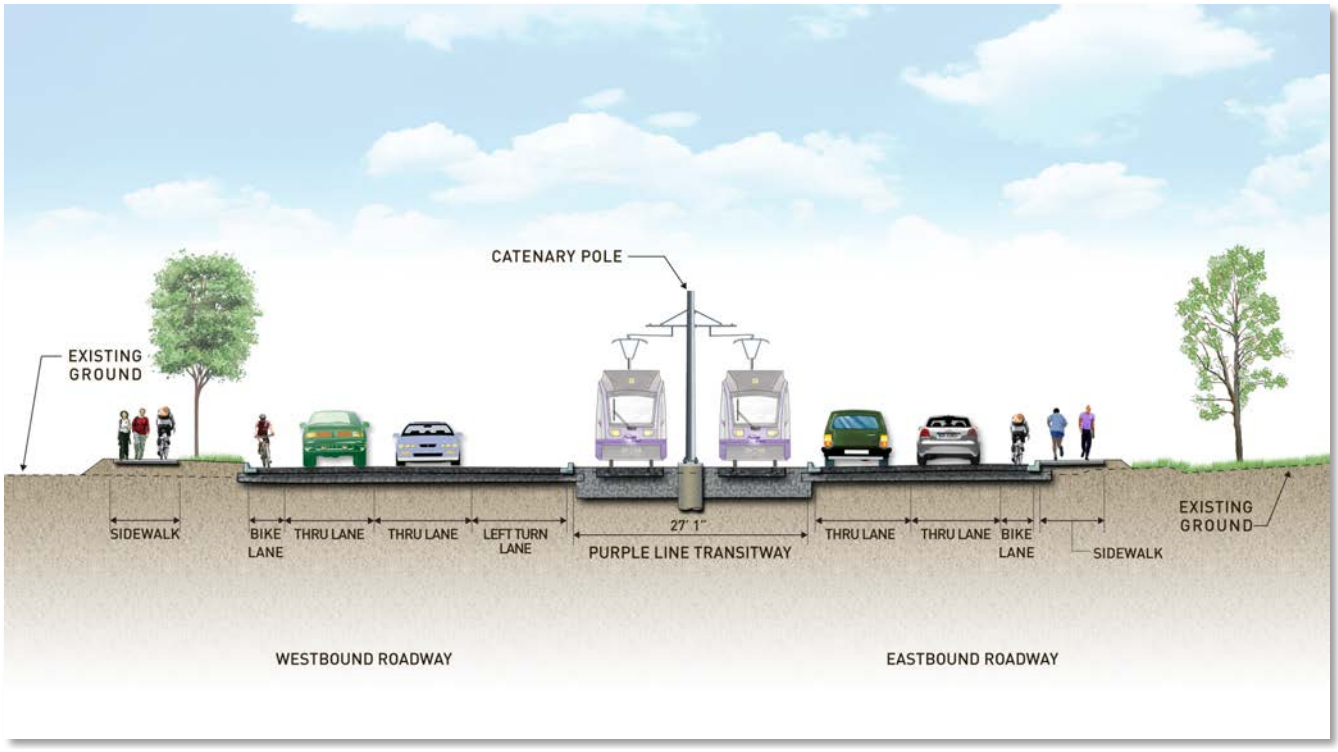


Figure 2-9. University Boulevard Typical Section, Looking East



The transitway would turn left at Presidential Drive and follow a future extension of Union Drive as shown in the UMD *2011-2030 Facilities Master Plan* in an area that currently contains parking lots to connect to the existing Union Drive and continue to Campus Drive. The Campus Center station would be located near Cole Student Activities Building. The transitway would continue on Campus Drive to Regents Drive. Campus Drive would be rebuilt as a three-lane roadway, with the outside lanes shared by Purple Line vehicles and buses and the center lane as a one-way lane for general traffic. The Preferred Alternative would continue at grade in a new exclusive transitway from Regents Drive, along the parking lots adjacent to the Armory, behind the Visitors Center to Rossborough Lane.

The transitway would cross US 1 at grade on Rossborough Lane, to enter the East Campus development. The East Campus station would be on Rossborough Lane just east of US 1. The transitway would continue east to Paint Branch Parkway in dedicated lanes along the curb and would continue on Paint Branch Parkway in mixed-use lanes. Immediately east of the existing station parking garage, it would turn and enter the College Park—UMD Metro station area and would run adjacent to the Metrorail tracks. The Purple Line College Park Metro station would be located here. After passing behind the proposed parking garage for the currently planned future residential development, the transitway would turn towards River Road.

College Park Metrorail Station to New Carrollton Metrorail Station — 4.7 miles

For mapping of this area see the conceptual engineering plans CV-57 though CV-82, and environmental resource maps 22 through 32.

The Preferred Alternative would parallel the south side of River Road from River Tech Court to Haig Drive. The M Square station would be just west of Haig Drive. The transitway would continue along the side of River Road, cross over the Northeast Branch, and turn right into the median of Kenilworth Avenue. It would rise on an aerial structure that begins near Quesada Street and would continue over the intersection of Kenilworth Avenue and East West Highway where it would then turn left onto the south side of Riverdale Road. The Riverdale Park station would be on the elevated structure just after the intersection. The transitway would return to grade in dedicated lanes adjacent to Riverdale Road on the south side and would then pass under the Baltimore—Washington Parkway. The existing bridges of the Baltimore—Washington Parkway over Riverdale Road would be lengthened to accommodate the Preferred Alternative. The Beacon Heights station would be just west of the intersection with Veterans Parkway.

The transitway would turn at Veterans Parkway and continue on the south side of the parkway, as shown in Figure 2-10. Along Veterans Parkway, the Glenridge Maintenance Facility would be located at the current site of the Maryland-National Capital Park and Planning Commission (M-NCPPC) Northern Area Maintenance—Glenridge Service Center. The transitway would cross Annapolis Road at grade to arrive at the Annapolis Road station. It would continue along Veterans Parkway and turn left at Ellin Road and travel in the outside lanes of Ellin Road in mixed-traffic operations to arrive at the transitway terminus at the New Carrollton Metro station.

Capital Crescent Trail

As part of the Preferred Alternative the permanent Capital Crescent Trail would be constructed within the Georgetown Branch right-of-way for a distance of 3.3 miles between Bethesda and the CSXT Metropolitan Branch. The permanent Capital Crescent Trail would replace the existing Georgetown Branch Interim Trail which currently extends from Bethesda to Stewart Avenue within the Georgetown Branch right-of-way (Figure 2-11). At the junction with the CSXT Metropolitan Subdivision, the County's current plan calls for the permanent Capital Crescent Trail to continue on the north side of the CSXT corridor to the SSTC. The Preferred Alternative as shown in the FEIS includes completing the Capital Crescent Trail in CSXT right-of-way in accordance with the County's plan. The completion of the trail along the CSXT corridor, however, is contingent on agreement

Figure 2-10. Veterans Parkway Typical Section, Looking East

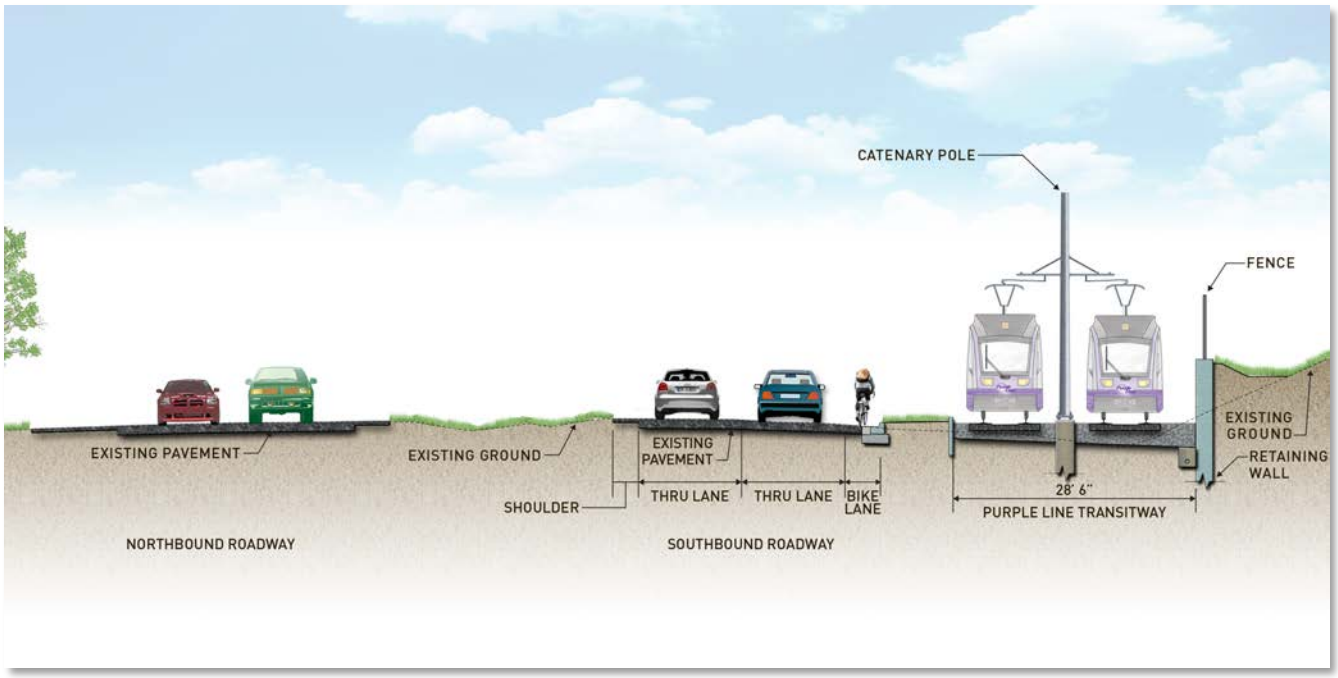
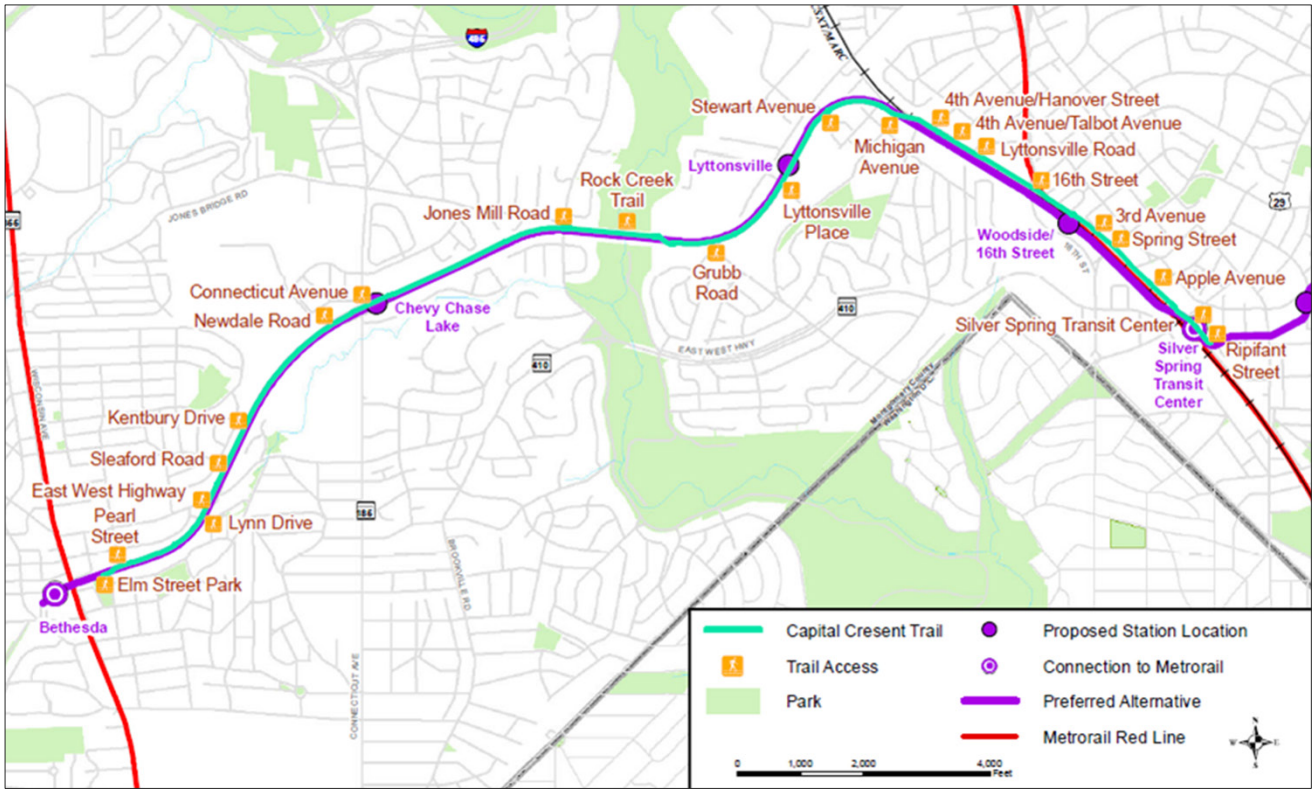


Figure 2-11. Capital Crescent Trail with Access Points



between Montgomery County and CSXT on the use of their property on the north side of the CSXT tracks for the trail. If agreement is not reached by the time the Purple Line construction occurs, MTA would construct the trail from Bethesda to Talbot Avenue. From Talbot Avenue to Silver Spring an interim signed bike route on local streets would be used.MTA will plan, design, and construct the permanent Capital Crescent Trail between Bethesda and Talbot Avenue concurrently with the Purple Line. The Capital Crescent Trail will be owned and operated by Montgomery County, which will be responsible for providing the funds to construct it. Funding for the trail is in the county's Capital Improvements Program.[11] Because the Capital Crescent Trail will be a county facility, Montgomery County has determined design elements such as the trail width, the type of surface, and inclusion of additional amenities such as lighting.

This FEIS for the Purple Line describes the potential environmental impacts of the trail and the proposed mitigation. Once completed, the Capital Crescent Trail would be a paved trail, generally 12 feet wide with 2-foot unpaved shoulders, except that it may be narrower in locations where the width is constrained. Where there is sufficient width, the trail would be located approximately 10 feet from the transitway to provide a landscaped buffer between the two. Between Bethesda and Talbot Avenue , the trail would include 16 access locations, listed below, and shown in Figure 2-11:

- Elm Street Park
- Pearl Street
- Lynn Drive
- East West Highway
- Sleaford Road
- Kentbury Drive
- Newdale Road
- Connecticut Avenue
- Jones Mill Road
- Rock Creek Trail
- Grubb Road
- Lyttonsville Place
- Stewart Avenue
- Michigan Avenue
- 4th Avenue/Hanover Street
- 4th Avenue/Talbot Avenue

Between Talbot Avenue and downtown Silver Spring, the proposed trail access points are:

- Lyttonsville Road
- 16th Street
- 3rd Avenue
- Spring Street
- Apple Avenue
- Silver Spring Transit Center
- Ripifant Street

Due to the physical constraints under Wisconsin Avenue and the Air Rights and Apex buildings, the construction of a full-width trail above the LRT tracks in the underpass would incur high costs and a very high risk due to the need to lower the transitway and reinforce the piers that support the buildings above. In March 2012 the Montgomery County Council decided that it would defer the construction of a full width trail in this built-over section because of the high cost and associated risks.

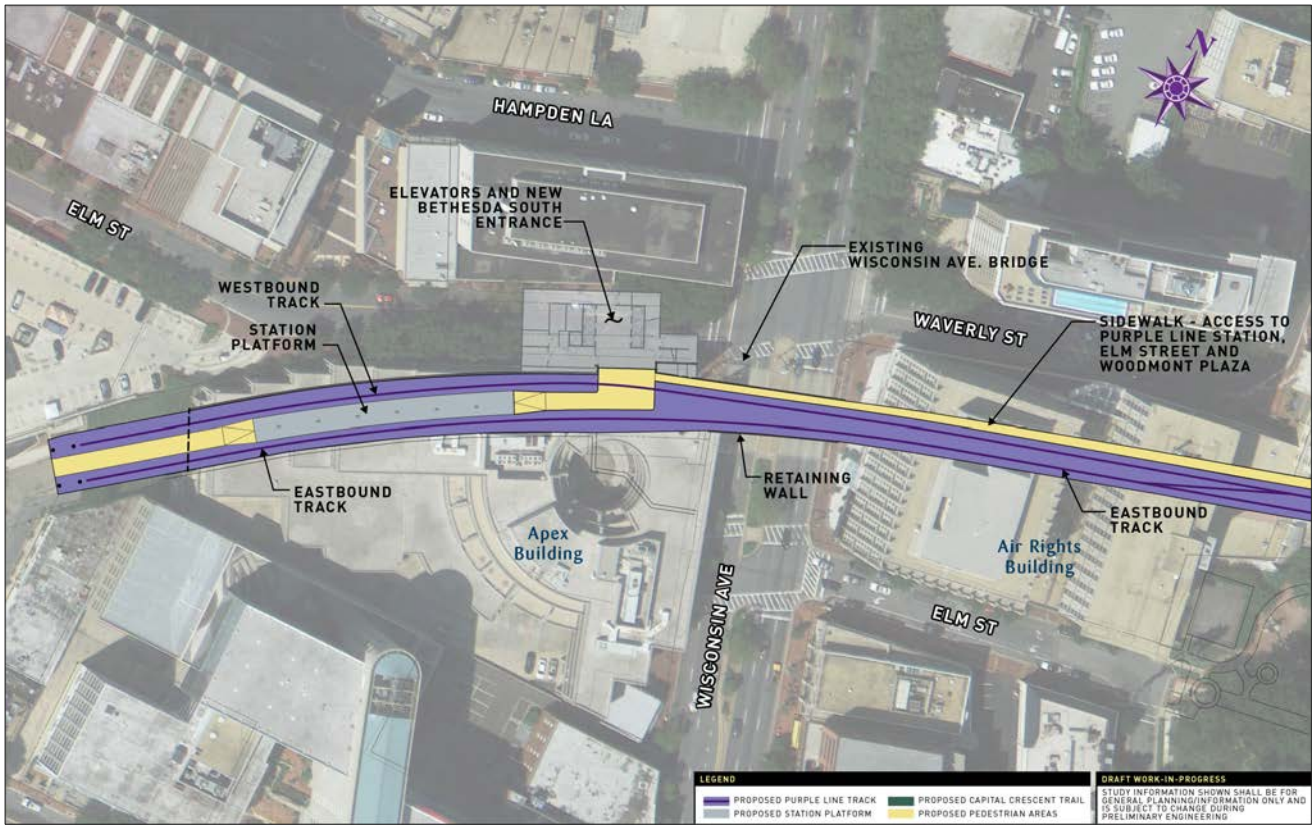
In fall 2012 MTA developed a new option that would provide a sidewalk connection from the trail to the Bethesda station platform (Figure 2-12). While not a full-width trail, this 5- to 7-foot sidewalk would allow pedestrians to access the Purple Line station, the elevators to the Red Line station and Elm Street, and continue to Woodmont Plaza. This option was presented to and endorsed by the Montgomery County Council in September 2012.

As a separate project, Montgomery County is constructing an at-grade connection between the existing Capital Crescent Trail in Bethesda and Elm Street Park. This connection includes bike lanes and signage on existing streets. The connection is part of the Montgomery County *Countywide Bikeways Functional Master Plan* (2005).

From Elm Street Park on the south side of the right-of-way, the Capital Crescent Trail would cross over the transitway on an elevated structure. Once on the north side of the transitway the trail would descend to ground level. Between approximately Pearl Street and Rock Creek, the trail would be on the north side of the transitway.

[11] FY13-18 Capital Improvements Program, Project 501316

Figure 2-12. Bethesda Station



The trail would cross Connecticut Avenue on a separate bridge adjacent to the transitway and would provide pedestrian and bicycle access to the Chevy Chase Lake station. The trail would continue east, passing under Jones Mill Road and crossing Rock Creek on a separate bridge that would be lower than the transitway bridge. After crossing Rock Creek, the trail would pass under the transitway to the south side.

Between Bethesda and Stewart Avenue in Lyttonsville, the trail would parallel the transitway in a similar location as the existing trail. The trail would follow the transitway until crossing to the northeast side of the CSXT right-of-way via a new structure, west of the Talbot Avenue Bridge. The trail would be built parallel to, and on the northeast side of, the CSXT right-of-way. The trail would then parallel the CSXT corridor, passing under the Talbot Avenue, 16th Street, and Spring Street bridges, continuing directly into the SSTC over Colesville Road on an aerial structure that would be below the level of the transitway, but above the top level of the SSTC.

Stations

Twenty-one stations are planned for the Preferred Alternative. The station locations were selected based on connections with existing transit services and urban design principles including access and safety, public space availability, local plans, ridership catchment areas, and engineering feasibility. Potential station locations were presented to community members, local jurisdictions, and other stakeholders for input. In some cases, stations were moved or shifted in response to comments. Seventeen of the stations would be at street level, three would be on aerial structures, and one would be in a tunnel portal. Most riders would walk to the stations or transfer from other transit services. Access plans for each station have been developed to enhance pedestrian and transit access for nearby communities. Ramps, stairs, elevators, and escalators in compliance with the Americans with Disabilities Act of 1990, as amended, would be provided where needed.

As illustrated in Figure 2-13 and Figure 2-14, the stations would have either side or center platforms depending on the site characteristics and space availability. The characteristics of each station are summarized in Table 2-4. The platforms would be approximately 200 feet long to serve two-car trains. Stations would include ticket vending machines, weather shelters for passengers, lighting, wayfinding and informational signage, trash receptacles, seating, and security equipment such as emergency telephones and closed circuit television cameras. The Purple Line would use off board fare collection, compatible with the SmarTrip system, and a barrier-free proof-of-payment system. Landscaping and bike storage would be included where space allows. The size of station shelters and the number of bike storage facilities would be relative to the projected ridership at each station.

Track Types

Four types of track (ballasted, embedded, direct fixation, and green track) are being considered for the project. They are described below:

- Ballasted track would be used where the transitway would not be used by other vehicles, such as along Veterans Parkway. Ballast is made up of stones of granite or a similar material. Ballasted track is formed by packing ballast between, below, and around the railroad ties. The ballast provides support, load transfer, and drainage to the track.
- Embedded track would be used where the Purple Line operates in mixed-use lanes on Wayne Avenue and Paint Branch Parkway and where vehicles would cross or drive on the tracks. Embedded track is track structure that is completely covered, except for the top of the rails, with pavement. Embedded track can typically be found where light rail transit routes are constructed within public streets, pedestrian or transit malls, or any area where rubber-tired vehicles must operate.
- Direct fixation track would be used where the Purple Line is on bridges or in a tunnel. Direct fixation track is similar to embedded track in that the rails are fastened directly to the track support.
- Green track (Figure 2-15) is trackway where plant material is grown between the rails. Green track is commonly used in Europe and is being evaluated for portions of the Purple Line. Green track can be an aesthetic treatment and under certain conditions may be used to address stormwater management requirements.

In some locations there is no choice of track type. For example, the tracks must be embedded where other vehicles would operate on or cross the tracks. In other areas the track type is being evaluated based on operations, maintenance, cost, and aesthetics.

Storage and Maintenance Facilities

Two storage and maintenance facilities are proposed: one at Lyttonsville in Montgomery County and the other at Glenridge in Prince George's County. The AA/DEIS envisioned that approximately half the fleet would be stored in each location, and the maintenance and operations activities would be split. However, this resulted in some redundant activities as certain functions would be performed at both sites, and maintenance buildings would be required at each site with associated materials storage, locker rooms, training/break rooms, and other employee services. As discussed in Section 2.2.2, the sites have been reprogrammed to reduce redundant activities, reduce costs, and minimize impacts.

Lyttonsville Yard

As described earlier, the plans for the Lyttonsville site were modified in response to community concerns. Under the modified plans, the yard would be parallel to the transitway and provide tracks to store vehicles not in use or waiting for repair.

The yard would be used to store vehicles, and would include a train wash, a traction power substation, fuel pumps, office facilities, operations center, and an employee parking facility. The parking facility would provide 200 spaces for MTA employees and 200 spaces for employees of the county's maintenance facility. The parking for county employees would be provided because the yard would displace their existing parking facility. A stormwater

Figure 2-13. Typical Center Platform Station

Figure 2-14. Typical Side Platform Station

Table 2-4. Station Summary

Station	Location	Markets Served	Vertical Location	Platform Type	Connecting Transit Services
Bethesda	Georgetown Branch right-of-way and Elm Street, west of Wisconsin Avenue, under Apex Building	Central business and residential district, and transfers	Under Building	Center	Metrorail Red Line; Metrobus: J2, J3, J7, J9; Ride On: 29, 30, 32, 33, 34, 36, 42, 47, 70, 92
Chevy Chase Lake / Connecticut Avenue	Georgetown Branch ROW at Connecticut Avenue	Local business and residential	Aerial	Side	Metrobus: L7, L8
Lyttonsville	Georgetown Branch ROW at Lyttonsville Place	Local business and residential	At Grade	Center	Ride On: 2
Woodside/16th Street	South of CSXT ROW at 16th Street	Local business and residential, and transfers	At Grade	Side	Metrobus: J5, Q2, Y5, Y7, Y8, Y9; Ride On: 3, 4, 5, 127
Silver Spring Transit Center	Silver Spring Metrorail Station	Central business and residential district, entertainment, and transfers	Aerial	Center	Metrorail Red Line; MARC Brunswick Line; Metrobus: F4, F6, J1, J2, J3, J5, Q2, S2, S4, Y5, Y7, Y8, Y9, Z2, Z6, Z8, Z9, Z11, Z13, Z29, 70, 71, 79; Ride On: 1, 2, 3, 4, 5, 8, 9, 11, 12, 13, 14, 16, 17, 18, 19, 20, 22, 28, 127
Silver Spring Library	Wayne Avenue and Fenton Street	Central business and residential district, and transfers	At Grade	Side	Metrobus: F4, F6; Ride On: 12, 16, 17, 19, 20, 28
Dale Drive	Wayne Avenue at Dale Drive	Local residential	At Grade	Center	Ride On: 3, 12, 19
Manchester Place	Wayne Avenue between Manchester Road and Manchester Place	Local residential	Tunnel Portal	Side	Ride On: 12, 13, 19
Long Branch	Arliss Street at Piney Branch Road	Local business and residential	At Grade	Center	Ride On: 14, 16, 20, 24
Piney Branch Road	University Boulevard and Piney Branch Road	Local business and residential, and transfers	At Grade	Center	Metrobus: C2, C4; Ride On: 14, 15, 16, 20, 24
Takoma/Langley Transit Center	University Boulevard and New Hampshire Avenue	Local business and residential, and transfers	At Grade	Center	Metrobus: C2, C4, F8, K6; Ride On: 16, 17, 18; TheBus: 17, 18
Riggs Road	University Boulevard and Riggs Road	Local business and residential, and transfers	At Grade	Center	Metrobus: C2, C4, F8, R5, R1, R2; TheBus: 17, 18
Adelphi Road/West Campus	Campus Drive and Adelphi Road	Residential, UMUC, and transfers	At Grade	Center	Metrobus: C2, C8, F6, F8, R3; TheBus: 17
Campus Center	Campus Drive at Cole Student Activities Building	UMD	At Grade	Side	Metrobus: C2, C8, F6; UM Shuttles; TheBus: 17,
East Campus	Rossborough Lane at US 1	Commercial, hotel, residential, UM, and transfers	At Grade	Side	Metrobus: C2, C8, F6, 81, 83, 86; TheBus: 17
College Park Metro	River Road at College Park — UMD Metro station	Residential, future mixed-use development, and transfers	At Grade	Center	Metrorail Green Line; MARC Camden Line; Metrobus: C2, C8, F6, R12, 83, 86; TheBus: 14, 17 CAR: G, H
M Square	River Road at Haig Drive/ University Research Court	M Square Research Park and residential	At Grade	Side	Metrobus : F6, R12; TheBus: 14
Riverdale Park	Kenilworth Avenue and MD 410	Local business, and residential	Aerial	Side	Metrobus: F4, R12, 84, 85; TheBus: 14
Beacon Heights	Riverdale Road at Veterans Parkway	Local business and residential	At Grade	Side	Metrobus: F4, 84, 85; TheBus: 14
Annapolis Road/ Glenridge	Veterans Parkway at Annapolis Road	Local business	At Grade	Side	Metrobus: F13, T18,
New Carrollton	Ellin Road at New Carrollton Metro station	Business, residential, and transfers	At Grade	Center	Metrorail Orange Line; MARC Penn Line; Amtrak; Metrobus: B21, B22, B24, B25, B27, B29, B31, C28, F4, F6, F12, F13, F14, R12, T16, T17, T18, 84,85, 88; TheBus: 15, 16, 21, 21X

Notes: Bus Operators: WMATA Metrobus = WMATA, Ride On = Montgomery County, TheBus = Prince George's County, CAR = Connect a Ride. WMATA J4, Ride On 15, and Shuttle-UM 111 would likely be replaced by the Purple Line

Figure 2-15. Green Tracks with Grass

management facility would be constructed underground. Figure 2-16 shows the proposed Lyttonsville Yard site plan.

Glenridge Maintenance Facility

The Glenridge Maintenance Facility would be located at the current site of the M-NCPPC Northern Area Maintenance—Glenridge Service Center. This facility would provide the repair and maintenance needs. To increase the separation from, and reduce impacts to, Glenridge Park and Glenridge Elementary School, a more linear configuration is proposed for the Glenridge site rather than the loop configuration proposed in the AA/DEIS. Most activities would occur in the maintenance building. Approximately 225 parking spaces would be provided for MTA employees. A traction power substation would also be located at this facility. Figure 2-17 shows the proposed Glenridge Maintenance Facility site plan.

Ancillary Facilities

Traction Power Substations

Traction power substations convert electric power to appropriate voltage and type to power the light rail vehicles. The Preferred Alternative would require substations approximately every mile. Twenty substations are proposed, including 18 along the transitway and one each at the Lyttonsville and Glenridge facilities. The substation structures would range in size from approximately 15 by 52 feet to 22 by 60 feet. The substations would be sited at easily accessible locations with approximately 10 feet of space around the sub-station building for access and for underground electrical facilities.

Signal Bungalows

Signal bungalows contain elements of the signaling control system, circuits and equipment required for train operation. Fourteen signal bungalows would be located along the transitway at track crossover locations and would be approximately 10 feet by 20 feet in size. Depending on the visual sensitivity of each site, landscaping or other screening could be used.

Overhead Contact System

The overhead contact system (OCS) provides a continuous supply of electrical power to the LRT vehicles. This is achieved by the use of overhead wires centered over the tracks, supported by poles. The vehicles have rooftop pantographs which run along the wires supplying the vehicle with power. Depending on the location, the poles supporting the overhead contact system would be positioned in between the tracks, or on either side, outside of the tracks. In some cases, poles also would be used for street lights or signs. MTA will work with the local utility companies and jurisdictions to investigate the opportunities for this shared use during the design phase of this project.

Two types of wire systems are proposed for the Purple Line: an auto-tensioned simple catenary and a fixed-termination single contact wire.

An auto-tensioned simple catenary system typically consists of a messenger wire supporting a contact wire by means of hangers (Figure 2-18). The distance between the messenger wire and the contact wire is typically four feet. In straight (tangent) sections of the transitway the support poles can be up to 240 feet apart, but would need to be more closely spaced in curves

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Figure 2-16. Lyttonsville Yard

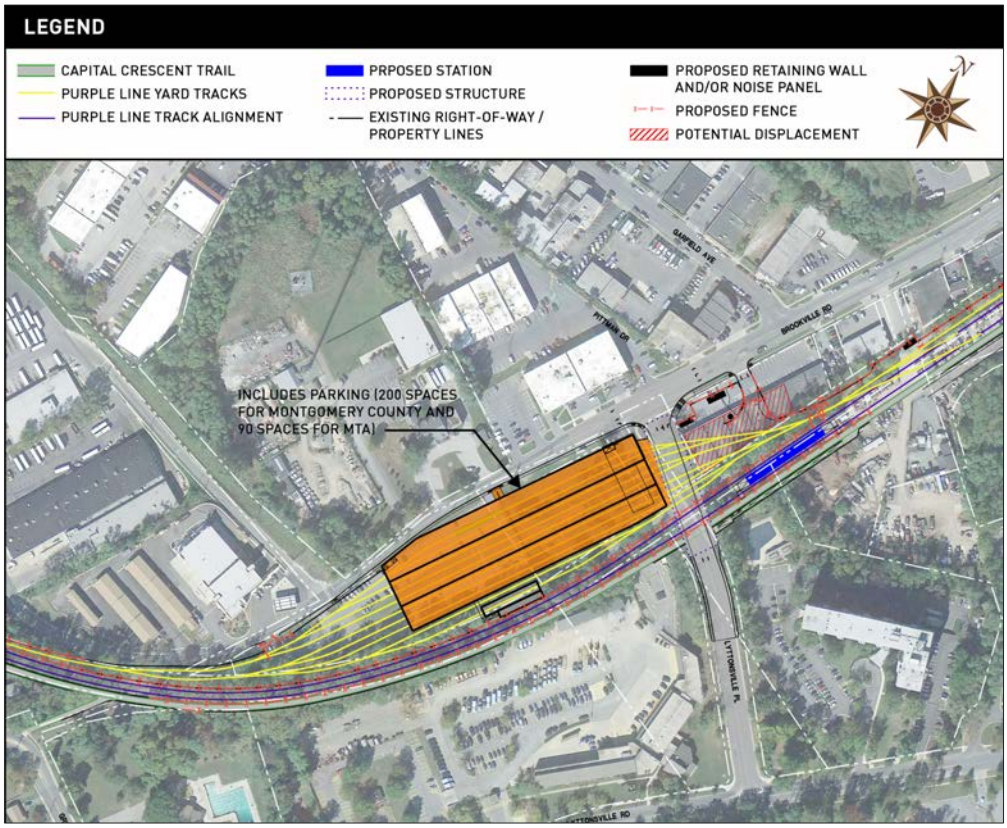


Figure 2-17. Glenridge Maintenance Facility

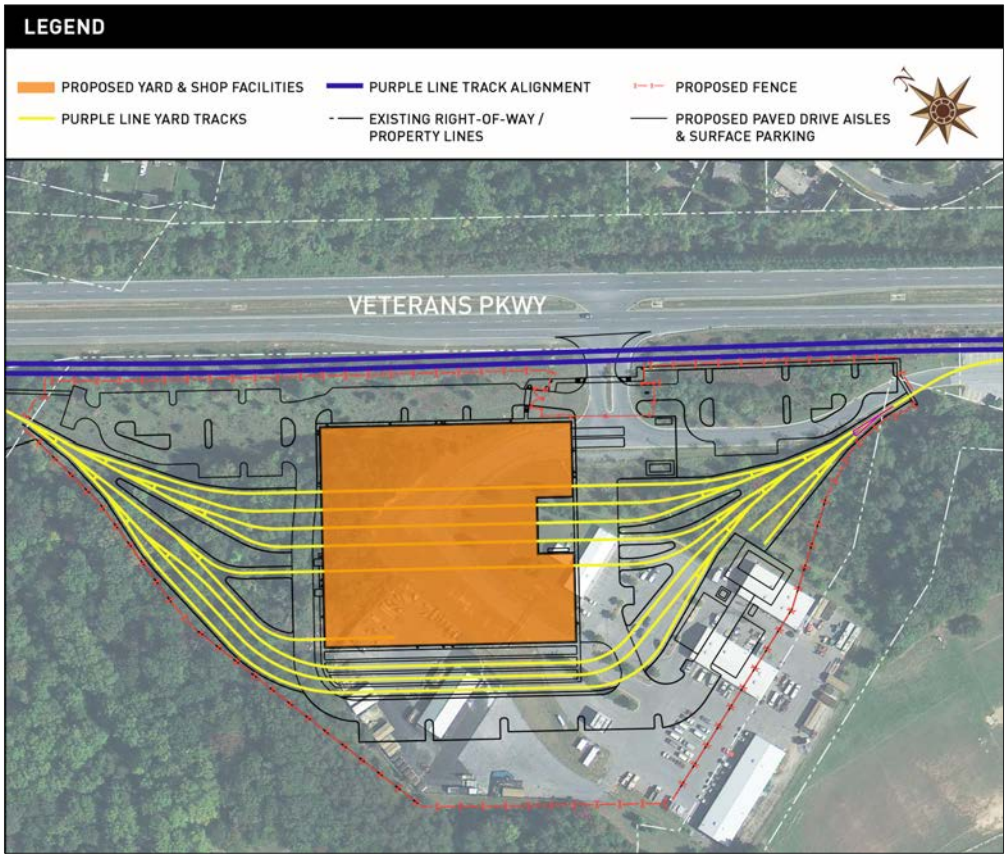


Figure 2-18. Auto Tensioned Catenary System

A fixed-termination single contact wire uses a single trolley wire (Figure 2-19), however, because of the electrical load requirements, a parallel supplementary feeder needs to tap into the trolley wire approximately every 200 feet.

The auto-tensioned simple catenary is proposed for the majority of the transitway, while the fixed-termination single contact wire is proposed for the Plymouth Street tunnel and the portion of the transitway from the Adelphi Road/West Campus station to the College Park Metro station. A double feeder system would be installed through the center of the UMD campus to minimize the potential for electromagnetic interference (EMI) impacts to university research activities. (See the memos regarding EMI mitigation and minimization in *Supporting Documentation on Alternatives Development (2013)*).

Gates

An automatic gate protects road users and pedestrians, and informs them of the approach or presence of rail traffic at grade crossings. Automatic gates are typically installed in conjunction with flashing light signals, and they are designed to extend across the approaching roadway to block roadway vehicles or pedestrians from crossing the tracks when a train is approaching. On the Purple Line, the decision to install automatic gates at grade crossings will be based on engineering studies of each crossing. In general, automatic gates would be installed at grade crossings of dedicated alignments where LRT speeds would exceed 35 mph.

Crossovers

A crossover is a location where a rail vehicle can move from one set of tracks to another. Twelve crossovers are proposed, one at each of the two terminal stations at Bethesda and New Carrollton, and 10 intermediate crossovers. The crossovers at the terminal stations would be used for normal operations to provide access to both platform tracks. The intermediate crossovers would be used during special operations or during maintenance. These have been located to provide approximately 12-minute headways in both directions when single-track operations are required.

Figure 2-19. Fixed-Termination Single Contact Wire Sharing a Pole with Street Lights

Additionally, two pocket tracks would be located on either side of UMD to facilitate the addition of supplementary trains during special events at the University. Pocket tracks are short sections of track located off the mainline transitway to provide a place to stage supplementary trains. The pocket tracks would be located in the median of University Boulevard near Riggs Road and just east of the

College Park Metro station, behind the proposed joint development residential building on River Road.

Preferred Alternative Service Characteristics

The operations plan for the Preferred Alternative is based on a number of assumptions that were developed from the ridership estimates. Headways for the line were planned to provide sufficient capacity for that passenger volume. The Preferred Alternative would take approximately 63 minutes to travel the corridor from Bethesda to New Carrollton during peak hours, and 60 minutes during off peak hours. When operating in or adjacent to roadways, the Preferred Alternative would operate at, or below, the posted speed limit.

Hours of Service and Headways

The Preferred Alternative would operate seven days a week. The hours of operation would be scheduled to meet the first and last Metrorail train at each of the four stations where the Preferred Alternative connects with Metrorail (Table 2-5). Peak hour headways would be 6 minutes, and off-peak headways would be 10 minutes.

Table 2-5. Approximate Span of Service

Day of Week	Hours of Operation
Monday–Thursday	5:00 AM–12:00 AM
Friday	5:00 AM–3:00 AM
Saturday	7:00 AM–3:00 AM
Sunday	7:00 AM–12:00 AM

Fares

Purple Line fares are assumed to be a flat fare following the regular Metrobus fares and policies. As described earlier, passengers would purchase tickets from ticket vending machines at stations and board the trains through multiple doors to expedite boarding. A proof-of-payment method is assumed, with roving, on-board fare inspectors. SmarTrip cards and other multi-trip passes would be available for purchase at Metro sales offices, retail outlets, or Commuter Stores. Passengers would swipe their cards to record the trip before boarding the Purple Line. Purple Line transfers to Metrobus would be free. Transfers from the Purple Line to Metrorail and from Metrorail to the Purple Line would be reduced. Transfers to other local services are proposed to be equal to existing bus-to-bus transfer policies.

Preferred Alternative Operating Characteristics

The specific vehicles for the Purple Line have not been identified, but a set of general design criteria have been established calling for articulated vehicles approximately 95 feet long operating in two-car trains. Each vehicle would accommodate 140 passengers for a total train capacity of 280. The vehicles would be 70 percent low-floor vehicles for easy boarding.

Preferred Alternative Costs

Capital Cost

The estimated capital cost for the Purple Line is $2.2 billion in year of expenditure dollars. This cost includes the transitway construction, vehicles, support facilities, right-of-way, and the engineering and other professional services required to design and implement the project. These costs are presented in detail in the *Purple Line Capital Cost Technical Report (2013).*

Project capital funding is expected to come from federal and State/local sources with up to 50 percent of funding planned to come from the federal FTA New Starts program. MTA is intending to seek Capital Investment Grant Program (CIG) funding from FTA for the Preferred Alternative examined in this NEPA document. The CIG program, more commonly known as the New Starts, Small Starts, and Core Capacity program, involves a multi-year, multi-step process that project sponsors must complete before a project is eligible for funding. The steps in the process and the basic requirements of the program can be found on FTA's website at www.fta.dot.gov.

FTA must evaluate and rate proposed projects seeking funding from the Capital Investment Grant Program on a set of project justification and local financial commitment criteria specified in law. The criteria evaluate the merits of the project and the projects sponsor's ability to build and operate it as well as the existing transit system. FTA assigns ratings from low to high based on information that project sponsors submit on the project cost,

benefits, requested amount of Capital Investment Grant Program funds, and overall financial plan. Projects must receive a medium or better overall rating to advance through the steps in the process and be eligible for funding from the program. As projects proceed through the steps in the process, information concerning costs, benefits, and impacts is refined and the ratings are updated to reflect new information.

The Purple Line would compete for New Starts funding grants with projects from across the country. On October 7, 2011, the Purple Line was approved for FTA's New Starts Preliminary Engineering Phase, as it was called at the time of approval, based on the previously submitted Request to Enter Preliminary Engineering. The State of Maryland is identifying funding options from state and local sources for its share of the funding with the primary state source being the Transportation Trust Fund.

As the SSTC and the Takoma/Langley Transit Center are funded separately and scheduled to be constructed independently and in advance of the Purple Line, no costs are assumed here except for possible modifications of the projects to accommodate the Purple Line. The new south entrance to the Bethesda Metro station also is an independent project, but it would be built at the same time as the Purple Line. Constructing both the new entrance and the Purple Line simultaneously would not generate any additional environmental impacts.

The expenditure for the Georgetown Branch right-of-way between Bethesda and the CSXT Metropolitan Branch, purchased previously by Montgomery County for the specific purposes of providing both a transitway and trail, is assumed to be already contributed by the county to the project.

The Capital Crescent Trail between Bethesda and Silver Spring would be constructed by MTA concurrently with the construction of the Purple Line. Along the Georgetown Branch right-of-way, MTA would include sufficient right-of-way for the trail as part of the design of the project, and would design the transitway to be compatible with the trail. Construction of the trail itself would be funded by Montgomery County. The cost of construction of the trail is not included as part of the $2.2 billion cost estimate of the project in this FEIS. Funding for the trail is in Montgomery County's approved Capital Improvements Program.[12] The Green Trail along Wayne Avenue is not part of the Purple Line and also would be funded separately by Montgomery County, but likely would be built with the Purple Line.

It is assumed that the use of roadway rights-of-way controlled by the state, counties, and local jurisdictions, including those on the UMD campus and at Metrorail stations, would be granted to the project at no cost, except for construction of new facilities and replacement or repair of existing facilities and utilities.

Operations and Maintenance Costs

MTA is assumed to be responsible for operation and maintenance of the Purple Line services and associated costs. This annual cost is estimated to be $38 million (2012 dollars). MTA, WMATA, Montgomery County, Prince George's County, UMD, and other transit operators in the corridor and the region would continue to be responsible for operations and maintenance of their bus and rail transit services and facilities, recognizing that some adjustments to service levels and routing bus services may result from implementation of the project.

The cost of operating and maintaining the Capital Crescent Trail would be the responsibility of Montgomery County.

Preferred Alternative Implementation Schedule

The schedule for the Purple Line anticipates major construction beginning in July 2015 and revenue service beginning in December 2020.

[12] Montgomery County Council, *FY 2013-2018 Capital Improvements Program for Montgomery County Government*, May 2012

Chapter 3.0
Transportation Effects

This chapter describes the existing and planned transportation systems, services and facilities in the Purple Line corridor, explains how the No Build Alternative and the Preferred Alternative would potentially impact them, and identifies mitigation strategies to offset unavoidable effects.

This chapter is organized by transportation category. Categories covered in this chapter include public transportation services, the roadway network, bicycle and pedestrian facilities, parking facilities, and freight railroad services and facilities.

Changes to this Chapter since the AA/DEIS

This chapter, previously Chapter 3: Transportation and Traffic, in the Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS) has been updated since publication of the AA/DEIS. The future year of analysis, the horizon year, has been advanced from 2030 to 2040. As noted in Chapter 1.0, FTA requires that a project sponsor quantify measures using at least a 20-year horizon. The AA/DEIS, completed in 2008, used a horizon year of 2030; five years later, the Final Environmental Impact Statement (FEIS) uses 2040 to be consistent with the Metropolitan Washington Council of Governments (MWCOG) Transportation Planning Board forecasts. For additional information refer to *Purple Line Travel Forecasts Results Report (2013)* and *Purple Line Traffic Analysis Technical Report (2013).*

New topics covered in this chapter are freight and passenger railroad facilities, and safety and security.

In the AA/DEIS this chapter included a discussion of construction impacts. Because of the advancement of the design of the project, MTA is able to provide a greater level of detail on construction impacts and so this topic is now covered in its own chapter, Chapter 5.0.

3.1 Public Transportation

3.1.1 Introduction

Long-term operational effects of the Preferred Alternative on public transportation use and services were considered by examining forecasted ridership demand and potential changes to existing facilities once the Purple Line becomes operational.

The 2008 AA/DEIS was prepared using information and data from the MWCOG Round 7.0 Cooperative Land Use Forecasts and a forecasting tool based on MWCOG's regional forecasting model. The regional model, with a horizon year of 2030, was used to estimate the No Build conditions and the subsequent changes in travel patterns that would result from the introduction of the Purple Line into the transportation system. Since that time MWCOG has developed the Round 8.0 Cooperative Forecasts.

This FEIS reflects two changes in forecasting since the publication of the 2008 AA/DEIS: (1) the use of the Round 8.0 forecasts rather than the Round 7.0 forecasts; and (2) a horizon year of 2040 rather than 2030. The inclusion of the employment shifts resulting from the closure of the Walter Reed Army Medical Center and the transfer of its functions to the National Naval Medical Center in Bethesda, pursuant to the Base Realignment and Closure Act, are the most significant differences between Round 7.0 and Round 8.0 within the corridor; there is also

some growth in regional population and employment over the 2030-2040 period.

For further information see the *Purple Line Travel Forecasts Results Report (2013)* and the *Purple Line Validation and Calibration Technical Report (2013).*

The Regional Travel Demand Model

A regional travel demand forecasting model is a mathematical representation of the availability of transportation facilities (roads and transit) and the demand for travel in an urban area.

The region covered in the MWCOG model covers 22 jurisdictions and about 6,800 square miles and includes the District of Columbia and parts of three states: Maryland, Virginia, and West Virginia.

The model uses population and employment data, approved zoning, and the highway and transit networks, to calculate the expected demand for transportation facilities.

Ridership

Ridership forecasts are used to gauge the comparative attractiveness of alternatives under consideration. They are measured in terms of (1) total and new daily transit trips and (2) peak period boardings by station.

A "transit trip" is defined as the travel of one person from trip origin to trip destination, regardless of the number of transfers or mode changes required. For example, a trip from home to work, using bus and Metrorail, would be counted as one "transit trip." The term "passenger" is sometimes used to refer to a transit trip.

A "boarding" is defined as the number of times a person enters a vehicle for travel. A single passenger's trip from origin to destination could include multiple boardings—for example, a boarding of a Ride On bus, followed by a boarding of Metrorail.

3.1.2 Affected Environment

As described in Chapter 1.0, existing rail transit services in the corridor include three Washington Metropolitan Area Transit Authority (WMATA) Metrorail lines, all three of Maryland Transit Administration's (MTA) commuter rail lines (MARC), and Amtrak at New Carrollton. Metrorail trains operate approximately every 4 to 6 minutes during peak periods and 6 to 12 minutes during off peak periods.

More than 75 bus routes provided by Montgomery County Ride On, Prince George's County TheBus, and WMATA Metrobus operate in the corridor. Of these, only 13 provide east-west service, predominately disconnected routes that do not serve the corridor from end-to-end. The University of Maryland operates Shuttle-UM in much of the corridor; while this service is not open to the general public, it does serve a large number of University of Maryland (UMD) students, faculty, and employees in the corridor.

Metrorail and MARC primarily serve north-south trips in the corridor. The only east-west transit service is provided by buses, whose speed and reliability is affected by the roadway congestion. In addition, county bus services terminate at the county boundary in the Takoma Park/Langley Park area, so travelers on those services crossing the respective county boundaries must transfer. Table 1-3 in Chapter 1.0 shows existing scheduled transit travel times for trips in the corridor.

3.1.3 No Build Alternative

As described in Section 2.3.1, the No Build Alternative includes the existing highway network and transit service, plus those transportation improvements that have been included in the Financially Constrained Long-Range Plan (CLRP) for implementation by 2040, except for the Purple Line.

The end-to-end travel time between Bethesda and New Carrollton on Metrorail is 55 minutes, but this route does not provide access to any of the intermediate stops that would be available on the Purple Line.

The CLRP includes new north-south and east-west bus service within Prince George's County, but does not extend new service throughout the Purple Line corridor. As noted in Chapter 2.0, Montgomery County is evaluating a bus rapid transit network, but this is not funded for construction, and is not included in the No Build Alternative. As the No Build Alternative would not include a new mode or new exclusive right-of-way, it is not anticipated to substantially increase the reliability of the existing bus system. It is expected that increasing roadway congestion will lengthen bus running times and result in longer travel times for cars and buses.

Automobile travel times for a trip between Bethesda and New Carrollton are expected to increase by approximately 30 percent and 40 percent during the morning and evening peak periods, respectively.[1] The projected bus transit travel time between Bethesda and New Carrollton is anticipated to increase to 108 minutes under the No Build Alternative. This condition will decrease the reliability of the bus service, impair its ability to meet its operations schedule, and adversely affect the predictability of expected headways and transit travel times.

3.1.4 Preferred Alternative

The Preferred Alternative, described in detail in Section 2.3.2, would provide new east-west light rail transit (LRT) service between Bethesda and New Carrollton. The Preferred Alternative would travel in dedicated or exclusive transit lanes for 13.9 miles of its 16.2-mile length, allowing the Purple Line to operate more reliably than the No Build Alternative bus services. In 2040, the end-to-end peak hour travel time for the Preferred Alternative would be 63 minutes, including stops at all stations.

Long-term Operational Effects

Total and New Transit Trips

The Preferred Alternative is projected to generate 28,626 new transit trips for the entire Washington DC region in 2040. This is an increase of 1.7 percent in total regional transit ridership over the No Build alternative. Ridership forecasts are shown in Table 3-1 broken out by the four transit service types for both work and non-work trips, to show how the Preferred Alternative would shift trips. The forecasts for 2030 are included for comparison of projections to the horizon year previously presented in the AA/DEIS. Both 2030 and 2040 ridership forecasts in this FEIS use the Round 8 Cooperative Forecasts.

Travel Patterns

Travel forecasts show that while there is considerable existing transit travel within the Purple Line corridor itself, the majority of transit trips in the Purple Line corridor have an origin or destination outside the corridor. For example, many transit trips that begin or end in the corridor are part of a trip that extends into Washington DC or areas to the north of the Purple Line corridor. These trips commonly use the Metrorail Red, Green, and Orange Lines, especially in the Shady Grove/Rockville area and the Glenmont area. While the major activity centers in the corridor account for the majority of the trips, a substantial number of these transit trips are associated with areas in between the Metrorail lines, and depend on street-running bus service operating in congested mixed traffic. The following terms are used to describe the different types of transit trips in the corridor:

- Transit trip "associated with the corridor" means the trip has either an origin or a destination in the corridor.
- Transit trip "within the corridor" means the trip origin and the trip destination are both in the corridor.
- "Corridor-related" transit trips include trips associated with the corridor and trips within the corridor.

[1] Multiple travel time runs were conducted in both the eastbound and westbound directions during the AM and PM peak periods. Year 2040 travel times were estimated using the average increase in delay across the corridor, based on the projected 2040 traffic conditions. For additional information refer to *the Purple Line Traffic Analysis Technical Report (2013)*

Table 3-2 shows that under the No Build Alternative, daily transit trips in the Washington DC region are forecast to grow by 503,080 to 1,655,074, almost 44 percent, over the 29 years from 2011 to 2040. Corridor-related transit trips grow by 49 percent, to 221,833, clearly demonstrating the growing demand for transit in this corridor.

While the general pattern and distribution of transit trips would be similar to current trips, the level of growth within the corridor under the Preferred Alternative is substantial. Trips associated with the corridor in year 2040 for the Preferred Alternative would increase by 5,877 trips compared with the No Build Alternative (an increase of 2.9 percent). Year 2040 trips within the corridor for the Preferred Alternative would increase by 19,468 or 88 percent. These increases in transit trips demonstrate the benefit of the Preferred Alternative in improving mobility by better connecting the communities within the corridor.

Daily Boardings

Table 3-3 shows the total number of daily boardings on the Purple Line, as well as the breakdown for three types of Purple Line trips:

- Trips using the Purple Line where the Purple Line would be the primary means of travel (including those passengers who got to and from the Purple line on foot or by bus)
- Trips primarily on Metrorail, which use the Purple Line for part of that trip
- Trips primarily on MARC, which use the Purple Line for part of that trip

In 2040, 27 percent of the Purple Line boardings would be trips that also include riding Metrorail, reflecting the ability of the Preferred Alternative to provide connectivity to the Metrorail system.

Table 3-1. Total Daily Regional Transit Trips, 2030/2040

Transit Service	Type of Trip	2030 No Build Alternative	2040 No Build Alternative	2030 Preferred Alternative	2040 Preferred Alternative
Bus	Work	312,829	326,373	300,964	313,802
	Non-work	215,736	230,303	211,194	225,521
Metrorail	Work	758,022	802,619	755,725	800,235
	Non-work	232,737	249,646	231,441	248,271
Commuter Rail	Work and Non-work	45,126	46,134	45,088	46,105
Purple Line	Work	N/A	N/A	30,250	32,259
	Non-work	N/A	N/A	16,442	17,508
Total Transit Trips		1,564,450	1,655,075	1,591,104	1,683,701
New Transit Trips Relative to No Build		N/A	N/A	26,654	28,627

Note: Trips are assigned as to modes depending on the length of the trip on each mode. For example, a trip that would be traveled mostly on the Purple Line and would involve a short ride on a bus is an assigned trip on the Purple Line. Similarly, a trip that would be traveled mostly on Metrorail and uses the Purple Line as a means of accessing the Metrorail station is assigned as a Metrorail trip.

Source: Purple Line Travel Forecasts Results Report (2013)

Table 3-2. Regional Transit Trips

Trips	2011 Existing	2030 No Build Alternative	2040 No Build Alternative	2030 Preferred Alternative	2040 Preferred Alternative
Associated with Purple Line Corridor	135,851	187,996	199,709	193,750	205,586
Within Purple Line Corridor	12,914	20,520	22,124	38,384	41,592
Total Regional Trips	1,151,994	1,564,450	1,655,075	1,591,104	1,683,701

Source: Purple Line Travel Forecasts Results Report, (2013)

Table 3-3. Year 2030/2040 Daily Purple Line Boardings

Transit Ridership (daily boardings)	2030 Preferred Alternative	2040 Preferred Alternative
Purple Line	46,837	49,791
Purple Line and Metrorail	17,224	18,972
Purple Line and MARC	477	536
Total	**64,538**	**69,299**

Source: Purple Line Travel Forecasts Results Report (2013)

University of Maryland Student and Employee Travel

The travel of UMD employees (faculty and staff) to and from the campus is captured within the regional model's travel forecasts, and these trips are included in the forecasts for the Purple Line. In contrast, the student trips to and from campus are not included in the forecasts, except as part of a separate analysis of "Special Events / Student Boardings," as shown in Table 3-4. Many of the current 37,000 students live on campus or in nearby housing within walking distance of the campus. Others live off campus and commute to school. These trips are not as concentrated in the peak periods as employee trips and are not as regular, as UMD is not in full session over the summer and during other breaks.

The university operates a shuttle bus service for its students, faculty, and staff, who make two million trips per year on this service. Four of the 18 Shuttle-UM routes (Shuttle-UM 111 Silver Spring Metro, Shuttle-UM 126 New Carrollton, Shuttle-UM 109 River Road, and Shuttle-UM 104 College Park Metro) operate in the Purple Line corridor serving major activity centers and destinations such as the Silver Spring Metro Station, the College Park Metro Station, New Carrollton Metro Station, and M Square Research Park. The ridership on these routes has been growing for the last several years and is estimated to grow 25 percent over the next 20 years as the student population grows and the on-campus parking supply becomes more restricted.

Of the four routes, Shuttle-UM 104 between the university campus and the College Park Metro station is the most heavily used, running at 6-minute headways from 6 AM to 7:30 PM, and every 20 minutes until 3:30 AM. An estimated 60 percent of the riders are students. This shuttle route is assumed to be discontinued with the opening of the Purple Line, diverting 2,550 trips per average weekday in 2030 to the Purple Line. The Shuttle-UM 111 to Silver Spring is likewise assumed to be discontinued, diverting another 525 trips per day. The Shuttle-UM 126-New Carrollton and Shuttle-UM 109 River Road carry a much smaller estimated percent of students among their ridership. These routes likely would be modified so as not to duplicate the Purple Line service. Another 90 trips in 2030 would be diverted from these two routes.

Student and visitor trips also would be diverted from various The Bus routes (14-River Road and 17-College Park Metro) and Metrobus routes (J4, F6, F8, and C2/C4). An estimated 900 trips would be diverted from these routes.

The total number of student and visitor trips diverted from the discontinued or modified Shuttle-UM, The Bus and Metrobus routes is estimated to be 4,065 trips in 2030 on an average weekday when school is in session. As noted above, the travel of University employees are already included in the regional model forecasts.

Special Event and Special Generator Trips

Venues such as sport stadiums and arenas, and events such as festivals and holiday fireworks displays, generate trips that occur outside of the typical weekday travel patterns. Washington DC is the site of many special trip generators and major events that occur with enough regularity and frequency that these are included in the regional model forecasts. Special events and generators within the Purple Line corridor, however, are not included in the regional forecasts.

The principal special event and special trip generator venue in the Purple Line corridor is the UMD campus, with Byrd Stadium, Comcast Center, and Clarice Smith Performing Arts Center. Byrd Stadium seats 50,000 people and hosts five to seven weekend football games annually. UMD is the site of many major sport and cultural events including major football and basketball games, numerous other sporting events and tournaments, concerts and similar activities that bring several hundred thousand visitors to the campus throughout the

year—albeit typically on weekends and evenings. Not all these trips would be candidates for the Purple Line; however, the Purple Line could make using transit for these types of trips associated with the UMD more attractive, especially with the Purple Line traveling along Campus Drive. The percentage of these trips that is estimated to use the Purple Line is estimated to be relatively small (3 percent), generating 75,000 boardings per year, or the equivalent of 255 boardings on a typical day in 2030.

While University of Maryland University College adjacent to the proposed Adelphi Road/West Campus station is largely a distance learning institution, there is a commuter student population which would be directly served by the Purple Line. Approximately 350 daily boardings would be generated by these students. The hotel and conference center hosts many large events, as well as numerous smaller events. While these vary by day of the week and season, an average of 80 daily Purple Line boardings is estimated for 2030.

Table 3-4. Year 2030/2040 Daily Purple Line Boardings by Station

Segment	2030 Preferred Alternative	2030 Preferred Alternative with Special Event/Student Boardings Included[1]	2040 Preferred Alternative	2040 Preferred Alternative with Special Event/Student Boardings Included[1]
Bethesda	14,780	14,780	14,990	14,990
Chevy Chase Lake/Connecticut Avenue	2,240	2,240	2,250	2,250
Lyttonsville	1,330	1,330	1,340	1,340
Woodside/16th Street	1,570	1,570	1,620	1,620
Silver Spring Transit Center	12,490	12,870	12,940	13,320
Silver Spring Library	2,810	2,810	3,010	3,010
Dale Drive	870	870	960	960
Manchester Place	1,860	1,860	1,910	1,910
Long Branch	790	790	890	890
Piney Branch Rd/University Boulevard	1,160	1,160	1,240	1,240
Takoma/Langley Transit Center	1,940	1,940	2,190	2,190
Riggs Road	1,860	1,960	2,220	2,320
Adelphi Road/West Campus	910	1,280	1,020	1,390
Campus Center	550	2,270	730	2,500
East Campus	3,650	3,930	4,310	4,600
College Park/UMD Metro	5,190	7,090	5,790	7,740
M Square	1,350	1,350	1,730	1,730
Riverdale Park	2,100	2,100	2,390	2,390
Beacon Heights	1,830	1,830	1,900	1,900
Annapolis Road/Glenridge	1,360	1,360	1,410	1,410
New Carrollton	3,910	3,910	4,460	4,460
Total Boardings	**64,550**	**69,300**	**69,300**	**74,160**

Daily boardings have been rounded
[1] Includes UMD special event, special generator, and student trips

Source: Purple Line Travel Forecasts Results Report (2013).

The combined estimate for UMD student and special generator/special event Purple Line boardings in 2030 is 4,750. These boardings would occur on days when UMD is in session or the special events are happening. These trips are not as concentrated in the peak periods as employee trips and are not as regular, as UMD is not in full session over the summer and various break periods. The number of these boardings estimated to board the Purple Line is expected to grow by a little more than 2 percent between 2030 and 2040, to total of 4,860.

Station Boardings

Daily boardings by station for the Preferred Alternative in 2030 and 2040 are shown in Table 3-4. The Bethesda, Silver Spring Transit Center, College Park/UMD Metro, and New Carrollton stations have the highest boarding of any of the stations, demonstrating the connectivity the Purple Line would have with the Metrorail system. The 2030 Preferred Alternative and 2040 Preferred Alternative columns do not include the UMD student and special event and special generators travel discussed previously. The 2030 and 2040 "Preferred Alternative with Student/Special Boardings Included" columns includes these boardings, although as discussed above, these boardings would only occur on days when the university is in session.

Station Mode of Access

At most Purple Line stations, walking and bus would be the principal ways that passengers get to and leave the stations. At the Bethesda, Silver Spring Transit Center, College Park/UMD Metro, and New Carrollton Stations, a transfer to or from Metrorail would be the most common entry/exit mode. MARC connections are also available at Silver Spring Transit Center, College Park/UMD Metro, and New Carrollton. Major bus transfers would occur at Bethesda, Silver Spring Transit Center, the Takoma/Langley Transit Center, College Park/UMD Metro, and New Carrollton. At the UMD Campus Center station transfers would occur with the Shuttle-UM system as well. All these connections assume a future bus system based on existing service levels and routes. Some of the existing bus services in the corridor could be modified to better integrate with the Purple Line service, either by relocating stop locations or modifying schedules.

Another way to access stations is by automobile. While no new park-and-ride facilities would be provided at the Purple Line stations, the four Metrorail stations that would connect with the Purple Line have existing parking facilities that could be used by Purple Line riders. Some of the Metrorail users who would park at these stations under the No Build, would access these stations via the Purple Line under the Preferred Alternative (thus reducing demand for parking at these stations under the Preferred Alternative). On the other hand, some Purple Line riders who would access the service by automobile would use the existing parking facilities at the four Metrorail stations (thus increasing parking demand at these stations under the Preferred Alternative). In addition, some Purple Line riders who would use the Metrorail system as part of their trips would access the system by car at other Metrorail stations, thus increasing demand for parking at Metrorail stations outside the corridor. Overall, the travel forecasting analysis showed that adequate parking supply was available for the changes in parking demand with the Purple Line (see *Purple Line Travel Forecasts Results Report*, 2013).

Passenger Travel Benefits

Benefits to travelers as a result of implementing the Purple Line can accrue to new transit users, as well as to existing transit riders who might benefit from a faster trip or more convenient access to the service. Table 3-5 lists the total systemwide passenger travel benefits for the Preferred Alternative. The travel benefits are calculated to represent the savings in travel times combined with out-of-pocket costs converted to minutes. In this way, the measure includes a comprehensive accounting of the total benefits of travel.

Table 3-5. Year 2030/2040 Daily Systemwide Passenger Travel Benefits

	Daily Benefits (minutes)
2030 Preferred Alternative	1,694,900
2040 Preferred Alternative	2,088,240

Note: This table does not include any travel benefits for UMD students and special generator trips.

Source: Purple Line Travel Forecasts Results Report (2013)

Fare Box Revenue

Fare box revenues are the fares collected from passengers using the transit services. People use a variety of means to pay fares, including cash, passes, and electronic fare cards. Fare revenues include both fares at the initial boarding of the trip as well as any transfer costs for transfers to other services.

The Preferred Alternative is expected to increase the number of future systemwide (regional) transit users. As a result annual systemwide fare box revenues for all transit services are expected to increase by $8,888,502 in 2030 compared to the No Build Alternative, and by $9,615,564 in 2040.

Bus Service Effects

Local bus routes in the Purple Line corridor would likely be modified or adjusted to serve Purple Line stations, or to respond to service redundancy and improve efficiency. These adjustments could include modifications to headways, routes, or hours of service.

Some bus routes currently run on routes parallel to portions of the Preferred Alternative and potentially could have their service levels adjusted or could be eliminated. However, it should be noted that while the routes may be parallel, the service is generally not identical because the bus stops tend to be spaced closer together than the Purple Line stations. Examples of bus routes that could be adjusted or eliminated include:

- WMATA Route J4
- Ride On 15
- Shuttle-UM's Route 111
- Shuttle-UM's Route 104

Decisions about these changes would be made by the transit providers of those services prior to the start of the Purple Line service.

Mitigation

Mitigation is not warranted because the Purple Line would provide new transit service in the corridor where bus service would be removed.

Some bus routes would be adjusted or modified by the local providers, as needed.

Short-term Construction Effects and Mitigation

Prior to construction, a Transportation Management Plan for the Purple Line would be developed to minimize potential negative impacts to traffic and transit as described in Section 5.3.

Potential impacts to local bus services during the construction of a transportation project could include the narrowing of roadway travel lanes, temporary lane closures (limited, when possible, to off-peak or nighttime periods when traffic volumes are low), roadway speed reductions, shifting or consolidation of bus stop locations, or short-term detours.

3.2 Roadways

3.2.1 Introduction

Data used to assess potential effects on roadway facilities and traffic included roadway system characteristics, intersection turning movement volumes, and daily and peak period traffic volumes. Analysis tools included traffic simulation modeling and travel demand forecasting. Existing and horizon year 2040 roadway network and traffic patterns were analyzed using the MWCOG's travel demand model. Traffic congestion was quantified using the 2000 Highway Capacity Manual, the national standard for evaluating traffic operations.

3.2.2 Affected Environment

Levels of Service at Intersections along the Alignment

Along the Purple Line corridor, traffic capacity is typically constrained by signalized intersections, rather than by the number of roadway lanes. Peak hour traffic analyses were conducted for 51 intersections along the Preferred Alternative alignment. Table 3-6 presents the level of service (LOS) of the intersections that would operate at or exceeding capacity (LOS E or LOS F) in 2040 under the No Build and the Preferred Alternative. Those intersections with levels of service E or F during one or more of these conditions are highlighted in orange and red, respectively.

Level of Service

Level of service (LOS) is a measure of the quality of operations of a roadway. It looks at speed, traffic volume and road geometry. LOS A represents free flow conditions and LOS F represents a breakdown of vehicular flow. Typically, in urbanized areas LOS D or better is considered adequate.

As shown in Table 3-6, 11 intersections (22 percent) operate at LOS E or F during one or both peak hours. The remaining intersections currently operate at LOS D or better during the AM and PM peak hours.

Table 3-6. Levels of Service at Intersections along the Alignment that would operate at or Exceeding Capacity in 2040

Intersection	2012 Existing		2040 No Build Alternative		2040 Preferred Alternative	
	AM	PM	AM	PM	AM	PM
Wayne Avenue @ Fenton Street	C	C	C	D	C	F
Wayne Avenue @ Dale Drive	B	C	C	F	E	E
Wayne Avenue @ Sligo Creek Parkway	D	C	F	F	D	F
Wayne Avenue @ Manchester Road	E	E	F	F	C	F
Piney Branch Road @ University Boulevard	D	D	D	D	F	F
University Boulevard @ Carroll Avenue	D	C	E	C	D	C
University Boulevard @ Merrimac Drive	D	F	F	F	A	A
University Boulevard @ New Hampshire Avenue	D	E	D	F	D	E
University Boulevard @ Riggs Road	D	E	E	F	E	F
University Boulevard @ 15th Avenue	B	D	B	D	B	E
University Boulevard @ Guilford Road	C	F	B	F	A	A
University Boulevard @ Campus Drive	B	C	C	D	C	E
Campus Drive @ Adelphi Road	E	E	E	F	E	F
Campus Drive @ Regents Drive	D	F	F	F	E	E
Paint Branch Parkway @ Rossborough Lane	N/A	N/A	F	F	B	E
Paint Branch Parkway @ MFRI Building Entrance	B	B	F	F	C	B
Paint Branch Parkway @ Metro Parking	A	B	E	F	F	F
River Road @ Rivertech Court	E	F	F	F	D	D
River Road @ Haig Drive	C	C	E	D	A	A
Kenilworth Avenue @ East-West Highway	F	F	F	F	F	F
Veterans Parkway @ Glenridge Yard	E	F	F	F	A	A
Veterans Parkway @ Annapolis Road	E	E	E	E	E	F
Total LOS F Intersections (by peak period)	1	6	9	15	3	9
Intersections at or exceeding capacity (by peak period)	6	11	15	16	8	15
Total Intersections at or exceeding capacity	11		18		15	

Note: Green shading denotes levels of service A-D; orange and red shading denote intersection levels at or exceeding capacity, i.e., with LOS of E or F.

Source: Purple Line Traffic Analysis Technical Report (2013)

3.2.3 No Build Alternative

In the latest update of the CLRP (July 2012), there are no east-west roadway projects programmed for funding along the Purple Line corridor. The effects of increased traffic would be most pronounced at intersections currently operating at or exceeding capacity, where an increase in queuing of traffic and delay is anticipated by 2040. The level of service analysis of the 2040 No Build Alternative clearly shows further deterioration in levels of service at key intersections.

As shown in Table 3-6 the analysis forecasted that during the 2040 No Build condition 18 intersections (35 percent) will operate at LOS E or F during one or both peak hours, compared to 11 intersections (21 percent) under existing conditions. The impact of the No Build Alternative on region-wide travel and congestion are presented as part of the Preferred Alternative discussion below.

3.2.4 Preferred Alternative

Long-term Operational Effects

Analysis of the long-term traffic effects on intersections for the year 2040 Preferred Alternative forecasted that of the 52 key intersections, 15 intersections (29 percent) would operate at LOS E or F during one or both peak periods (refer to Table 3-6). Level of service analysis of the Preferred Alternative clearly shows an improvement at most intersections when compared to the No Build Alternative, particularly along University Boulevard, River Road, and Veterans Parkway.

The Preferred Alternative would be at grade except for one short tunnel section and three sections elevated on structures. It would operate mainly in dedicated or exclusive lanes providing fast reliable transit operations. There are three segments of the Preferred Alternative that operate in mixed-use lanes: Wayne Avenue, Paint Branch Parkway, and Ellin Road. On Wayne Avenue traffic analysis showed that the addition of left turn lanes at the signalized intersections (proposed as part of the Preferred Alternative) would actually improve traffic operations in 2040. Paint Branch Parkway has sufficient capacity to maintain acceptable levels of service even with the addition of the Purple Line.

On Campus Drive in the UMD campus the Preferred Alternative will operate in a dedicated transitway with buses. Travel patterns on campus, as well as other campus roadway extensions result in improved transit travel time for both buses and light rail.

Where changes in traffic patterns are planned, the Preferred Alternative is expected to divert some traffic from existing roads onto adjacent streets. The following locations shown in Table 3-7 identify streets where some traffic could divert from and to, as a result of changes made to traffic patterns due to the Preferred Alternative.

Regional Effects on Travel and Congestion

The Preferred Alternative has the potential to improve traffic conditions and roadway system performance by upgrading intersections with added turn lanes and the addition or modification of traffic signals. In addition, by prompting a shift in the mode of travel from private automobiles to public transit, the Preferred Alternative has the potential to reduce traffic congestion. While these changes would represent relatively small changes on a regional level, they would represent appreciable improvements over the No-Build Alternative within the corridor. The potential regional traffic benefits of the Preferred Alternative were evaluated based on the change in daily vehicle trips, vehicle miles traveled (VMT), roadway operating speeds, intersection LOS, and representative travel times. These areas are discussed in the *Purple Line Travel Forecasts Results Report (2013)*, with the key findings summarized in the following sections.

Vehicle Trips

In a travel demand model, a vehicle trip is a vehicle traveling in a single direction from an origin to a destination. The number of passengers in a vehicle and the length of the trip also are forecast by the model but are not included in the vehicle trip tabulations. Table 3-8 presents daily vehicle trips expected with the No Build Alternative and the Preferred Alternative for the entire metropolitan region as forecasted by the model.

Table 3-7. Traffic Diversion under the Preferred Alternative

Street Changed	Change	Streets to Which Traffic Would Likely Divert
Bonifant Street	Converted to one-way street ▪ eastbound east of Georgia Avenue ▪ westbound west of Georgia Avenue	Wayne Avenue to the north and Thayer Avenue to the south
Left turn access to the Whole Foods on Wayne Avenue just east of Fenton Street	Right in, right out only	Cedar Street
Piney Branch Road	Elimination of left turns	Gilbert Street, Seek Lane, Greenwood Avenue and Domer Avenue
University Boulevard	Reduced to 4-lane typical section Closure of several median openings	Nearest signalized intersections where left turns and U-turns would be permitted
Campus Drive	Currently a 2-lane roadway, this would be widened to a 3-lane roadway, with one-way westbound for automobiles and the other 2 lanes dedicated for transit vehicles	Eastbound traffic primarily to Fieldhouse Drive and Stadium Drive — eastbound through trips may continue along University Boulevard rather than cut through the campus
Kenilworth Avenue	All intersections converted to right in, right out only except at Rittenhouse Street because of median alignment	Left turns into and out of Quesada Road and Quintana Street along the west side of Kenilworth Avenue would be accommodated at the Rittenhouse Street traffic signal
Veterans Parkway	Closure of access into and out of the Glenridge Shopping Center	Two existing shopping center access driveways along MD 450

Table 3-8. Regional Daily Vehicle Trips

	2030		2040	
	No Build Alternative	Preferred Alternative	No Build Alternative	Preferred Alternative
Daily Vehicle Trips	26,110,617	26,095,033	27,702,467	27,685,677
Change over No Build	—	-15,584	—	-16,790
% Change over No Build	—	-0.060%	—	-0.061%

Source: Purple Line Travel Forecasts Results Report, (2013)

Under the Preferred Alternative in 2040 the number of daily vehicle trips would be 16,790 less than under the No Build Alternative. The number of daily vehicle trips in 2040 represents a reduction of 0.06 percent on a regional basis relative to the No Build alternative. Though regionally small, the change would benefit the corridor roadway system performance, where the reduction would occur.

The change in regional vehicle trips was further broken down by areas in the region, focusing on those in the corridor. This analysis provides additional insight into the expected reduction in total automobile trips in the areas immediately surrounding the Preferred Alternative.

Table 3-9 shows the total reduction in automobile trips relative to the No Build Alternative, both into and out of each area. The largest change in automobile traffic is expected in the Bethesda, College Park, and Silver Spring areas, with net decreases in automobile trips of between 4,500 and 5,400 per day in 2040 in all areas except in the Connecticut Avenue-Lyttonsville area. Note that all the values represent the trips that would start and those that end in these particular areas. For example, a trip from Bethesda to Silver Spring is represented in both the Bethesda and Silver Spring values. It is reasonable to expect that the actual reduction in automobile trips within a particular area would be greater due to fewer trips passing through the area from adjoining areas.

There is a high likelihood that a trip from Bethesda to Silver Spring would pass through the Connecticut Avenue-Lyttonsville area, further reducing the number of cars on the road in that area (the analysis presented in Table 3-9 does not reflect the additional reduction in Connecticut-Lyttonsville traffic).

Table 3-9. Change in Vehicle Trips in the Corridor where the Change Is Appreciable, Compared to No Build Alternative

Area	2030 Preferred Alternative	2040 Preferred Alternative
Bethesda	-4,580	-4,498
Connecticut — Lyttonsville	-939	-942
Silver Spring	-5,153	-5,390
Takoma/Langley	-2,690	-3,064
College Park	-4,412	-5,408
Riverdale Park	-2,241	-2,468
New Carrollton	-1,152	-1,303

Source: Purple Line Travel Forecasts Results Report (2013)

Vehicle Miles Traveled

A second parameter that can be used to evaluate the impact of transit alternatives on overall automobile usage is the overall VMT in the region. VMT represents the total miles traveled during all of the vehicle trips within a region, without regard to the number of passengers in a vehicle.

Table 3-10 shows that in year 2040, under the No Build Alternative, 195,519,477 vehicle miles would be traveled each day in the region. Under the Preferred Alternative, that total would be slightly lower by 129,828 (0.07 percent).

Roadway Operating Speeds

The region-wide average roadway speed is calculated by the travel demand model. For some projects, this average can be used as a measure of the reduction in traffic congestion. However, given the small reduction in total daily vehicle trips on a regional scale for the Preferred Alternative, the change in the average roadway speed is projected to be quite small.

Minimization

MTA has minimized traffic and roadway effects resulting from both the Purple Line and forecasted traffic conditions. Based on the Preferred Alternative, roadway and intersection traffic LOS would be improved overall compared to the No Build Alternative.

At various intersections minimization and avoidance efforts would include combinations of additional turning lanes, additional traffic signals to control traffic flow, and adjustments to traffic signal phases and timing to optimize intersection operations. These traffic measures have been incorporated into the Preferred Alternative and are reflected in the LOS analysis for the Preferred Alternative intersections shown above in Table 3-6.

Mitigation

To mitigate the effects of future traffic and Purple Line operations, new signals are proposed for the following 18 currently unsignalized intersections:

- Bonifant Street at Dixon Avenue
- Wayne Avenue at Manchester Road
- Wayne Avenue at Plymouth Tunnel
- Arliss Street at South Shopping Center Access
- Piney Branch Road at Garland Avenue
- University Boulevard at Seek Lane
- University Boulevard at Merrimac Drive
- University Boulevard at Lebanon Street
- University Boulevard at 14th Avenue
- University Boulevard at Guilford Road
- University Boulevard at 24th Avenue (North)
- Presidential Drive/Union Drive at Valley Drive
- Campus Drive at Regents Drive
- Paint Branch Parkway at Rossborough Lane
- River Road at Rivertech Court
- River Road at Haig Drive
- Veterans Parkway at Glenridge Yard
- Ellin Road at the New Carrollton Bus Stop

For further information see the *Purple Line Traffic Analysis Technical Report (2013).*

Short-term Construction Effects and Mitigation

As described in Chapter 5.0, construction of the Preferred Alternative has the potential to affect traffic and roadway operations in a number of ways that are typical of construction projects in existing roadways.

Table 3-10. Vehicle Miles Traveled

	2030		2040	
	No Build Alternative	Preferred Alternative	No Build Alternative	Preferred Alternative
Vehicle Miles Traveled	190,126,536	189,975,165	195,519,477	195,389,649
Change from No Build Alternative	—	-151,371	—	-129,828
% Change from No Build Alternative	—	-0.08%	—	-0.07%

Source: Purple Line Travel Forecasts Results Report (2013)

The Transportation Management Plan will provide detailed mitigation for these temporary construction impacts to traffic. Section 5.3 provides a description of the Transportation Management Plan, including public notification requirements, and coordination with emergency services.

3.3 Pedestrian and Bicycle Facilities

3.3.1 Introduction

This section documents existing and planned pedestrian and bicycle facilities located within the Purple Line corridor and presents potential benefits and impacts during operations and construction of the Preferred Alternative (compared with the No-Build Alternative).

3.3.2 Affected Environment

Multi-use trails, sidewalks, and bicycle lanes form a bicycle and pedestrian network that extends through many parts of the region. The corridor includes portions of eight multi-use trails, sidewalks and a number of bicycle lanes within roadway rights-of-way. The multi-use trails which are adjacent to, or cross the Preferred Alternative are the Capital Crescent (Georgetown to Bethesda), Georgetown Branch Interim, Rock Creek, Green, Sligo Creek, Long Branch, Northwest Branch, Paint Branch, and Northeast Branch Trails. The Georgetown Branch Interim Trail is within the right-of-way where the proposed Purple Line would be located. The roadways within the corridor generally have sidewalks provided on at least one side of the roadways. Bicycle lanes are provided on some roadways within the corridor.

3.3.3 No Build Alternative

As described in Chapter 2.0 the No Build Alternative includes the completion of the Green Trail, bikeway and pedestrian improvements in the Bethesda Central Business District, and the Dale Drive sidewalk. The No Build Alternative does not include the construction of the Capital Crescent Trail from Bethesda to Silver Spring, therefore no impacts are expected.

3.3.4 Preferred Alternative

Long-term Operational Effects

Throughout the corridor the Preferred Alternative includes:

- Additional sidewalks and crosswalks in station areas, where needed to support safe station access
- Sidewalks along both sides of new and reconstructed roadways
- Bicycle racks at stations, where space allows and ridership estimates indicate a need.

The Preferred Alternative includes the following location-specific changes to bicycle and pedestrian facilities:

- Using funding to be provided by Montgomery County, the eastern 4.3 miles of the Capital Crescent Trail from Bethesda to Silver Spring would be constructed and paved, replacing the existing Georgetown Branch Interim Trail between Bethesda and Stewart Avenue. The Capital Crescent Trail would provide a permanent trail, separate from the roadways, from Stewart Avenue into downtown Silver Spring.[2] Most of the existing vegetation within the Georgetown Branch right-of-way will be removed; the trail will be regraded, and landscaped. Retaining walls will be built in some locations, and fencing provided between the trail and the transitway. The trail will be paved 12 feet wide, with 2-foot unpaved shoulders on either side. Lighting and other amenities will be provided near stations and at other locations as determined by Montgomery County. Twenty-three formal access points will be constructed. See Chapter 2.3.2 for more detail.
- New signalized pedestrian crosswalks across 16th Street, Wayne Avenue, Arliss Street, Piney

[2] The Preferred Alternative assumes that the permanent Capital Crescent Trail between Talbot Avenue and Silver Spring would be located in CSXT right-of-way in accordance with the County's land use plan. The completion of the trail in the CSXT corridor is contingent on agreement between Montgomery County and CSXT on the use of CSXT property on the north side of the CSXT tracks for the trail. If agreement is not reached by the time the Purple Line construction occurs, MTA would construct the trail from Bethesda to Talbot Avenue. From Talbot Avenue to Silver Spring, an interim signed bike route on local streets would be used.

Branch Road, University Boulevard, Campus Drive, and River Road.
- Wider outside roadway travel lanes to accommodate bicycles on Piney Branch Road, University Boulevard, and Kenilworth Avenue, and a 5-foot wide bicycle lane on the eastbound side of Veterans Parkway, separated from the traffic lane by striping.
- Wider sidewalks and crosswalks, pedestrian plazas and refuges along University Boulevard, especially in station areas, where needed and where reasonably feasible.
- Construction of a new bikeway across the UMD campus.

Mitigation

MTA will design bicycle and pedestrian crossings to meet the requirements of the Americans with Disabilities Act (ADA), the Manual on Uniform Traffic Control Devices, the American Railway Engineering and Maintenance of Way Association, American Association of State Highway and Transportation Officials, and other relevant requirements and guidelines to ensure that a high level of service, safety and durability are provided.

Short-term Construction Effects and Mitigation

Construction of the Preferred Alternative would temporarily affect bicycle and pedestrian facilities and activities, and may include temporary sidewalk and trail route detours. The Transportation Management Plan discussed in Section 5.3 will address detours and temporary connections to maintain continuity of bicycle and pedestrian facilities during the construction. Pedestrian movements would be maintained to the extent reasonably feasible and pedestrian access to adjacent properties would be maintained during construction. Where it is not possible to maintain existing movements, alternate routing with appropriate signing would be designated.

3.4 Parking Facilities

3.4.1 Introduction

The Purple Line is consistent with the State's Smart Growth policies to encourage new development in areas that are already developed reducing use of the automobile, and therefore reducing parking needs. Parking in the corridor is not at capacity. In 2011 Montgomery County completed a Parking Policy Study to evaluate the need to better align with other policies that promote travel by other modes than automobile.[3]

MTA inventoried the types of parking facilities, locations, and the number of parking spaces located within a Purple Line parking study area. These included parking lots wholly or partially within the limits of disturbance (LOD), on-street parking in the LOD and public parking garages within one-quarter mile of Purple Line stations. Data sources included field reconnaissance, available mapping, and data from parking facility owners, including the counties, WMATA, and private entities. Parking facilities consist of the following:
- **On-street Parking**—Public parking along the sides of streets
- **Parking Garage**—Parking structures within one-quarter mile of Purple Line stations that patrons of the Purple Line might use for parking
- **Non-residential Parking Lots**—Paved areas used for parking that are open for public use or to serve businesses and non-residential parking
- **Residential**—Driveways and parking pads, as well as parking lots of apartments or condominiums

Parking impacts in the study area were classified as either permanent or temporary. Permanent parking effects consist of permanent loss of parking spaces that would not be reconstructed in their existing locations nor would they be replaced in other locations. Temporary parking effects consist of parking spaces that would be temporarily lost due to construction and would be unavailable for some duration during construction but would be available after construction or would be relocated.

[3] M-NCPPC and Montgomery County Department of Transportation, *Montgomery County Parking Policy Study*, Study Summary, 2011

3.4.2 Affected Environment

Within the study area there are a total of 17,962 parking spaces, consisting of:

- 327 (2 percent) on-street parking spaces
- 8,395 (47 percent) parking garage spaces
- 7,897 (44 percent) non-residential parking lot spaces
- 1,343 (7 percent) residential parking lot spaces, for apartments and condominiums

3.4.3 No Build Alternative

Under the No Build Alternative 940 new parking garage spaces would be available in downtown Bethesda. In addition, the planned extension of Presidential Drive and the relocation of Valley Drive on the UMD campus would result in the loss of 324 spaces in parking lots, even if the Purple Line were not built, and the University plans to add structured parking on campus to address the loss of these spaces and other parking lots on campus. There are no other changes in the parking space inventory under the No Build Alternative. This analysis assumed that there would be no impacts to the current on-street parking spaces in year 2040 consistent with the fact there are no proposed modifications in the CLRP (July 2012). For the analysis, the on-street and off-street parking are assumed to remain the same in the No Build condition as in the existing condition.

The demand for parking would increase as additional growth in population, employment and vehicular traffic occur in the corridor. New residential, commercial, and institutional development would be required to provide parking according to the current local zoning and development requirements.

3.4.4 Preferred Alternative

Long-term Operational Effects

The Preferred Alternative would remove 1,395 existing parking spaces in the corridor. Table 3-11 shows the number of parking spaces by facility type anticipated to be eliminated. The majority of parking impacts would occur in the portion of the corridor between the Silver Spring Transit Center and the UMD campus.

Table 3-11. Parking Spaces Permanently Removed under the Preferred Alternative

Parking Facility Type	Number of Existing Spaces	Number of Spaces Parking Permanently Removed
On-Street Parking	327	220
Parking Garages	8,395	12
Non-residential Parking Lots	7,897	897
Residential Parking Lots	1,343	110
Total	**17,962**	**1,239**

On-street Parking

The Preferred Alternative would remove 220 on-street parking spaces. Thirty spaces would be removed from Bonifant Street between Fenton Street and Georgia Avenue as a result of converting Bonifant Street to one-way traffic, 60 spaces would be removed along southbound Arliss Street, 3 spaces would be removed from Piney Branch Road, 66 spaces would be removed along the service roads on University Boulevard to maintain a 4-lane roadway with the addition of the Purple Line in the center median, and the remaining 61 spaces would be removed on the University of Maryland Campus.

Parking Garages

The Preferred Alternative would remove twelve spaces from the Bonifant-Dixon Parking Garage where the lowest level of the bridge connecting the north and south buildings of the parking garage would be removed.

Non-Residential Parking Lots

The Preferred Alternative would remove 897 spaces in non-residential parking lots. On the UMD campus, 344 spaces would be removed due to the extension of Presidential Drive and relocation of Valley Drive, and 121 spaces would be removed from a parking lot off of Administration Circle next to the Visitor Center. As noted above, the UMD master plan assumes the extension of Presidential Drive and relocation of Valley Drive, and includes the Preferred Alternative alignment through campus. The design of the alignment through campus was developed in joint meetings of MTA and the UMD Facilities Master Plan committee.

The majority of the remaining permanent impacts to non-residential parking lots in the Purple Line corridor are in the parking lots of shopping centers adjacent to the roadways planned for widening due to the Preferred Alternative.

Residential Parking Lots

The Preferred Alternative would remove 102 spaces from the residential parking lots of eight apartment complexes.

Mitigation

On-Street Parking

Mitigation of permanent impacts to on-street parking is not proposed except on Bonifant Street.

MTA has met with business owners along Bonifant Street to discuss the issue of lost parking. MTA will continue to work with the businesses and Montgomery County to identify specific mitigation strategies such as changing the meters in the county-owned Bonifant parking lot to prohibit eight hours of parking to discourage commuter parking.

Parking Garages and Non-Residential Parking Lots

Mitigation of permanent parking loss is not proposed in lots where the current parking is underutilized and remaining parking capacity exceeds parking utilization. Where parking spaces on private property are lost through acquisition of property for the project, MTA will purchase the property at fair market value.

In cases where parking impacts would appreciably affect businesses and the parking cannot be replaced due to lack of available replacement locations, MTA will conduct appraisals and compensate business owners for long-term adverse effects that the loss of parking would have on their businesses, above and beyond the compensation for right-of-way displacements.

The parking lot used by Montgomery County Department of Transportation employees at Lyttonsville will be replaced with a new parking deck.

Residential Parking Lots

Property owners will be compensated for the acquisition of parking spaces, but mitigation is not proposed.

Delivery and Service Access

An important part of parking access is loading zones for businesses in the LOD. Loading zones can be on-street or off-street. On Bonifant Street, where the Purple Line would eliminate parking and loading zones on the north side of the street, MTA will work with Montgomery County and local businesses to identify alternative loading zones.

Short-term Construction Effects and Mitigation

Some parking spaces would be temporarily unavailable during construction of the Preferred Alternative. Table 3-12 summarizes the temporary parking impacts within the corridor. The Transportation Management Plan discussed in Section 5.3 would address temporary parking plans during the construction of the Purple Line. Because MTA will phase construction activities most of these spaces will only be affected for a portion of the five-year construction period.

Table 3-12. Temporary Removal of Parking Spaces under the Preferred Alternative.

Parking Type	Existing Spaces	Spaces Temporarily Affected
On-Street Parking	327	69
Parking Garages	8,395	0
Non-Residential Parking Lots	7,897	1,577
Residential Parking Lots	1,343	565
Total	**17,962**	**2,211**

On Street Parking

Wayne Avenue is a four-lane roadway with on-street parking during off peak hours. Parking on the north side is restricted during the morning peak period, Monday through Friday and the south side is restricted during the evening peak period, Monday through Friday. 61 parking spaces along Wayne Avenue would be temporarily unavailable during construction on Wayne Avenue. The other eight spaces are scattered throughout the corridor,

and would thus have a minimal impact on parking availability.

Residential and Non Residential Parking Lots

Several non-residential and residential parking lots would be temporarily unavailable during the construction of the Preferred Alternative. Most of the temporary parking loss is due to the need for construction staging areas. Below are some examples of the larger parking lots where spaces are removed temporarily during construction.

- **Lyttonsville Yard**—This would include the parking at the County Maintenance Lot during construction of the Lyttonsville Yard. MTA will coordinate with Montgomery County to find a temporary alternative site during construction.
- **Silver Spring International Middle School**—The parking lot would be reconfigured resulting in temporary loss of parking during construction. MTA will coordinate with the school to minimize disruptions, to the extent reasonably feasible.
- **Wayne Manchester Towers and Kenwood House Condominiums**—Parking lots would be temporarily removed during the construction of the Plymouth Tunnel.

Delivery and Service Access

MTA will work with stakeholders and local businesses affected by the temporary loss of loading zones, or access to loading zones, to identify alternate or temporary loading areas.

3.5 Railroad Facilities and Operations

3.5.1 Introduction

There are a number of active freight rail facilities within the Purple Line corridor. The sections below describe these freight rail services and operations.

3.5.2 Affected Environment

CSXT operates two freight rail lines in the corridor: the CSXT Metropolitan Subdivision (often referred to as the Metropolitan Branch) and the CSXT Capital Subdivision. The Metropolitan Subdivision approaches the corridor from the northwest, runs parallel to the WMATA Red Line starting at 16th Street, and passes through Silver Spring before entering Washington DC. The Capital Subdivision approaches the corridor from the northeast and runs from Greenbelt to College Park and southward into Washington DC. Amtrak and MARC operate on both subdivisions. Currently, the Metropolitan Subdivision accommodates two Amtrak train movements, 19 MARC trains, and roughly 18 CSXT freight trains per day. The Capital Subdivision accommodates 13 MARC trains and roughly 18 CSXT freight trains per day. The WMATA Green Line operates within the Capital Subdivision right-of-way before diverting after the College Park-UMD Metro station.

3.5.3 No Build Alternative

The No Build Alternative does not affect railroad operations.

3.5.4 Preferred Alternative

The Preferred Alternative would run parallel to the Metropolitan Subdivision in the 1.2-mile section between Michigan Avenue and Silver Spring. The Purple Line alignment would also primarily be within CSXT right-of-way from Talbot Avenue to 16th Street and use small portions of CSXT right-of-way from 16th Street to Silver Spring. The Preferred Alternative would use up to 2.7 acres of CSXT right-of-way. In compliance with CSXT requirements, MTA would provide a barrier wall where the Purple Line would parallel the CSXT tracks, as a physical barrier separating the Purple Line tracks from the existing CSXT and WMATA tracks.

Just west of Colesville Road in Silver Spring, the Purple Line would cross over the CSXT Metropolitan Subdivision and the WMATA Red Line on a new bridge. The bottom of the bridge would have a minimum clearance of 23 feet above the top of rail of the CSXT tracks. At College Park, the Preferred Alternative would cross under the Capital Subdivision on Paint Branch Parkway. A short portion of Paint Branch Parkway would be lowered under the railroad bridges to accommodate the Purple Line overhead wire system.

Structures to be reconstructed over CSXT tracks include the Talbot Avenue and Spring Street

bridges; new structures would include the Capital Crescent Trail bridge north of Talbot Avenue and the light rail bridge over CSXT tracks immediately west of Colesville Road. The need to extend the 16th Street bridge would be determined during further design development.

There is a short siding on the southwest side of the CSXT mainline right-of-way that turns to run in the Georgetown Branch. MTA would need to relocate this siding out of the Georgetown Branch right-of-way to the CSXT right-of-way, parallel to the CSXT mainline.

Operationally, the Preferred Alternative would be located on its own track and right-of-way and would not use CSXT track or infrastructure, nor would it affect CSXT's operations or the operations of Amtrak, MARC or WMATA. MTA will continue to coordinate with CSXT regarding the use of their right-of-way as well as design and safety requirements.[4]

Long-term Operational Effects

There no long term effects anticipated on CSXT freight rail operations; therefore, no mitigation is proposed.

Short-term Construction Effects and Mitigation

During construction of the Preferred Alternative, MTA and its contractors would require access to CSXT property, and would perform activities in proximity to CSXT operations. MTA will coordinate with CSXT regarding the nature and extent of construction activities affecting CSXT property. MTA and its contractors will comply with CSXT's access, safety and operational requirements during project construction, including but not limited to securing appropriate easements and agreements, adopting CSXT safety procedures, and ensuring CSXT access to their facilities at all times. CSXT operations would be maintained at all times during the construction of the Preferred Alternative.

[4] The Preferred Alternative assumes that the permanent Capital Crescent Trail between Talbot Avenue and Silver Spring would be located in CSXT right-of-way in accordance with the County's land use plan. The completion of the trail in the CSXT corridor is contingent on agreement between Montgomery County and CSXT on the use of its property on the north side of the CSXT tracks for the trail. If agreement is not reached by the time the Purple Line construction occurs, MTA would construct the trail from Bethesda to Talbot Avenue. From Talbot Avenue to Silver Spring, an interim signed bike route on local streets would be used.

3.6 Aviation Facilities and Operations

3.6.1 Introduction

One general aviation facility is located near the Purple Line Corridor. The following sections describe this facility and its operations.

3.6.2 Affected Environment

The College Park Airport, owned by MNCPPC, is a general aviation facility located near the UMD campus just east of the Purple Line corridor. The facility covers 70 acres and has one runway, which is oriented northwest to southeast. It has 46 aircraft based at the facility, and about 70 aircraft operations occur weekly.

3.6.3 No Build Alternative

The No Build Alternative does not affect aviation operations.

3.6.4 Preferred Alternative

Under the Preferred Alternative, as the Purple Line approaches College Park Airport from the west, it would follow Paint Branch Parkway and operate in shared lanes. The alignment would be below-grade as it passes under the CSX Capital Subdivision tracks, and it then would turn south to access the College Park station and beyond.

Long-term Operational Effects

No long-term effects on the airport facility or operations are anticipated. One reason is that the Preferred Alternative would follow the current alignment of Paint Branch Parkway near College Park Airport and be below-grade as it passes under the railroad tracks near the airport; the Purple Line would not even be visible to or from the airport. Another reason is that the Preferred Alternative alignment is parallel to the runway and thus would not affect the safety zone for aircraft takeoffs and landings.

Short-term Construction Effects and Mitigation

The Preferred Alternative would have no short-term construction effects on the College Park Airport and its operations.

3.7 Safety and Security

This section identifies general safety and security considerations related to the design, construction, and operation of the Preferred Alternative including new tracks, at-grade crossings, stations, tunnels, and the storage and maintenance facilities. The Preferred Alternative would feature current safety and security systems and procedures to protect passengers, workers, and adjacent communities. This section addresses general safety procedures that would be in place once the Preferred Alternative is in operation, as well as those to be implemented during its construction.

3.7.1 Introduction

The safety and security process and activities for this project from planning, through design, construction, testing and verification, and pre-revenue operations leading to commencement of revenue service, are governed by FTA's requirements in Circular C 5800.1, *Safety and Security Management Guidance for Major Capital Projects* (2007). This document identifies specific safety and security activities that a transit agency must perform and document in a Safety and Security Management Plan (SSMP).

The MTA multi-modal System Safety Program Plan (SSPP) and the Maryland Department of Transportation (MDOT) State Safety Oversight Standard and oversight process govern the system safety, fire and life safety and security design criteria development process. MTA also participates in programs managed by other federal departments such as the Department of Homeland Security (DHS). MTA has developed and periodically updates the Purple Line SSMP, based on FTA comments, Project Management Plan updates, and project safety and security activities, organizational updates, work scope changes, and changes to assignments of responsibilities among project participants.

MTA will continue to assess whether adequate provisions have been made for safe and secure operations and what design features would be included to minimize auto, transit or pedestrian accidents.

3.7.2 No Build Alternative

Safety and security for the No Build Alternative would include the existing policies in the corridor. The No Build Alternative would have no effect on safety and security within the corridor.

The following documents were reviewed to describe existing procedures:

- MTA's System Safety Program Plan (SSPP), December 2012
- MTA's System Security and Emergency Preparedness Plan (SSEPP), November 2011
- MTA's LRT Design Criteria Manual, April 2012

The SSPP, developed as a means of integrating safety into MTA operations and services, establishes mechanisms for identifying and addressing hazards associated with MTA operations and services and provides a means of ensuring that system modifications are implemented with thorough evaluation of their potential effect on safety. The plan is revised annually and submitted to MDOT, as part of the state safety oversight process.

MTA has developed the SSEPP as a tool to securely operate their transit systems and to coordinate with local, state, and federal agencies regarding security and emergency preparedness issues. MTA participates in programs managed by the DHS, the Office for Domestic Preparedness, the Transportation Security Administration, and the Transit Security Grant Program, all of which require a SSEPP.

Passenger Safety

The SSPP gives MTA employees and departments the responsibility of upholding the highest level of safety for passengers. MTA promotes safety and security through passenger and public awareness programs.

Stations and Facilities

The SSPP provides the framework for ensuring passenger and employee safety at MTA stations and facilities. MTA has established a Hazard Identi-

fication and Resolution Process to identify and eliminate as many hazardous conditions or situations as possible. As part of this process, MTA performs frequent inspections of its facilities, tracks, systems and station areas. MTA also employs police personnel as well as security guards and fare inspectors, who provide armed and unarmed security on MTA's existing transit services. MTA stations will include closed circuit television (CCTV).

Vehicles

MTA transit vehicles are equipped with physical safety and security measures to support the overall operation of the transportation system, including CCTV equipment and Automatic Vehicle Locaters that use global positioning system units to provide the location of any operating vehicle at any time. In addition, local and commuter buses, MARC, Mobility paratransit services, light rail, and Metro subway vehicles are regularly inspected for unsafe or unhealthy items or situations.

Employees and Contractors (Construction Safety)

MTA's SSPP contains provisions for an Employee Safety Program including a wide range of occupational safety and health, injury and illness prevention, hazard communication, industrial hygiene, fire and life safety, emergency preparedness, operational safety, environmental, and security programs. These programs have been developed in accordance with federal, state, and local regulatory requirements, and are implemented by MTA and construction contractors.

Emergency Preparedness Plan for Transit Operations

The overall objective of emergency preparedness and planning is to ensure fast and efficient response to emergencies or disasters in a manner that minimizes risk to the safety and health of passengers, employees, and emergency response personnel, as well as unnecessary property loss. To meet this objective, MTA has written comprehensive emergency preparedness operations plans (EPOP) for the organization as a whole, and for each of its modal operations (i.e., Metro, Light Rail, MARC, Bus, and Mobility). An EPOP addresses the roles of the many MTA offices that participate including Police, Safety, Media Relations, Engineering, Human Resources, and Procurement. These plans also establish the roles and responsibilities to be carried out by various emergency response agencies during an emergency. The EPOPs are supplemented by the comprehensive SSEPP, Standard Operating Procedures, Emergency Operating Procedures, and the emergency operating rules used by each mode.

Police and Security Operations

MTA's Security Program has been developed and coordinated by MTA Police Force, with input from all MTA departments. The SSEPP emphasizes that the security of customers, employees, and property is not the sole responsibility of the police force, but the responsibility of every employee and department within MTA. The Police Force is dedicated to providing security to MTA customers, employees, and property. It consists of personnel who possess police officer authority extending throughout the State of Maryland as established through Maryland Transportation Article Section 7-207 and the Annotated Code of Maryland Article 27, Section 594B. The force conforms to all training requirements set forth by the Maryland Police and Correctional Training Commissions, and all officers are certified through this commission. The officers also receive additional track access training. Training includes response to incidents in accordance with MTA's Emergency Plan and dealing with transit-specific criminal activity. MTA also employs security guards and fare inspectors, who provide unarmed security and enforce the fare payment system.

Pedestrian and Motorist Safety

To the extent practicable, MTA will seek to reduce or eliminate pedestrian and motorist conflicts with transit vehicles at MTA stations and facilities. However, conflicts do occur, especially at stations where pedestrians must cross streets at-grade to access platforms, as would be the case for many Purple Line stations. Many safety measures including crosswalks, signals, lighting, and fencing in certain locations, help to reduce the number of conflicts and incidents. In addition, basic design elements are used to enhance safety, including use of platform and parking lot layouts that avoid or reduce pedestrian/vehicle and vehicle/vehicle

conflicts, as well as careful use of landscaping to eliminate blind spots and provide openness for security surveillance.

MTA stations and facilities are designed to comply with the ADA to improve safety and ease of movement for disabled individuals. For this corridor, which runs through dense residential, shopping and business districts, operator training and public outreach is important in contributing to pedestrian and motorist safety.

3.7.3 Preferred Alternative

The Preferred Alternative would be designed, constructed, and operated in accordance with MTA's SSPP and SSEPP, both of which would be updated to include specific requirements for the Preferred Alternative, and submitted through the MDOT State Safety Oversight Standard and oversight process for approval, prior to revenue service. The project would be designed in accordance with MTA's *LRT Design Criteria Manual*, which is being prepared for both the proposed Red and Purple Line LRT systems.

The design would be based, in part, on a preliminary hazard analysis and a threat and vulnerability analysis, which would be used to help determine risk mitigation and implementation priorities. MTA would prioritize risks and select sets of countermeasures for the Purple Line that would provide the best overall risk reduction. The basis of design for the Preferred Alternative is predicated on compliance with local, state, and federal design standards and requirements, as referenced in the *LRT Design Criteria Manual*. These design standards mitigate and control potential safety and security hazards and risks to an acceptable level in accordance with transit industry practices and experience from similar light rail transit systems in the United States.

In compliance with the National Fire Protection Association (NFPA) 130, *Standard for Fixed Guideway Transit and Passenger Rail Systems* 2010 Edition, the Preferred Alternative would incorporate appropriate fire and life safety requirements into all aspects of the project design and construction.

Strategies such as Crime Prevention through Environmental Design and the use of police, private security patrols, and security cameras would be employed as appropriate to make the light rail facilities as safe and secure as possible. MTA's existing light rail operations policies and procedures that are designed to address potential catastrophic events and to prevent terrorist activities would be expanded to include the Purple Line. Design considerations such as platform location and length, pedestrian crossings, and alignment design would be used to ensure that the project operates safely.

Station Platforms and Vehicles

The station platforms are being designed using MTA design principles to increase natural surveillance opportunities. CCTV cameras would be placed on every platform and monitored by MTA's transit police and operations personnel. The ticket vending machines would contain passenger assistance telephones linked to the central control center. MTA's transit police would provide roving patrols on the LRT vehicles and at stations. MTA personnel would monitor proof of payment on the LRT vehicles.

Additional safety features would include public address systems on transit vehicles and on station platforms to make emergency announcements. Safety elements that would be put in place for multi-use paths and other access to the stations could include walkways, emergency phones, limited entry and exit points, and provisions for persons with disabilities.

Emergency Ventilation System

The emergency ventilation systems for the enclosed transitway in Bethesda, the Silver Spring Library station, and the Plymouth Street tunnel would be designed in accordance with NFPA 130 fire safety standards.

Vehicular, Bicycle, and Pedestrian Safety

Safety provisions would be made to minimize conflicts between transit vehicles, automobiles, bicyclists, and pedestrians. Crossings would be clearly marked with signage and pavement markings. Bicycle and pedestrian crossings would be provided at select street and rail crossings.

At some locations, rail crossing gates would be used to stop vehicles at the transitway. The gates would include an active warning system that would alert the control center of interference with the gates. At grade crossings with flashers and gates, stationary crossing bells also would ring for approximately five seconds while the gate arms are lowered. Onboard warning devices or bells would be sounded within five seconds of a transit vehicle approaching a grade crossing. At grade crossings with traffic signals, no crossing flashers, bells or gates are proposed, as LRT vehicles would follow traffic signals just as other vehicles do.

Safety and security on the Capital Crescent Trail would be provided by Montgomery County because the trail would be a county facility. Design of the trail has included Crime Prevention through Environmental Design principles, and other safety and security considerations. Montgomery County has approved lighting at trail connections and trail underpasses. The county police will be responsible for policing the trail, as they do the rest of the county's trails.

Safety and Security during Construction Activities

The safety and security of construction workers and the general public would be a key element of Purple Line construction activities. On-site construction equipment, including heavy industrial cranes and trucks hauling excavated material on local roads, would create potential safety hazards for pedestrians and motorists. Construction workers operating or working in concert with equipment at the various construction staging areas also would create increased opportunities for safety and security breaches. The construction sites and related equipment would potentially be vulnerable to safety and security violations, particularly during times of construction equipment shutdown and construction site closure. Construction sites will be fenced to reduce these hazards. MTA will work with the construction contractors to ensure adherence to applicable federal and state safety protocols and the following:

- MTA's Purple Line Safety and Security Management Plan (SSMP), October 5, 2012, Version 3, Section 8
- MTA System Safety Program Plan (SSPP), December 2012, Section 18
- MTA's Contractor's Safety and Health Guidelines (CSHG), March 2011

The Purple Line SSMP, MTA's multi-modal SSPP and MTA's CSHG require that contractors develop a project-specific health and safety plan. The goal of this plan would be to identify, eliminate, minimize, and control safety hazards and related risks by establishing requirements, clear lines of authority and levels of responsibility and accountability. Detailed provisions for the contractor's security requirements during construction are provided in the Purple Line SSMP. Examples of safety- and security-related best practices for construction activities include:

- The contractors will install the following:
  - Fencing and shielding at all construction sites to reduce vulnerability to trespassing and vandalism and to protect adjacent walkways and streets
  - Warning and guide signage to alert the public to the presence of work areas and to physically separate work areas from public spaces, including at times of equipment shutdown and site closure
  - Signage to enable the public to seek alternative routes of travel if needed, in the vicinity of the construction sites
- The contractor will prepare and implement crane safety plans, among other project specific items specified in MTA's CSHG.
- Traffic on streets adjacent to construction sites will be managed through enactment and enforcement of an approved Transportation Management Plan that will include lane closures, travel lane shifts, bus stop relocations, and relocated and protected sidewalks and bicycle lanes. These plans will be developed during further design development (see Section 5.4.)

Effects on Emergency Services

There are several emergency service providers located in the project study area, including fire stations, police stations, and medical facilities. These facilities are identified in the *Purple Line Environmental Resource Maps.* Among the

community resources shown are: fire stations, police stations, and medical facilities. MTA will coordinate with emergency service providers (police, fire, etc.) to minimize impacts and identify potential mitigation measures for emergency service routes affected both during and after construction.

3.8 Minimization and Mitigation

This section summarizes MTA's commitments to minimize and mitigate impacts to transportation described in Sections 3.1 through 3.6 during the design, construction, and operation of the Preferred Alternative.

- Prior to construction, a Transportation Management Plan for the Purple Line would be developed to minimize potential negative impacts to traffic, transit and pedestrians as described in Section 5.3
- Pedestrian movements would be maintained to the extent reasonably feasible, and pedestrian access to adjacent properties would be maintained during construction. Where it is not possible to maintain existing movements, alternate routing with appropriate signing would be designated.
- Mitigation of permanent impacts to on-street parking on Bonifant Street will be addressed through coordination with Montgomery County.
- The parking lot used by Montgomery County Department of Transportation employees at Lyttonsville will be replaced by a new parking facility.
- On Bonifant Street, where the Purple Line would eliminate parking and loading zones on the north side of the street, MTA will work with Montgomery County and local businesses to identify alternative loading zones.
- MTA will work with stakeholders and local businesses affected by the temporary loss of loading zones, or access to loading zones, to identify alternate or temporary loading areas.

Chapter 4.0

Environmental Resources, Impacts, and Mitigation

Chapter 4.0 assesses the impacts of the Preferred Alternative and the No Build Alternative upon the built and natural environment within the Purple Line study area. The No Build Alternative is the future condition of transportation facilities and services in 2040 within the corridor if the Purple Line is not implemented. The Preferred Alternative is the future of transportation facilities and services in 2040 within the corridor if the Purple Line is implemented.

The Preferred Alternative and the No Build Alternative assume the implementation of the funded transportation improvement projects, excluding the Purple Line in the No Build Alternative, that are included in the National Capital Region Transportation Planning Board's (TPB) *Financially Constrained Long-Range Transportation Plan* (CLRP) for implementation by 2040 within the Purple Line corridor. The No Build Alternative provides the basis against which the Preferred Alternative is compared.

A consolidated discussion of the effects of the No Build Alternative is presented in Section 4.1.2. The findings in this discussion are based on the information available about the planned projects at the time of this writing. Detailed assessment of the effects of the No Build Alternative projects will be the responsibility of each project sponsor at the time each project design is developed sufficiently to complete such an assessment. MTA compared the effects of the No Build and Preferred Alternatives where reasonably feasible. Additional discussion of the No Build Alternative is presented in Sections 4.10 and 4.17 in which quantitative comparisons of air quality effects and energy use are made by MTA.

4.1 Overview and Summary of Effects

Chapter 4.0 assesses long-term operational impacts and short-term construction-related impacts. Sections 4.2 through 4.19 describe these effects to individual resources. Each section identifies the regulatory context and methodologies for assessment of a resource and describes the effects of the Preferred Alternative on the resource within a study area appropriate to that resource.

Definitions of the study area vary according to the environmental resource evaluated. For some impacts, the study area extends a specified distance from the centerline (e.g., 500 feet), while for others the study area is confined to the project's limit of disturbance (LOD). The LOD is the boundary within which construction, materials storage, grading, landscaping, and related activities would occur.

Each section also describes the work the Maryland Transit Administration (MTA) has done to avoid or minimize impacts, MTA's commitments to further minimize impacts where possible as the project advances, and its commitments to mitigate impacts.

Section 4.20 provides a summary of these commitments. Section 4.21 describes the irreversible and irretrievable commitment of resources, and Section 4.22 lists anticipated permits and approvals needed to build and operate the Preferred Alternative.

The following terms are used frequently in this FEIS:

Adverse: A negative or unfavorable condition.

Avoidance: The act of avoiding impacts to, or keeping away from, something or someone.

Minimization: Measures taken to reduce the severity of adverse impacts.

Mitigation: Measures taken to alleviate adverse impacts that remain after minimization.

4.1.1 No Build Alternative

The No Build Alternative is the future condition of transportation facilities and services in 2040 within the corridor if the Purple Line is not implemented; it provides the basis against which the Preferred Alternative is compared. While the Preferred Alternative assumes the implementation of the funded transportation improvement projects included in the National Capital Region Transportation Planning Board's CLRP for implementation by 2040 within the Purple Line corridor, the No Build Alternative assumes all the projects in the CLRP except the Purple Line. The list of No Build Alternative projects has been updated since the publication of the Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS) in 2008. Section 2.3.1 provides details on the 12 projects included in the No Build Alternative, including five transit projects, three roadway projects, three bicycle-pedestrian projects, and a new public parking facility as part of a mixed-use development project.

4.1.2 Impacts of No Build Alternative

The following is a summary assessment of the potential effects of the No Build Alternative projects on the natural and built environment. The sponsors of these projects will be responsible for addressing impacts and providing mitigation as appropriate.

Transportation

The transportation projects in the No Build Alternative would provide some transportation system benefits, including benefits for public transit users from the two transit center projects and the enhanced bus projects. Also, the No Build Alternative would include improvements to the trail system within the corridor; improve traffic operations on US 1, Kenilworth Avenue, and Dale Drive; and increase the parking inventory in downtown Bethesda. In the No Build Alternative, however, MTA determined through quantitative analysis that overall traffic volumes, roadway congestion, and delays would continue to increase, as would transit travel times (see Chapter 3.0). Therefore, the No Build Alternative would not provide faster, more direct and reliable east-west transit service in the corridor; it would not connect major activity centers, better connect to Metrorail services, or improve connectivity to the communities between the Metrorail lines.

Land Use, Public Policy and Zoning, Economics

The projects in the No Build Alternative would generate some short-term economic activity. The transit center projects would complement transit-oriented development initiatives in downtown Silver Spring and the Takoma Park/Langley Park area. Also, the improvements to US 1 would complement the planned development of the East Campus of the University of Maryland (UMD). In the absence of the Preferred Alternative, however, development would not capitalize fully upon the transportation-land use interrelationships built into state, regional, and local plans that were developed based on an assumption that the Preferred Alternative would be implemented. Furthermore, the corridor and region would not be likely to realize the economic development potential that it could under the Preferred Alternative.

Neighborhoods and Community Facilities

The No Build Alternative projects are not anticipated to affect neighborhood cohesion and community facilities as the proposed improvements to existing transit, roadway and pedestrian facilities are intended to improve access and connectivity.

Property Acquisition and Displacements

The sponsors of the No Build Alternative projects may seek to acquire small strips of land alongside existing transit, roadway and pedestrian facilities to implement some planned improvements, such as sidewalks, trails, and roadway widening if insufficient land area occurs within existing public rights-of-way. Larger site development projects such as Takoma/Langley Transit Center and the Bethesda Lot 31 Parking garage may require relocation of existing users of the affected properties. However, where reasonably feasible, project sponsors would design planned facilities to avoid or minimize property acquisition and displacements by using existing public rights-of-way.

Parks, Recreational Land, Open Space, Historic and Archeological Properties

Where reasonably feasible, project sponsors of No Build Alternative projects would design planned facilities to avoid or minimize acquisition of land within parks, recreational land, open space, and historic and archeological properties by using existing public rights-of-way. When land acquisition cannot be avoided, the sponsors may seek to acquire small strips of land alongside existing transit, roadway and pedestrian facilities to implement some planned improvements, such as sidewalks, trails, and roadway widening. Displacement of parks, recreational land, open space, and historic properties is unlikely. The No Build Alternative projects have potential for affecting archeological properties if land disturbance occurs outside existing developed transportation facilities.

Visual Resources

No Build Alternative projects such as the planned bus enhancements, sidewalk and trail improvements introduce minimal facility elements (bus routing and pedestrian infrastructure), and are unlikely to substantially change the visual environment in which they are implemented. Larger facilities such as the Takoma/Langley Transit Center and Silver Spring Transit Center will change the localized visual environment by introducing transportation-focused structures and infrastructure.

Air Quality, Noise and Vibration

MTA determined through quantitative air quality analyses that by 2040, the No Build Alternative is predicted to cause slightly higher mesoscale pollutant levels compared to the Preferred Alternative within the study area. MTA's microscale analysis of air quality determined that no violations of the National Ambient Air Quality Standards are predicted for either the Preferred Alternative or the No Build Alternative (see Section 4.10).

No Build Alternative projects such as the Takoma/Langley Transit Center, the Silver Spring Transit Center, and the Bethesda Lot 31 Parking Garage, may affect localized noise and vibration levels by changing bus and traffic operations on and near existing roadways.

Habitat and Wildlife, Water Resources, Topography, Geology and Soils

The No Build Alternative projects are planned primarily on sites already in transportation use, thereby minimizing impacts to the natural environment. Nonetheless, the No Build Alternative potentially would result in some impacts. Right-of-way acquisition, if needed, could remove portions of existing wildlife habitat and/or encroach upon wetlands and waterways. Stormwater run-off could be caused by new impervious surfaces and introduce transportation-related pollutants to receiving waterways. As most No Build Alternative projects involve surface improvements, such as sidewalk and bus service enhancements, substantial changes to topography, geology and soils are not expected to occur. Larger projects, such as the Silver Spring Transit Center and Bethesda Lot 31 Parking Garage will require deeper excavations and considerable grading, thereby resulting in a localized change in topography.

Hazardous Materials

Residual contaminants potentially exist along portions of the study area in underlying soils resulting from former industrial sites, existing and former gas service stations, and railroad yards. The sponsors of the No Build Alternative projects have the potential to encounter these materials and will need to establish procedures for identifying and

addressing such materials during design and construction.

Utilities

The sponsors of the No Build Alternative projects have the potential to encounter utilities and will need to establish procedures for identifying and addressing the need to relocate utilities during design and construction.

Energy Use

MTA's quantitative analysis indicates that total energy consumption is expected to be slightly higher under the No Build Alternative than the Preferred Alternative in 2040 (see Section 4.18).

Environmental Justice

As most of the project corridor is home to minority and low-income populations meeting the criteria under Executive Order 12898 Environmental Justice, the sponsors of the No Build Alternative projects may be subject to demonstrating their projects do not cause a disproportionately high and adverse effect on environmental justice populations.

4.1.3 Preferred Alternative

Transportation

Chapters 3.0 and 9.0 of the FEIS describe the transportation benefits of the Preferred Alternative. The main benefits would be faster, more direct, and more reliable east-west transit service connecting major activity centers in the corridor, better connections with Metrorail services located in the corridor, and improved connectivity to the communities located between Metrorail lines in the corridor. In addition, in the Preferred Alternative, the permanent Capital Crescent Trail would be constructed within the Georgetown Branch right-of-way for a distance of 3.3 miles between Bethesda and the CSXT Metropolitan Branch (railroad right-of-way). At the junction with the CSXT the trail is planned to continue on the north side of the CSXT corridor to the SSTC.[1] The permanent Capital Crescent Trail would replace the existing Georgetown Branch Interim Trail which currently extends from Bethesda to Stewart Avenue within the Georgetown Branch right-of-way.

Land Use/Development

The Preferred Alternative would have substantial short-term and long-term economic development benefits. It would result in increases in employment, earnings, and output in the region. Also, importantly, it would complement and support the many state, regional, and local land use plans that have proposed transit-oriented development focused around the Preferred Alternative stations.

Natural and Built Environment

The Preferred Alternative is planned primarily within or adjacent to existing transportation rights-of-way, thereby minimizing impacts to the natural and built environment, but as this chapter describes, it would result in some impacts, including the following:

- Right-of-way acquisition and some residential, commercial, and institutional displacements
- Partial right-of-way acquisition and access impacts to some community facilities, parks, recreational, and open space facilities
- Impacts to some historic properties
- Visual effects in some locations
- Noise and vibration impacts in some locations
- Impacts to natural and water resources, primarily at stream valley crossings

MTA has coordinated extensively with agencies with jurisdiction and the public to refine the Preferred Alternative to avoid or minimize impacts and address concerns that were made during the AA/DEIS process. MTA will continue to do so as the project design advances. Despite these avoidance and minimization efforts, some adverse impacts would occur, and MTA is committed to mitigating the impacts of the Preferred Alternative to the extent reasonably feasible, as well as striving to further minimize effects, through the specific

[1] The Preferred Alternative assumes that the permanent Capital Crescent Trail between Talbot Avenue and Silver Spring would be located in CSXT right-of-way in accordance with the County's land use plan. The completion of the trail in the CSXT corridor is contingent on agreement with CSXT on the use of its property on the north side of the CSXT tracks for the trail. If agreement is not reached by the time the Purple Line construction occurs, MTA would construct the trail from Bethesda to Talbot Avenue. From Talbot Avenue to Silver Spring, an interim signed bike route on local streets would be used.

strategies and actions described in this chapter. Section 4.20 lists the various minimization efforts and mitigation commitments of MTA.

The key benefits and effects of the Preferred Alternative are the higher transportation and land use/development benefits when compared with the No Build Alternative. Some natural and built environment impacts of the Preferred Alternative are unavoidable, despite MTA's refinements to minimize impacts. However, in several cases MTA's mitigation measures will provide a net benefit. In contrast, the No Build Alternative incurs relatively few impacts to the natural and built environment, but its transportation, land use and development benefits are also few.

Table 4-1 summarizes the effects of the Preferred Alternative on the natural and built environment, as well as MTA's minimization and mitigation commitments which are part of the Preferred Alternative. The Preferred Alternative effects and mitigation are the net result of MTA's refinements to avoid or minimize impacts, and address agency and public issues and concerns heard during and since publication of the AA/DEIS.

4.2 Land Use, Public Policy, and Zoning

This section describes the existing and future land use within the Purple Line corridor—based on general plans, master plans, sectional plans, functional plans, and transit-oriented development (TOD) studies—and it discusses the compatibility of the Preferred Alternative with the land use of the study area. It also discusses the minimization strategies MTA has taken to eliminate or reduce land use impacts and the mitigation measures MTA would undertake to offset adverse effects. A more detailed evaluation of land use, zoning, and the plans and policies pertinent to the corridor is included in *Purple Line Social Effects and Land Use Planning Technical Report (2013).*

4.2.1 Regulatory Context and Methodology

The following regulations and guidance apply to land use:

- **Code of Maryland Regulations (COMAR) 66B**—delegates planning and zoning controls to local government to encourage orderly development and use of land and structures.
- **COMAR 28**—establishes the Maryland-National Capital Park and Planning Commission (M-NCPPC) as a bi-county agency responsible for the administration of parks and land use planning in Montgomery and Prince George's Counties.

In addition, the Maryland Neighborhood Conservation and Smart Growth Initiative empowers land use planning through the following legislation:

- 2012 Sustainable Growth and Agricultural Preservation Act (Senate Bill 236)
- 2010 Sustainable Communities Act (House Bill 475)
- 2009 Smart and Sustainable Growth Act (Senate Bill 280/House Bill 297)
- 2006 Planning legislation (House Bill 1141/ House Bill 2)
- 1997 Priority Funding Areas Act (§5–7B of the State Finance and Procurement Article of the Annotated Code)
- 1992 Economic Growth, Resource Protection, and Planning Act (§5–7A-01 of the State Finance and Procurement Article of the Annotated Code)

Land use, zoning, and public policy information was obtained from the state of Maryland, M-NCPPC, and Washington DC, Prince George's County, and Montgomery County agencies. Field surveys were conducted to verify existing conditions and to supplement information where it was not otherwise available. The study area for land use is approximately 500 feet on either side of the Preferred Alternative alignment and a 1/2-mile radius around each station location.

Table 4-1. Summary of Effects—Minimization and Mitigation

Resources	Preferred Alternative Effects	Minimization and Mitigation
Land Use, Public Policy, and Zoning (Section 4.2)	▪ The Preferred Alternative supports current land use plans and zoning because these anticipate the Purple Line project	▪ MTA will provide alternative access for properties that would be subject to changes in access or closures of portions of their property during construction, as necessary.
Neighborhoods and Community Facilities (Section 4.3)	▪ Vehicular and pedestrian access would be affected at some community facilities by changes in driveway locations and circulation patterns ▪ Public parking would be permanently affected at some locations where existing parking is removed ▪ Neighborhood cohesion effects are not anticipated because the proposed transit service would operate largely on existing roadways or transportation corridors	▪ MTA will continue to refine and adjust the alignment and will consider adjustments to the construction plan to avoid or minimize impacts to community facilities. ▪ The Purple Line Fire Life/Safety & Security Committee will continue to meet prior to and during construction with emergency responders to identify and resolve issues arising from construction and operation. ▪ MTA will work to negotiate just compensation or mitigation to the First Korean Presbyterian Church on Kenilworth Avenue. ▪ MTA will construct the Glenridge Maintenance Facility at a lower grade than the existing park maintenance facility and provide a landscape buffer, as appropriate, to the adjacent park and school; MTA will install retaining walls to minimize the area of grading needed. ▪ MTA will coordinate with the counties to identify alternative access or temporary off-site parking for community facilities and businesses where access or parking may be temporarily removed, as appropriate. ▪ MTA will coordinate with UMD, Rosemary Hills Elementary School, Sligo Creek Elementary School, and Silver Spring International Middle School to minimize disruptions to the extent reasonably feasible. ▪ MTA will provide alternative access to community facilities if access is temporarily removed, where practical.
Property Acquisitions and Displacements (Section 4.4)	▪ 388 full or partial property acquisitions ▪ Full acquisitions result in 60 commercial, 53 residential, and 3 institutional displacements	▪ MTA will perform property acquisition and relocation activities in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) as amended and Federal Transit Administration (FTA) Circular 5010.1D, Grants Management Requirements and all applicable Maryland State laws that establish the process through which Maryland Transit Administration (MTA) may acquire real property through a negotiated purchase or through condemnation. – For areas that would be subject to construction easements for staging or access areas, MTA will compensate owners based on fair market appraisal. ▪ MTA will use vacant or publicly-owned property, rather than privately-owned, developed property, for temporary construction activities to the extent reasonably feasible. ▪ MTA will restore properties affected through a temporary easement to an acceptable pre-construction condition following construction activities, in accordance with the individual easement agreements. ▪ MTA will provide a parking facility for both County and MTA employees in Lyttonsville.
Economic Activity (Section 4.5)	▪ Regional and local economic benefits of improved east-west travel, access to and between activity centers, connections to other transit services, better access to jobs, creation of MTA jobs	▪ MTA will continue to coordinate with affected commercial property owners to identify strategies to minimize the effects of temporary construction easements, lane or road closures, and other property restrictions on existing corridor businesses. ▪ MTA will implement a Business Impact Minimization Plan as described in the Environmental Justice section.

Table 4-1. Summary of Effects—Minimization and Mitigation (continued)

Resources	Preferred Alternative Effects	Minimization and Mitigation
Parks, Recreational Land, and Open Space (Section 4.6)	▪ Road and intersection widening or transitway construction would require partial land acquisition from several parks ▪ Land would be acquired from Glenridge Community Park for the Glenridge Maintenance Facility ▪ The bridges carrying the Baltimore-Washington Parkway over Riverdale Road would be replaced ▪ Access to Long Branch Local Park would be changed to right-in/right-out only ▪ Direct connections would be created between many parks and the Capital Crescent Trail	▪ MTA will include drainage improvements and water quality facilities in four stream valley parks (Sligo Creek, Long Branch, Northwest Branch, and Anacostia River), Long Branch Local Park, and New Hampshire Estates Neighborhood Park. ▪ MTA, through coordination with M-NCPPC, the NCPC, the NPS, and the public, will implement the following measures: – Expand and upgrade facilities and plant trees in Glenridge Community Park, as well as convert approximately 2 acres of land currently used for the Prince George's County Parks' Northern Area Maintenance—Glenridge Service Center either to parkland within Glenridge Community Park or to upgrade and expand athletic fields at the Glenridge Elementary School; – Restore park properties that are disturbed as a result of construction activities to acceptable conditions through coordination with the park owners; – Provide replacement parkland for all park impacts; the amount and location of replacement parkland will be determined by MTA in consultation with park owners; and – Coordinate selective tree clearing and identification of significant or champion trees with agencies having jurisdiction. ▪ MTA will continue to coordinate with the public and agencies to develop appropriate minimization strategies during construction. Efforts will include the following: – Roadway or sidewalk closures will be staged to maintain pedestrian and vehicular access. – Trail detours needed during construction will be coordinated with the agency having jurisdiction over the trail to identify and develop a plan for a temporary detour route, and the trail routes would be restored at the end of construction. ▪ MTA will continue to coordinate during further design development with the agencies having jurisdiction over the affected parks to develop additional appropriate long-term minimization and mitigation.

Table 4-1. Summary of Effects—Minimization and Mitigation (continued)

Resources	Preferred Alternative Effects	Minimization and Mitigation
Historic Properties (Section 4.7) and Archeological Resources (Section 4.8)	▪ Adverse effect on three eligible properties: Talbot Avenue Bridge, Metropolitan Branch, and Falkland Apartments; overall project finding of Section 106 effect is adverse effect	▪ MTA and the Maryland Historical Trust (MHT), in coordination with Consulting Parties, are preparing a Programmatic Agreement that outlines commitments and mitigations concerning historic and archeological resources under Section 106. ▪ MTA will implement the project in accordance with the Section 106 Programmatic Agreement. Preliminary Section 106 mitigation concepts include: – Prepare Historic American Buildings Survey/Historic American Engineering Record documentation for the historic properties that will be demolished – Prepare web-based map providing documentation and educational information on historic properties within the APE – Develop an interpretive plan that will include historically themed signage or incorporation of historic images at stations – Provide Consulting Parties with the opportunity to review and comment on project plans during engineering design phases – Develop a plan to monitor impacts to historic properties during construction – Continue coordination with Consulting Parties throughout design and construction ▪ MTA will continue to plan and implement the project design elements negotiated with the Columbia Country Club and the MHT minimize impacts to the Club. ▪ MTA, in coordination with the M-NCPPC, will provide transitway and pedestrian structures through the Rock Creek Park that include design elements to minimize the effects of the project. ▪ MTA will continue to coordinate with UMD regarding the aesthetic design of the transitway. ▪ Minimization measures for the Baltimore-Washington Parkway, in addition to what is listed above for Parks, Recreational Facilities and Open Space (4.6), are as follows: ▪ The permanent replacement bridges of the Baltimore-Washington Parkway over Riverdale Road will have a similar arch design as the existing bridge structures and would include horizontal arched shields above the transitway overhead wires. ▪ The stone façade from the existing bridge abutments will be re-used on the new bridge abutments. If additional stone is required, it will come from the same source or would be selected in consultation with the NPS to match the existing stone. ▪ The catenary wires will be attached to the bridges to minimize the number of poles throughout the Parkway. ▪ Landscape plans for the Baltimore-Washington Parkway will be developed in accordance with the Baltimore-Washington Parkway Design Elements-Section 2: Parkway Landscape-Recommendations, and submitted to NPS for review and approval. ▪ Protected resources will be identified and marked for protection in field prior to construction activities (i.e., trees, archeological sites). ▪ The proposed temporary bridges to carry Baltimore-Washington Parkway over Riverdale Road will be constructed between the existing ramps and the existing bridges to completely avoid the archeological site identified in the median.

Table 4-1. Summary of Effects—Minimization and Mitigation (continued)

Resources	Preferred Alternative Effects	Minimization and Mitigation
Visual Resources (Section 4.9)	▪ New visual features introduced; of 10 visual units in the study area, the project would have an overall "Low" visual effect on three units, a "medium" effect on four units, a "medium to high" effect on two units, and a "high" on one unit ▪ An extensive change to visual character constituting a high visual effect would occur along the Georgetown Branch right-of-way, along Wayne Avenue, and as a result of the aerial structure and Riverdale Park Station across the intersection of Kenilworth Avenue and Riverdale Road	▪ MTA and Montgomery County will continue to coordinate and consult on the design of the future Capital Crescent Trail to provide an aesthetically pleasing facility while meeting safety and ADA requirements. ▪ MTA will continue to coordinate with the Columbia Country Club on the visual and aesthetic elements of the transitway. ▪ MTA will continue to coordinate and consult with Montgomery County and the local community regarding the aesthetic treatment of the bridge structures over Connecticut Avenue. ▪ MTA will continue to coordinate with M-NPPC and the NCPC regarding the design and construction of the Rock Creek bridges. ▪ MTA will continue to coordinate and consult with affected communities regarding the aesthetic treatments of the transitway elements. ▪ MTA will require that the construction contractor utilize best management practices to maintain an orderly appearance of active work zones and staging areas. ▪ MTA will use the state-funded Art-In-Transit program to enhance key elements of the project as appropriate. ▪ MTA will build traction power substations with landscaping or appropriate architectural treatments to be compatible with adjacent land uses in areas of moderate or high visual sensitivity
Air Quality (Section 4.10)	▪ Annual regional VMT would be slightly less than in the No Build Alternative ▪ No violations of air quality standards are predicted	▪ MTA will require the construction contractor to implement dust control measures in accordance with MDE requirements and assure that construction equipment complies with EPA's Tier 2 engine emission standards. Possible dust and emission control measures include the following: – Minimizing land disturbance – Constructing stabilized construction site entrances per construction standard specifications – Covering trucks when hauling soil, stone, and debris – Using water trucks or calcium chloride to minimize dust – Stabilizing or covering stockpiles – Minimization of dirt tracking by washing or cleaning trucks before leaving the construction site – Using ultra-low sulfur diesel fuel for diesel equipment – Equipping some construction equipment with emission control devices such as diesel particulate filters – Permanently stabilizing and seeding any remaining disturbed areas

Table 4-1. Summary of Effects—Minimization and Mitigation (continued)

Resources	Preferred Alternative Effects	Minimization and Mitigation
Noise (Section 4.11)	▪ Moderate noise impacts to a few properties, largely due to train horns	▪ MTA will minimize noise resulting from Purple Line operations as follows: – Between Bethesda and Rock Creek Stream Valley Park, there will be a minimum four-foot noise wall or retaining wall adjacent to residential areas. – LRT vehicles will include vehicle skirt panels to reduce the noise caused by the vehicles on the track. – Public address systems at stations will have volume adjustment controls designed to maintain announcement volume at the specified noise levels, as appropriate. – The traction power substations will be designed in accordance with MTA design criteria intended to minimize the noise from transformer hum. ▪ Possible noise minimization measures during construction include the following: – Conducting the majority of construction activities during the daytime as reasonably feasible. – Routing construction equipment and other vehicles carrying spoil, concrete, or other materials, where reasonably feasible, over designated truck routes that would minimize disturbance to residents. – Locating stationary equipment away from residential areas to the extent reasonably feasible within the site/staging area – Employing control technologies to limit excessive noise when working near residences – Adequately notifying the public of construction operations and schedules.
Vibration (Section 4.12)	▪ Vibration impacts to three properties	▪ MTA will perform site-specific assessments of those areas identified in the FEIS as having potential vibration impacts. MTA will develop appropriate mitigation measures. ▪ MTA will analyze extremely vibration-sensitive buildings located within the UMD campus, as agreed upon by MTA and UMD. The study will establish criteria, and measures for mitigation of vibration will be specified in the MTA UMD agreement. MTA will develop appropriate mitigation measures. ▪ MTA will identify control measures be implemented by the contractor during construction activities to minimize the potential for vibration impacts.

Table 4-1. Summary of Effects—Minimization and Mitigation (continued)

Resources	Preferred Alternative Effects	Minimization and Mitigation
Habitat and Wildlife (Section 4.13)	▪ Partial land acquisitions impact forest edge habitat ▪ Impact of roadway widening and culvert extensions at stream crossings on stream habitat, affecting fish and aquatic biota ▪ No long-term impacts on known rare, threatened or endangered species	▪ MTA will prepare a Forest Conservation Plan, or similar, during the design phase of the project. This plan will detail additional impact avoidance and minimization techniques to be applied during construction. ▪ MTA will comply with MDNR requirements for reforestation. ▪ MTA will continue to coordinate with the NMFS and other regulatory agencies to identify measures to avoid or minimize such as: – Creation of in-stream barriers that block migratory fish from upstream spawning grounds – Alterations of stream configuration, characteristics, and hydrology – Incremental changes to in-stream water quality from deforestation of the riparian zone ▪ MTA will provide a spill management plan and water quality and quantity controls for work area containment, use and storage of fuels and other potential contaminants based on current regulations and project permit conditions. ▪ MTA will design culverts and bridges to MDE standards to avoid or minimize secondary and cumulative impacts to migratory fish and the alteration of habitat. ▪ MTA will restore and stabilize temporarily disturbed aquatic habitat at the end of construction according to a restoration plan developed in coordination with the USACE and MDE permits. ▪ MTA will not undertake in-stream construction during state-mandated stream closure periods. ▪ MTA will coordinate with the MDNR regarding the heron colony located within Coquelin Run.
Water Resources (Section 4.14) and Topography, Geology, and Soils (Section 4.15)	▪ Increased impervious surfaces, stormwater run-off, and non-point source water pollution ▪ Minor wetland impacts primarily due to roadway widening and culvert extensions at stream crossings ▪ Relocate Sligo Creek north of Wayne Avenue ▪ Minor floodplain impacts primarily due to roadway widening and culvert extensions at stream crossings	▪ MTA will mitigate project impacts to Waters of the US, including wetlands, by complying with the Federal Compensatory Mitigation Rule, as well as stipulations form federal and state resource agencies. ▪ MTA will coordinate with regulatory agencies to develop a project-wide compensatory mitigation strategy to offset impacts to wetlands and aquatic resources. ▪ MTA will minimize the area of disturbance to Maryland-designated wild and scenic rivers by clearly marking and fencing the work area and prohibiting activity outside the work area. ▪ MTA will restore Sligo Creek approximately 180 feet upstream and 180 feet downstream of the project bridge to provide long-term benefits and enhance its inherent characteristics. ▪ MTA will submit project plans to MDNR for evaluation in compliance with the Maryland Scenic and Wild Rivers Act to assure that the project will not jeopardize the scenic value of the designated rivers. ▪ MTA will perform hydraulic and hydrologic studies. If these studies find that flood elevation would change, floodplain storage mitigation will be implemented, if required. ▪ MTA will submit project plans to MDE for approval of structural evaluations, fill volumes, proposed grading elevations, structural flood-proofing, and flood protection measures in compliance with FEMA requirements, USDOT Order 5650.2 "Floodplain Management and Protection," and Executive Order 11988. ▪ MTA will obtain applicable environmental permits for water resources. ▪ MTA will develop an Erosion and Sediment Control Plan, in accordance with the Stormwater Management Act of 2007, which will specify proper slope and soil stabilization techniques, erosion and sediment controls, and stormwater management facilities.

Table 4-1. Summary of Effects—Minimization and Mitigation (continued)

Resources	Preferred Alternative Effects	Minimization and Mitigation
Hazardous Materials (Section 4.16)	▪ Residual contaminants potentially exist along portions of the study area in the underlying soils resulting from former industrial sites, existing and former gasoline service stations, and railroad yards. ▪ While effects are not anticipated, the operation and maintenance of the Purple Line could be associated with petroleum releases from the equipment and materials stored at yard and maintenance facility.	▪ MTA will establish procedures and staff training for proper storage and maintenance of equipment and hazardous materials. ▪ MTA will develop a site-specific health and safety plan including: – Equipment and procedures to protect the workers and general public – Procedures for monitoring contaminant exposures – Identification of the contractor's chain of command for health and safety ▪ MTA will perform a Phase II Environmental Site Assessment (ESA) prior to acquisition of any property with a high potential for concern (sites ranked 1 or 2 in the Phase I ESA) unless the property can be classified accurately by other means or methods. MTA also will perform further records research on sites with a ranking of 4 to determine potential presence of PCBs. ▪ MTA will identify remediation actions to be implemented as needed, if unexpected soil or groundwater contamination is encountered. ▪ If contaminated soils are identified or encountered during construction, MTA will evaluate off-site remediation, chemical stabilization, or other treatments and disposal options, in cooperation with MDE. ▪ MTA will coordinate with MDE to determine the mitigation response and reporting required should a release of hazardous materials occur during operations
Utilities (Section 4.17) and Energy Use (Section 4.18)	▪ Relocation of some utilities in advance of or during construction ▪ Overall reduction in total study area energy consumption by 0.033 percent compared to the No Build Alternative	None

Table 4-1. Summary of Effects—Minimization and Mitigation (continued)

Resources	Preferred Alternative Effects	Minimization and Mitigation
Environmental Justice (Section 4.19)	▪ No disproportionately high and adverse effects on environmental justice populations. However, many of the commercial areas in the corridor are in environmental justice communities; MTA understands small, local, and EJ businesses will require some unique engagement.	In addition to the commitments described above, MTA will work with Montgomery and Prince George's Counties on business improvement initiatives, including: ▪ To address access restrictions or detours to businesses, MTA will work with local business liaisons to understand the characteristics of local businesses (customer origins, peak business times, etc.) and to establish construction stage plans to minimize business disruptions. ▪ MTA will implement a business impact mitigation plan. MTA will develop this plan after evaluation of best practices and lessons learned from other light rail construction projects (see Sections 8.2.2). These practices could include: – Maintaining Spanish-speaking outreach staff – Constructing the project in segments to keep disruption to a small area at a time – Maintaining access to businesses during construction for customers and deliveries – Maintaining or relocating bus stops – Maintaining parking lot access – Providing directional signage – Developing "open for business" marketing and advertising tools for use during construction, translated where appropriate – Promotion of local businesses – Providing a construction hotline open 24/7 – Maintaining open communication between the project outreach team and local businesses – Maintaining communication with local support and advocacy groups ▪ MTA will continue communication with local businesses during construction to monitor effects and modify construction plans, if possible, to further reduce impacts. ▪ MTA will work with the counties and other stakeholders to leverage existing resources to support and strengthen small businesses in the corridor. ▪ MTA will work with Montgomery and Prince George's counties to create opportunities for project-related local economic benefits including workforce development programs. ▪ MTA will continue working with the counties and advocacy groups to support engagement of local elected officials regarding affordable housing and increased commercial rents resulting from increased property values as the project moves forward

4.2.2 Affected Environment

Land Use

The Purple Line study area comprises a variety of urban and suburban land uses, including residential, commercial, recreational, institutional, and industrial (Figure 4-1). Land use in the Montgomery County portion of the corridor is largely residential, with commercial development in Bethesda and Silver Spring. In the Prince George's County portion of the corridor, land uses include relatively large areas of recreational, institutional, and commercial uses scattered among primarily residential communities. Housing types and densities within the study area include single-family dwellings and both low-rise and high-rise apartment buildings.

Clusters of higher density mixed-use development characterize the five major activity centers of Bethesda, Silver Spring, Takoma/Langley Park, College Park, and New Carrollton. With the exception of the area surrounding the UMD campus and M Square, most of the remainder of developed land in the study area contains low- to medium-density residential and commercial uses.

Zoning

Zoning is directed by land use planning efforts, including the Master Plans and Sector Plans discussed in the following section. Existing land use is generally reflective of the established zoning codes in Montgomery and Prince George's Counties. In Montgomery County, zoning and permitted land uses are defined in Volume 4 of the Montgomery County Code, Chapter 59. In Prince George's County zoning regulations are found in the 2007 Edition of the County Code of Prince George's County, Subtitle 27.

Current zoning concentrates urban growth around activity centers to support TOD. Specialized TOD zoning districts where mixed-use development is permitted are located in downtown Bethesda and in the areas around the following proposed Purple Line stations, East Campus, College Park Metro Station, Annapolis Road, and New Carrollton. The mixed-use and commercial development zoning at other proposed Purple Line station locations also would be compatible with transit stations.

Planned Development

Figure 4-1 and Table 4-2 show the developments that are planned in the Purple Line corridor.

Plans and Policies

The land use plans, master plans, and sector plans discussed below establish a conceptual structure and direct the development of overall land use in the Purple Line corridor.

Local and Countywide Land Use Plans and Policies

M-NCPPC authored *On Wedges and Corridors, a General Plan for the Maryland-Washington Regional District in Montgomery and Prince George's Counties* (1964), a General Plan that established regional policies for land use and development in Montgomery and Prince George's Counties. The plan, which has shaped development patterns within the counties by channeling growth into the radial corridors, recommends that urban development be concentrated into four corridors, radiating out from Washington DC, with wedges of agriculture uses or large-lot residential areas in between.

Both counties and several municipalities in the study area have developed plans and policies with more detailed visions for land use in their respective jurisdictions. These plans include land use initiatives that support improved transit in the corridor and, in many cases, recommend the Purple Line.

Regional, State, and Federal Land Use Plans and Policies

The Washington, DC region and the State of Maryland have several smart growth, transit-focused planning policies and initiatives that apply to the study area. The region has been successful in concentrating mixed-use development in regional activity centers, especially those served by transit, through the guidance of the National Capital Region TPB's *Metropolitan Washington Regional Activity Centers and Clusters* (2007). The TPB is the federally designated metropolitan planning organization under the Metropolitan Washington Council of Governments (MWCOG).

Figure 4-1. Existing Land Use and Planned Development

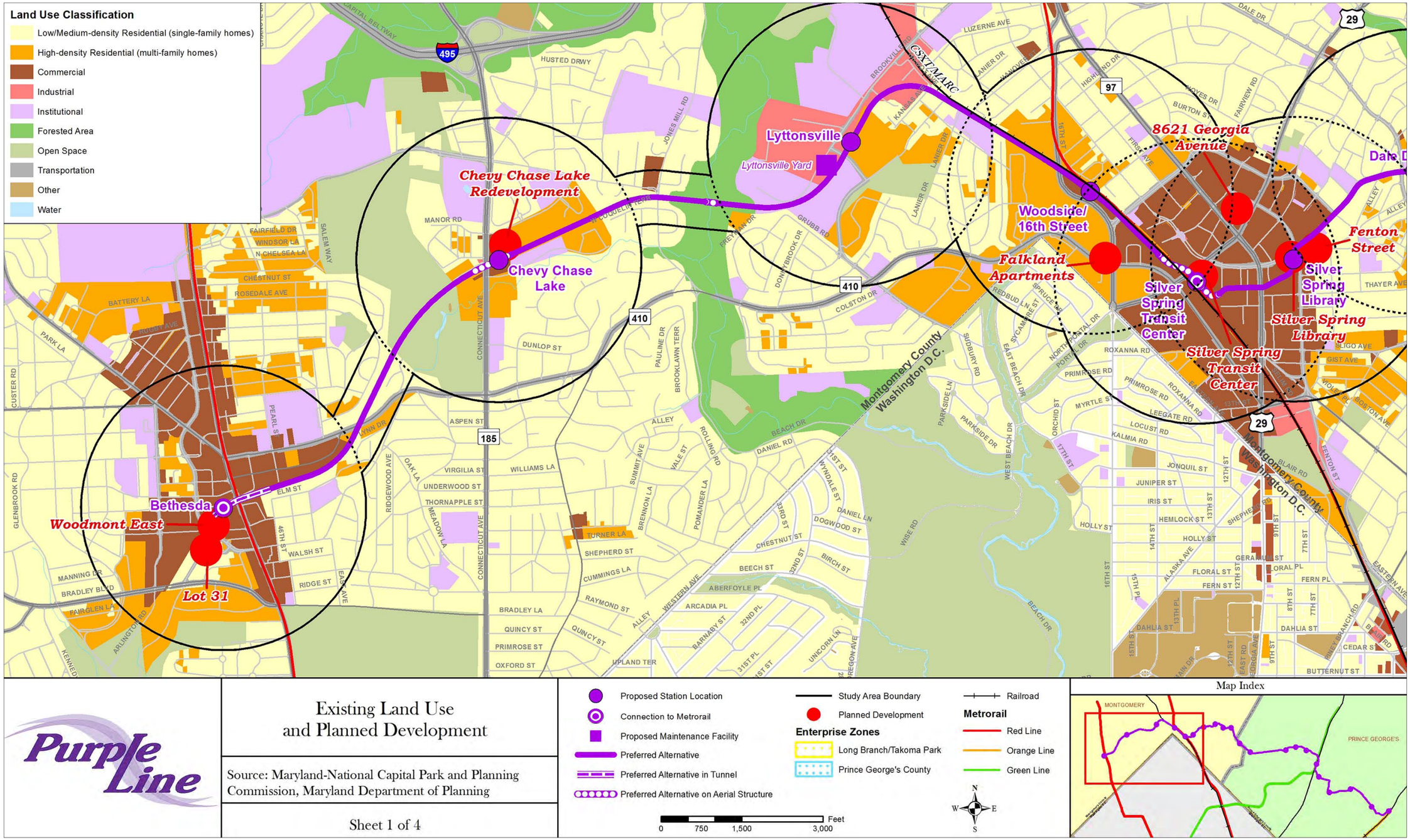
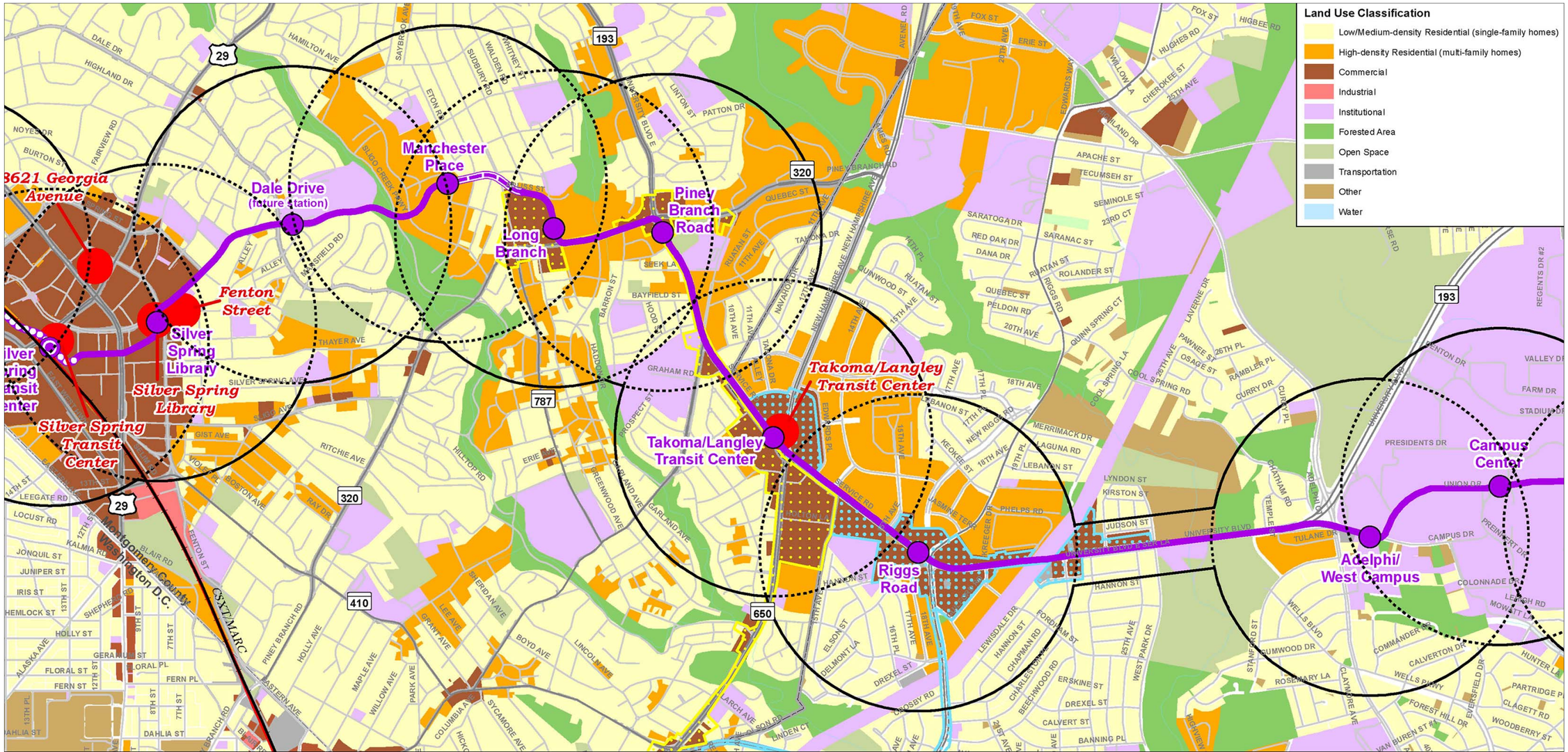


Figure 4-1. Existing Land Use and Planned Development (continued)



Purple Line

Existing Land Use and Planned Developments

Source: Maryland-National Capital Park and Planning Commission, Maryland Department of Planning

Sheet 2 of 4

Proposed Station Location
Connection to Metrorail
Proposed Maintenance Facility
Preferred Alternative
Preferred Alternative in Tunnel
Preferred Alternative on Aerial Structure
Study Area Boundary
Planned Development
Enterprise Zones
Long Branch/Takoma Park
Prince George's County
Railroad
Metrorail
Red Line
Orange Line
Green Line
0 750 1,500 3,000 Feet

Map Index

Figure 4-1. Existing Land Use and Planned Development (continued)

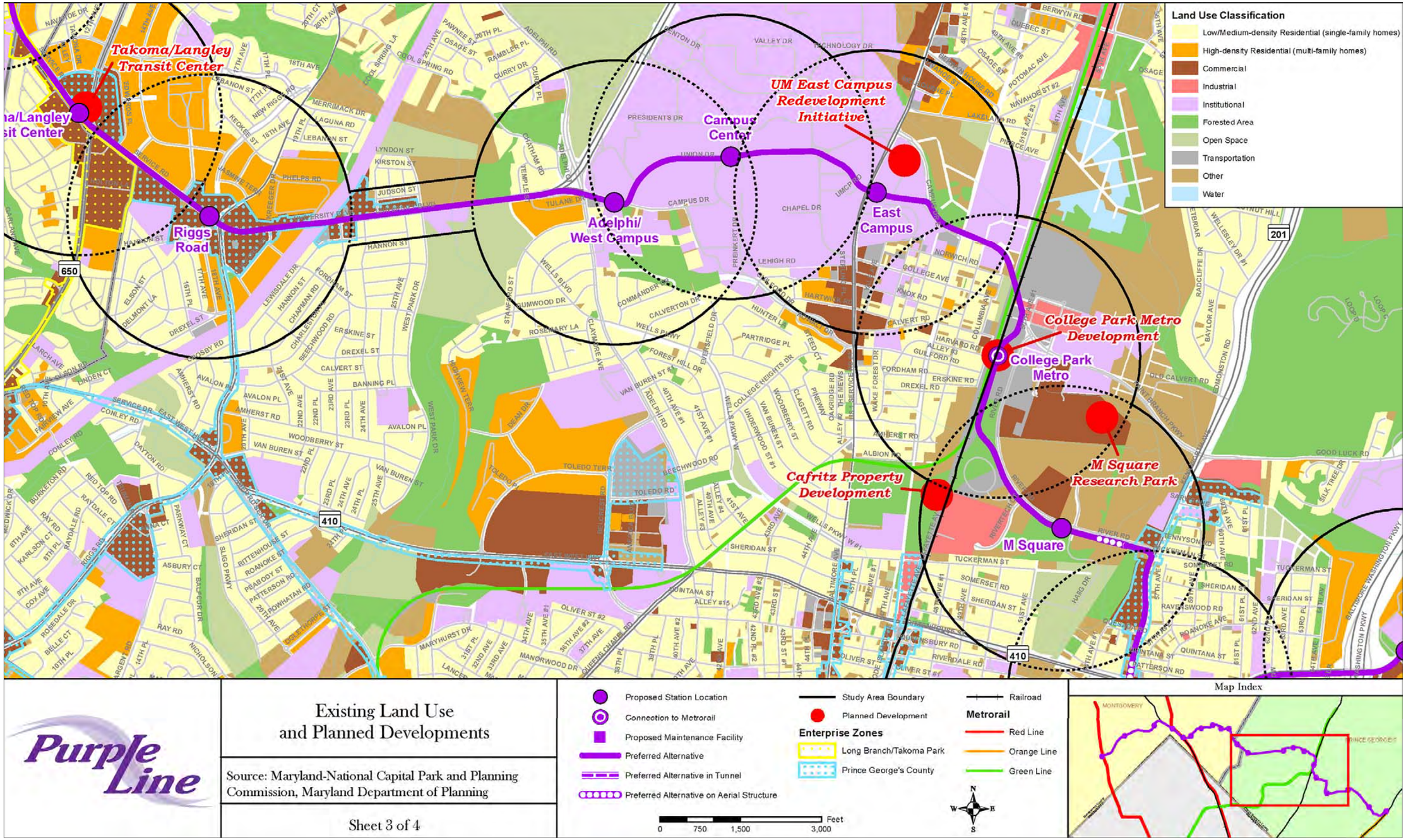


Figure 4-1. Existing Land Use and Planned Development (continued)

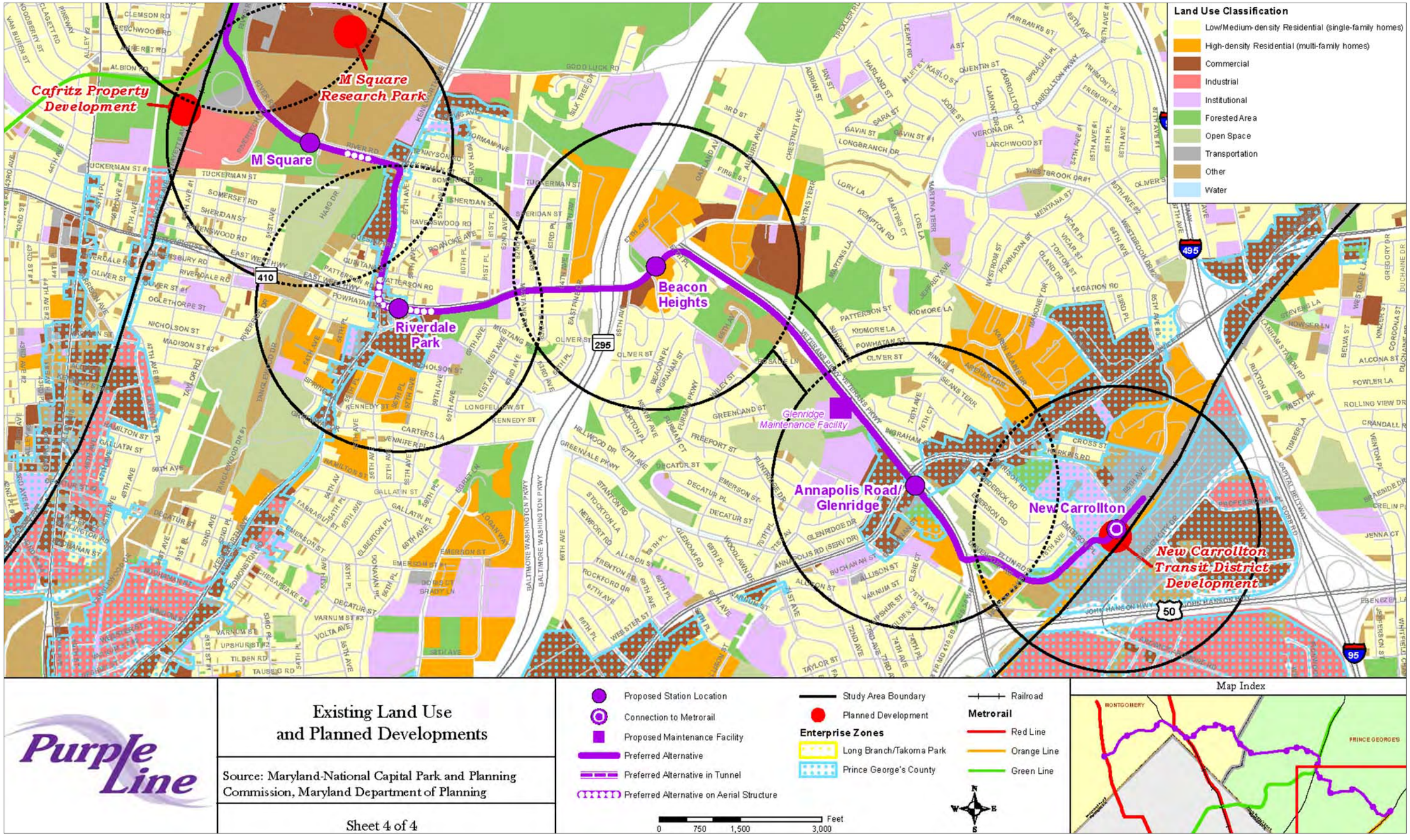


Table 4-2. Planned Developments

Development Name	Location	Existing Land Use of Site	Description of Future Development	Estimated Completion
Woodmont East — Private	Northeast corner of Woodmont Avenue and Bethesda Avenues	Office and retail uses, including movie theater	1.2 million total square feet with 210 multi-family dwelling units, 42,370 square feet of public use space, a 1,882,950-square-foot hotel, 81,165 square feet of retail, and 755,739 square feet of office space	Undetermined
Lot 31 — Public/Private	Southeast and southwest quadrants of Woodmont and Bethesda Avenues	Parking lot	250 multi-family dwelling units, 40,000 square feet of retail uses, and underground parking facility providing 940 public spaces and 290 private spaces	2014/2015
Chevy Chase Lake Redevelopment	Connecticut Avenue between Chevy Chase Lake Drive and Manor Road	Garden apartments, townhomes, and single-family homes surrounding centralized commercial area	Montgomery County planning staff is evaluating concepts for mixed commercial retail and residential uses in Chevy Chase Lake. Anticipated to include approximately 1.5 million square feet of commercial development and 1,000 housing units.	Undetermined
Falkland Chase Apartments	Northeast quadrant of 16th Street and East West Highway intersection	Garden-style apartments	The site has been approved for redevelopment, but the status of development is uncertain. The site has been approved for the construction of four buildings which could include 1,250 apartments and townhouse dwelling units, 70,000 square feet of retail space, and approximately 65,100 square feet for a public plaza/garden and pedestrian areas. The site plans reserve a portion of the site for use by the Purple Line.	Undetermined
Silver Spring Transit Center	Colesville Road and Wayne Avenue	High-density office space, supporting retail and restaurants, and high-rise apartments	Three-tiered, multi-modal transit facility with 32 bus bays, 54 kiss-and-ride spaces and taxi spaces, two residential towers, and direct access to Metrorail and MARC. Would also include Purple Line transitway as well as integrated private TOD of 450 apartments and condominiums, and a 200-room hotel.	Fall 2013
Silver Spring Library	Fenton Street and Wayne Avenue intersection	Montgomery County-owned property cleared for development	Six-story, 63,000-square-foot library to serve the central business district. The site would include an art gallery and incorporate a Purple Line station.	2015
8621 Georgia Avenue	Southeast quadrant of Cameron Street and Georgia Avenue	Surface parking lot	13-story office building with 6,200 square feet of retail and 289 parking spaces	Undetermined
Fenton Street	Fenton Street between Wayne Avenue and Bonifant Street	Place of worship and associated buildings and single-family dwelling units	Approximately 30,000 square feet of new institutional uses (new church sanctuary, religious education, and child day care center), 18,650 square feet of commercial retail space, and 259 dwelling units	Undetermined
Takoma/Langley Transit Center	Northwest corner of University Boulevard and New Hampshire Avenue	Commercial strip center	New Transit Center featuring enclosed bus shelter and waiting areas	2016
UMD East Campus Redevelopment Initiative	US 1 and Paint Branch Parkway near UMD entrance	Institutional physical plant, service operations, and undergraduate housing	38-acre mixed-use, urban, college town environment comprising retail, hotel/conference, residential, and affordable graduate student housing towers	Undetermined
Cafritz Property Development	Bounded by Baltimore Avenue, Albion Road, MARC tracks, and Tuckerman Street	Forested area and single-family residential	Development of 37.6 acres, including over 200,000 square feet of retail and restaurants and 26,400 square feet of office space; 995 residential units and a 120-room hotel are anticipated to eventually be constructed.	Undetermined
College Park Metro Development	Surrounding College Park Metro Station	Bus transfer facility and surface parking	Transit waiting area plus 348,000 square feet of office space, 34,000 square feet of retail/commercial, 290 residential units, and a new 600-space parking garage	Undetermined
M Square Research Park	River Road and Paint Branch Parkway	Undeveloped land	At full build-out, 2 million square feet of research and office facilities on 130 acres, estimated to employ 6,500 people	Undetermined
New Carrollton Transit District Development	Within 1/2 mile of the New Carrollton Metrorail Station	Parking and transit facilities	5 million square feet of offices, stores, hotels and entertainment space, and up to 5,500 new homes	Prior to 2040

The TPB's Transportation/Land-Use Connections (TLC) program also provides technical assistance to local governments to enhance community planning. The TLC program addresses issues of regional congestion, future growth, pedestrian safety, affordable housing, and changes in community identity by providing information about best practices and model projects through the TLC Clearinghouse. The TLC Technical Assistance Program provides consulting services focused on improving transportation and land use coordination and assists in planning and designing more vibrant and livable communities. In 2010, the TLC Program prepared a *Purple Line Bicycle Access and Bicycle Hub Location Study* for M-NCPPC and Prince George's County to assist in planning for bicycle hubs and multi-use trail facilities around proposed Purple Line stations. Currently, the FY 2013 TLC Technical Assistance Program includes the College Park Metro Station TOD Analysis and the City of Takoma Park New Hampshire Avenue Multi-Way Boulevard Feasibility Study.

The National Capital Planning Commission (NCPC) is responsible for planning activities involving federal land and federal facilities and operations in the Washington DC region. It influences existing and planned land use through the *Comprehensive Plan for the National Capital: Federal Elements* (2004).

The federal government states in Executive Order 13514 *Federal Leadership in Environmental, Energy and Economic Performance* (2009) that access to public transit must be a priority when locating new federal facilities or leases.

The State of Maryland has instituted initiatives intended to create "Sustainable Communities" by focusing transportation improvements in older communities and enhancing the role of the Smart Growth Subcabinet (SGSC) in community revitalization. Under the Priority Funding Areas Act of 1997, the State has established priority funding areas (PFA), which provide a geographic focus for state investment in growth, as well as enterprise zones that offer state and local incentives (e.g., tax credits) to encourage the expansion of existing businesses and to attract new business investment resulting in job creation. The entire area inside the Capital Beltway is designated as a PFA. Also, two enterprise zones are within the project corridor—the Long Branch/Takoma Park Enterprise Zone and the Prince George's County Enterprise Zone (Figure 4-1).

The most recent policies and plans that are applicable to the study area are listed in Table 4-3 by area. As shown, all of these plans and policies endorse transit. Further details on these planning documents can be found in the *Purple Line Social Effects and Land Use Planning Technical Report (2013)*.

4.2.3 Preferred Alternative

Long-term Operational Effects

Land Use, Zoning, and Planned Development

The Preferred Alternative would be compatible with the existing mixed urban and suburban character of the study area land use, and its implementation would support existing and planned land use as well as planned developments. The Preferred Alternative would be located on or along existing roadways, railroad rights-of-way, and the Georgetown Branch right-of-way. Therefore, it is not expected to substantially change the current land uses within the study area. Many of the future development projects anticipate construction of the Preferred Alternative. However, the intensity of the land use could change, as the Preferred Alternative would be expected to attract additional development, which is considered an indirect and secondary effect of the Preferred Alternative.

The Preferred Alternative would be consistent with zoning regulations, which encourage the development of land uses that are compatible with transportation uses along transportation corridors. For example, the *Comprehensive Amendment to the Bethesda CBD District Sector Plan* directs higher density development near activity centers and transit serviceable locations, while promoting lower density infill and housing outside these areas. Likewise, the *College Park US 1 Corridor Sector Plan and Sectional Map Amendment* supports dense transit-oriented mixed-use development within a half-mile radius of transit stations.

Table 4-3. Planning Areas and Associated Plans

Planning Area	Planning Document	Endorses Transit
Montgomery County		
Countywide	*General Plan Refinement of the Goals and Objectives for Montgomery County* (Approved and Adopted, December 1993)	Y[1]
Purple Line Corridor	*Purple Line Functional Plan* (Approved and Adopted, September 2010)	Y[1,2]
Bethesda Central Business District (CBD)	*Comprehensive Amendment to the Bethesda Central Business District Sector Plan* (Approved and Adopted, July 1994)	Y[1]
Bethesda Chevy Chase	*Comprehensive Amendment to the Bethesda/Chevy Chase Master Plan* (Approved and Adopted, April 1990)	Y[1]
Chevy Chase Lake	*Chevy Chase Lake Sector Plan* (Draft, September 2012, Pending Approval)	Y[1,2]
North and West Silver Spring	*North and West Silver Spring Master Plan* (Approved and Adopted, August 2000)	Y[1]
Lyttonsville-Rosemary Hills	*Greater Lyttonsville Sector Plan* (Initiated, July 2012, Pending Approval)	Y[1,2]
Silver Spring CBD	*Silver Spring Central Business District and Vicinity Sector Plan* (Approved and Adopted, April/March 2000)	Y[1,2]
East Silver Spring	*East Silver Spring Master Plan* (Approved and Adopted, December 2000)	Y[1,2]
Long Branch	*Long Branch Sector Plan* (Draft, January 2013)	Y[1,2]
Takoma/Langley Crossroads–Montgomery County	*Takoma/Langley Crossroads Sector Plan* (Draft, May 2010, Pending Approval)	Y[1,2]
Prince George's County		
Countywide	*Prince George's County Approved General Plan* (October 2002)[3]	Y[1,2]
Purple Line Corridor	*Purple Line Transit Oriented Development Study* (Initiated, October 2011)	Y[1,2]
Takoma/Langley Crossroads — Prince George's County	*Takoma/Langley Crossroads Sector Plan* (Approved, November 2009)	Y[1,2]
Langley and Vicinity	*Master Plan for Langley Park-College Park-Greenbelt and Vicinity* (Approved, October 1989) Sectional Map Amendment (Approved, May 1990)	Y
College Park-Berwyn Heights	*Master Plan for Langley Park-College Park-Greenbelt and Vicinity* (Approved, October 1989) Sectional Map Amendment (Approved, May 1990)	Y
University of Maryland Campus	*University of Maryland Facilities Master Plan 2011-2030* (Adopted, 2012)	Y[1,2]
US 1 Corridor in College Park	*College Park US 1 Corridor Sector Plan and Sectional Map Amendment* (Approved, June 2010)	Y[1,2]
College Park-Riverdale Transit District	*Approved Transit District Development Plan for the College Park-Riverdale Transit District Overlay Zone* (Approved, October 1997)	Y[1]
Hyattsville-Riverdale-Mt. Rainier-Brentwood	*Approved Master Plan and Sectional Map Amendment for Planning Area 68* (Approved, May 1994)	Y[1]
Bladensburg-New Carrollton and Vicinity	*Bladensburg, New Carrollton and Vicinity Approved Master Plan and Sectional Map Amendment for Planning Area 69* (Approved, May 1994)	Y[1]
Central Annapolis Road Corridor	*Central Annapolis Road Corridor Sector Plan and Proposed Sectional Map Amendment* (Approved, October 2010)	Y[1,2]
New Carrollton Transit District	*New Carrollton Transit District Development Plan and Transit District Overlay Zoning Map Amendment* (Approved, May 2010)	Y[1,2]
Regional		
Metropolitan DC	*Regional Activity Centers and Clusters* (WMATA, 2007)	Y[1]
Metropolitan DC	*Joint Development Policies and Corridors* (WMATA, November 2008)	Y[1]
Bi-County	*On Wedges and Corridors, a General Plan for the Maryland-Washington Regional District in Montgomery and Prince George's Counties* (Approved and Adopted, January 1964)	Y
State		
Statewide	Smart Growth Legislation	Y[1]
Statewide	*PlanMaryland* (December 2011)	Y[1,2]
Federal		
Metropolitan DC	*Comprehensive Plan for the National Capital: Federal Elements* (2004)	Y

[1]Denotes inclusion of land use planning oriented toward future transit station areas.

[2]Denotes inclusion of references to the Purple Line specifically.

[3]*Plan Prince George's 2035,* scheduled for completion in December 2013, will provide policy direction, development priorities, and broad based strategies for future land use and economic development plans for Prince George's County.

In addition, several of the planned developments in the study area (listed in Table 4-2) would be constructed to accommodate, and would benefit from, the implementation of the Purple Line.

The following sections discuss the long-term effects on land use and development within the vicinity of station locations, the yard, the maintenance facility, and the traction power substations.

Station Locations

The Preferred Alternative station locations would be compatible with existing zoning that reflects the land use patterns recommended by *On Wedges and Corridors.* At several of the proposed station locations, particularly Bethesda, East Campus, College Park, M Square, Annapolis Road, and New Carrollton, zoning supports opportunities for re-development and for TOD, emphasizing a pedestrian-friendly, mixed-use environment with a multi-modal transit network. Several developments, listed in Table 4-2, are already planned to be constructed close to stations.

The anticipated development and high-density infill surrounding key activity centers and the transportation corridors served by the Preferred Alternative would promote employment by creating new permanent jobs and supporting access to employment opportunities. Commercial, office, and industrial uses throughout the study area would benefit from this improved transit access, as employers in the study area would be able to draw from a larger pool of potential employees. In addition, their customers and clients would have improved access. Businesses also may be influenced by transit service when selecting new sites, resulting in increased intensity of these land uses.

Yard and Maintenance Facility

The proposed Lyttonsville Yard would be located primarily on property currently used as a parking lot for an adjacent Montgomery County maintenance facility. Land uses surrounding the Lyttonsville Yard site, with the exception of a nearby multi-family residential building, are light industrial and are zoned as such. Therefore, the yard generally would be consistent with the existing land uses and zoning.

The proposed Glenridge Maintenance Facility would be located primarily on property that currently is developed as the Prince George's County Parks—Northern Area Maintenance—Glenridge Service Center, a comparable land use. Some portions of adjacent land, however, also would be acquired. This land is forested parkland and zoned as reserved open space. Adjacent land uses include single-family residences, a school, and parkland.

Traction Power Substations and other Ancillary Facilities

As described in Chapter 2.0 of this Final Environmental Impact Statement (FEIS), the Preferred Alternative would introduce several other ancillary elements to the study area, including signal bungalows, catenary poles and wires, and traction power substations. The latter must be spaced at approximately one-mile intervals along the transitway. Because these facilities are small and located generally along existing transportation rights-of-way, it is not expected that surrounding land uses would be affected. Table 4-4 identifies the proposed locations and the existing land use in the immediate area of each. These facilities have been sited based on current land uses and plans to minimize impacts. See *Volume 2—Environmental Resource Mapping.*

Consistency with Plans and Policies

The Preferred Alternative would be consistent with local, regional, and statewide planning, as the Purple Line is recommended in 15 of the 29 plans referenced in Table 4-3. All 29 plans support the implementation of transit and 25 of them support land use planning oriented toward future transit stations.

The Preferred Alternative would be consistent with the TPB planning initiatives, which recognize the interdependency of transportation and land use. The most recent *Metropolitan Washington Regional Activity Centers and Clusters* references studies for the Bi-County Transitway (former name of the Purple Line) and identifies Bethesda CBD, Silver Spring CBD, US 1 Green Line (College Park vicinity), and New Carrollton as regional activity centers where transportation and planning decisions should be focused. The TLC program is

Table 4-4. Proposed Traction Power Substation Locations and Existing Land Uses

TPSS ID	Description of Proposed Location	Adjacent Land Use
Q1	Montgomery Avenue, approximately 1,600 feet beyond Wisconsin Avenue	Single-family homes, converted residential dwellings for office and commercial use, high-density residential and large office buildings.
Q2	Georgetown Branch right-of-way, approximately 300 feet prior to Connecticut Avenue	Commercial uses
Q3	Lyttonsville Yard	Industrial and county maintenance facility
Q4	Approaching CSX tracks, near Kansas Avenue	Single-family residential
Q5	Intersection of Colesville Road and CSX tracks	Commercial (Rite Aid Pharmacy), transportation
Q6	Wayne Avenue, just past Cloverfield Road	Single-family residential units and Springvale Terrace Retirement Community
Q7	Arliss Street, just past Flower Avenue	Low-rise commercial and multi-family townhomes
Q8	University Boulevard, just past Seek Lane	Multi-family townhomes and University Manor Apartment complex
Q9	Intersection of University Boulevard and New Hampshire Avenue	Large-lot commercial developments
Q10	University Boulevard, just before 23rd Avenue	Commercial, power line easement
Q11	Intersection of Campus Drive and Presidential Drive	UMD parking and University Baptist Church
Q12	UMD campus, just past proposed East Campus Station	UMD parking, future location of East Campus Development
Q13	UMD property, approximately 820 feet past College Park Metrorail Station	WMATA tracks, College Park Metrorail parking
Q14	River Road, approximately 315 feet prior to Kenilworth Avenue	Office and commercial units, First Korean Presbyterian Church parking lot
Q15	Intersection of Riverdale Road and 61st Place	Residential, forested area, Refreshing Spring Church of God, and Professional Building
Q16	Veterans Parkway, approximately 750 feet beyond Riverdale Road	Forested area, State Highway Administration right-of-way
Q17	Intersection of Veterans Parkway and Annapolis Road	Large-lot commercial developments and office space
Q18	Ellin Road, approximately 340 feet beyond Emerson Place, adjacent to WMATA	New Carrollton Metrorail Station parking facility, power distribution facility

Note: TPSS stationing as of preliminary engineering September 28, 2012. Based on *Purple Line Light Rail Transit Concept PE Submission-Volume 9: Systems* and subject to change.

already providing technical assistance to local jurisdictions in planning for the Preferred Alternative.

NCPC's *Comprehensive Plan* and other federal policies pertaining to federal workplaces in the corridor, such as Executive Order 12514 *Federal Leadership in Environmental, Energy and Economic Performance (2009),* encourage employee use of transit and other non-single occupant vehicle modes. The implementation of the Preferred Alternative to service the Fort Detrick United States Army Garrison-Forest Glen Section in Lyttonsville, the National Oceanic and Atmospheric Administration (NOAA) campus in Silver Spring, U.S. Department of Agriculture and the Food and Drug Administration in M Square, and the Internal Revenue Service (IRS) headquarters in New Carrollton would be consistent with the NCPC plans.

The Preferred Alternative also would support statewide principles of the Smart Growth Program by facilitating mixed-used redevelopment of currently built-up areas, taking advantage of existing infrastructure, providing transportation options, and strengthening existing communities. Located within the Inner Beltway PFA, the Preferred Alternative would reinforce the principles of Smart Growth, while linking designated enterprise zones located in both Montgomery and Prince George's Counties.

Avoidance and Minimization

The Preferred Alternative generally follows existing transportation corridors; therefore, it avoids any substantial changes to existing land use. MTA has

coordinated extensively with Montgomery County and Prince George's County planning departments to ensure that the Preferred Alternative would be compatible with planned development. MTA will continue to meet with M-NCPPC, planning departments, and developers to facilitate effective incorporation of the Preferred Alternative into corridor communities and to avoid or minimize negative land use effects.

Mitigation

Mitigation is not warranted.

Short-term Construction Effects

Short-term land use changes are anticipated during the construction, resulting from easements needed for staging areas and construction access, and from temporary parking loss.

Most construction staging areas would be obtained as temporary construction easements. Staging areas also would provide additional access points to the construction of the transitway and trail, where possible. Temporary construction easements may result in short-term change of access or closures of certain areas of the properties in the easement, or to adjacent properties; where this is the case, alternative access would be provided. See Section 4.4 for information on the mitigation of construction easements. Chapter 5.0 presents the locations of the staging areas that are currently anticipated. These specific locations are subject to change, however, as the project advances. MTA anticipates that multiple staging areas would be used simultaneously, although some would be utilized for only a portion of the expected 5-year construction period.

Avoidance and Minimization

To minimize any short-term construction related land use changes, where practicable MTA would locate staging areas on sites designated for permanent non-transitway elements of the Preferred Alternative, such as the power substations, the yard, and the maintenance facility.

Mitigation

Mitigation is not warranted.

4.3 Neighborhoods and Community Facilities

This section describes the existing neighborhoods and community facilities in the Purple Line corridor and assesses the effects of the Preferred Alternative on these resources. Also discussed are strategies MTA has taken to avoid or minimize the effects to neighborhoods and community facilities, and the mitigation measures MTA would undertake to offset adverse effects. Further information regarding the neighborhood and community facility analysis is included in the *Purple Line Social Effects and Land Use Planning Technical Report (2013)*

4.3.1 Regulatory Context and Methodology

As FTA does not have neighborhood assessment guidelines, MTA used the FHWA 1996 publication, *Community Impacts Assessment: A Quick Reference for Transportation,* as a guide to review potential effects of the proposed project on neighborhoods and community facilities since there are no regulations governing impacts to neighborhoods or community facilities.

The study area for the analysis of neighborhood impacts is 500 feet to each side of the Preferred Alternative alignment. The analysis of potential impacts of the Preferred Alternative on neighborhoods considers the following key neighborhood and community issues: changes in neighborhood quality and community cohesion, effects on human health, impacts on community facilities, and safety and security, as discussed in Section 3.7. Much of the basis for the evaluation of impacts in this section comes from analyses done for Chapter 3.0 and other sections of Chapter 4.0 of this FEIS. Demographics for each neighborhood are based upon the census tracts within 500 feet of the alignment or within a half-mile radius of proposed stations.

Community facilities are facilities that provide a variety of services for public benefit, including schools, health care facilities, religious institutions, emergency services facilities, government services, and museums. They were identified through a review of data from local agencies, discussions with local agency staff members, and field verification. Effects to community facilities were determined by

analyzing how the proposed project could directly affect the specific properties where facilities are located, such as changes to property access or parking.

4.3.2 Affected Environment

The study area lies within southeastern Montgomery County and northern Prince George's County in the Washington DC metropolitan area. A small portion lies within Washington DC. Although the study area is within the suburbs of Washington DC, many communities are highly urbanized with high population densities. The study area contains 16 neighborhoods listed. They are shown on Figure 4-2 and described in the following subsections.

The demographic data is from the 2010 U.S. Census and the American Community Survey 2006-2010.

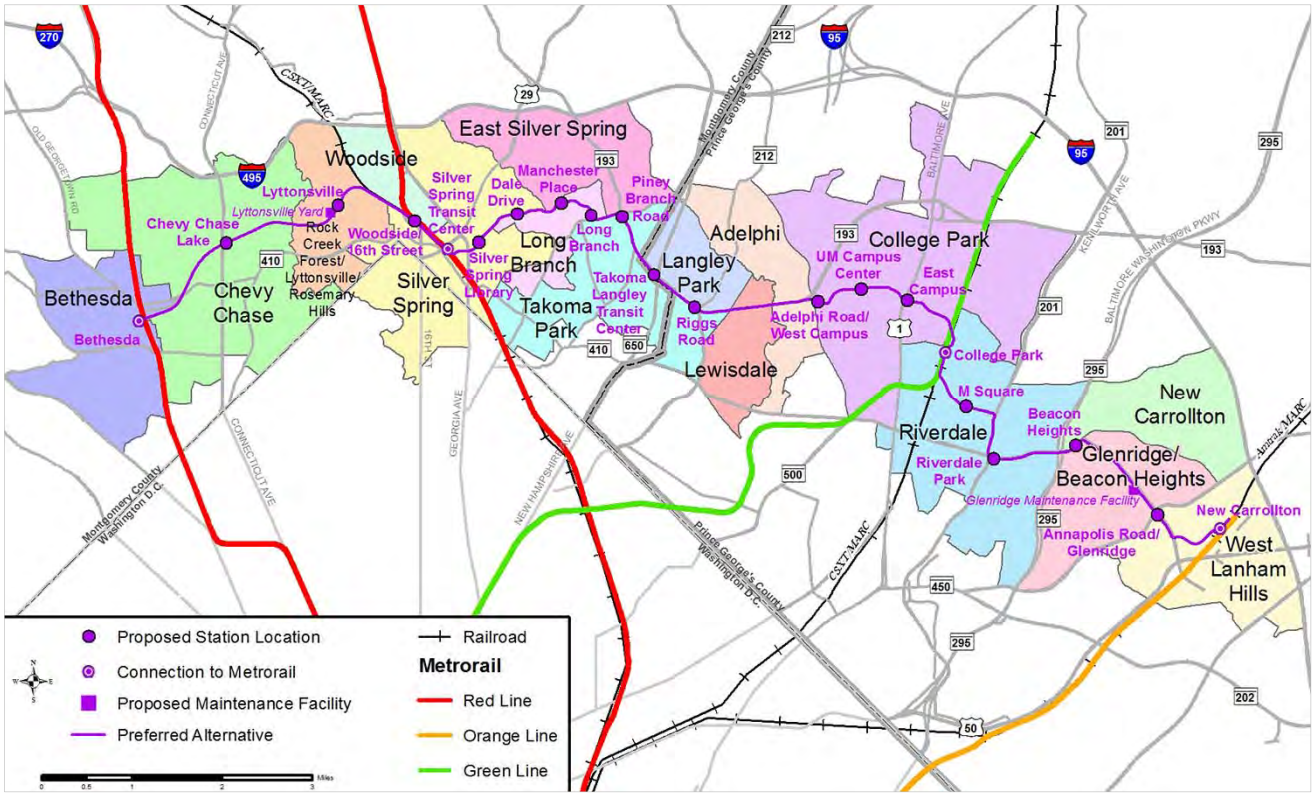
Bethesda

Bethesda is a mixed-use area with single and multi-family residences surrounding the dense urban center. Major facilities include the National Institutes of Health and the Walter Reed National Military Medical Center (formerly the National Naval Medical Center). With approximately 17,300 people, 83 percent of the population is White, 4 percent African American, 9 percent Asian, and 7 percent Hispanic. Forty-four percent of the housing units in the community are owner-occupied. Three percent of the population lives at or below the Federal poverty guidelines. Twenty-six percent of the workers use public transportation to commute to work. Seventeen percent of Bethesda households have no vehicle available.

Chevy Chase

The Chevy Chase community is primarily residential in character. It was developed in the late 19th century as a streetcar suburb by the Chevy Chase Land Company. The majority of the housing in Chevy Chase is single-family detached houses, with some townhouses and multifamily buildings. The community includes some small specialty retail

Figure 4-2. Study Area consisting of 16 Neighborhoods



centers. With approximately 15,600 people, the population in Chevy Chase is 88 percent White, 4 percent African American, 4 percent Asian, and 5 percent Hispanic. Eighty-two percent of the housing units in the community are owner-occupied. Two percent of the population lives at or below the Federal poverty guidelines. Thirteen percent of the workers use public transportation to commute to work. The percentage of households with no vehicle available is 8 percent.

Rock Creek Forest/Lyttonsville/Rosemary Hills

The Rock Creek Forest/Lyttonsville/Rosemary Hills community is mostly residential with a mix of high-rise, townhouse, garden apartment, and single family houses. There is a small light industrial area located along Brookville Road. With approximately 6,800 people, the community is 50 percent White, 25 percent African American, 7 percent Asian, 13 percent Other Race, and 25 percent Hispanic. Forty-nine percent of the housing units are owner-occupied. Eight percent of the population lives at or below the Federal poverty guidelines. Twenty-five percent of the workers use public transportation to commute to work. Sixteen percent of the households have no vehicle available.

Woodside

The Woodside community is predominantly suburban and residential, with extensive commercial uses along Georgia Avenue. Bordered by the Metropolitan Branch railroad right-of-way, currently used by freight, MARC commuter rail, Metrorail, and Amtrak, the community also contains major arterials carrying large volumes of traffic into and out of Washington DC. This community is on the outskirts of downtown Silver Spring.

With approximately 4,600 people, the community is 63 percent White, 24 percent African American, 6 percent Asian, and 9 percent Hispanic. Fifty-one percent of housing units in the community are owner-occupied. Three percent of the population lives at or below the Federal poverty guidelines. Twenty-nine percent of the workers use public transportation to commute to work. Fourteen percent of the households have no vehicle available.

Silver Spring

Silver Spring is an older commercial center and residential community that has been experiencing dramatic revitalization in the last ten years. The downtown is largely high-rise buildings containing a mix of office, retail, and residential uses. Much of the redevelopment has been retail and entertainment oriented, and Silver Spring now boasts a lively nightlife. Residential development includes both single and multi-family housing.

With approximately 27,100 people, Silver Spring is 48 percent White, 38 percent African American, 7 percent Asian, 4 percent Other Race, 4 percent Two or More Races, and 10 percent Hispanic. Thirty-four percent of the housing units are owner-occupied. Seven percent of the population lives at or below the Federal poverty guidelines. Thirty-four percent of the workers use public transportation to commute to work. The percentage of households with no vehicle available is approximately 18 percent.

East Silver Spring

The East Silver Spring community is bounded by Sligo Creek to the west and Northwest Branch Stream Valley Park to the east. The community includes a mix of single-family homes and garden apartments, with some commercial development along the major roadways. With approximately 14,100 residents, East Silver Spring is 45 percent White, 27 percent African American, 8 percent Asian, 14 percent Other Race, 5 percent Two or More Races, and 28 percent Hispanic. Sixty-three percent of the housing is owner-occupied. Six percent of the population lives at or below the Federal poverty guidelines. Twenty-one percent of the workers use public transportation to commute to work, and 10 percent of the households have no vehicle available.

Long Branch

The Long Branch community is bounded by Sligo Creek to the west and Long Branch Creek to the east. This is a suburban community consisting of single-family houses, townhouses, garden-style apartment buildings, and a small commercial area of shops and restaurants at Flower Avenue and Piney Branch Road. With approximately 6,200

people, 47 percent of the population is White, 27 percent African American, 5 percent Asian, 15 percent Other Race, and 29 percent Hispanic. Fifty-four percent of the housing in the community is owner-occupied. Eight percent of the population lives at or below the Federal poverty guidelines. Twenty-eight percent of the workers use public transportation to commute to work, and 15 percent of the households have no vehicle available.

Takoma Park

The Takoma Park community as defined for this study is located primarily in Montgomery County but includes the Carole Highlands and Hillwood Manor communities in Prince George's County. The community is predominately residential. Commercial areas are located along the major roadways of University Boulevard, New Hampshire Avenue, Piney Branch Road, and Carroll Avenue. With approximately 22,600 people, the population of Takoma Park is 36 percent White, 32 percent African American, 5 percent Asian, 20 percent Other Race, 6 percent Two or More Races, and 37 percent Hispanic. Approximately 41 percent of housing is owner-occupied. Eleven percent of the population lives at or below the Federal poverty guidelines. Twenty-six percent of the workers use public transportation to commute to work, and 18 percent of the households have no vehicle available.

Langley Park

The Langley Park community is located primarily in Prince George's County but also includes a small portion in Montgomery County. University Boulevard, commonly referred to as the "International Corridor" in the Langley Park area, contains restaurants, shops, and services that cater to a large immigrant population. The major immigrant groups are Latino, South Asian, and Vietnamese. Housing in Langley Park consists of a mix of housing types with many garden-style apartments near University Boulevard and New Hampshire Avenue. With approximately 17,300 people, the population of Langley Park is 26 percent White, 15 percent African American, 45 percent Other Race, 8 percent Two or More Races, and 79 percent Hispanic. Twenty-one percent of the housing is owner-occupied. Fifteen percent of the population lives at or below the Federal poverty guidelines. Approximately 28 percent of the workers use public transportation to commute to work, and 33 percent of the households have no vehicle available.

Lewisdale

The Lewisdale community, bordered by the Northwest Branch Stream Valley Park, is almost entirely residential with the exception of one shopping center on University Boulevard. Housing consists of single-family and duplex residences. With approximately 8,600 people, the community is 19 percent White, 31 percent African American, 40 percent Other Race, 5 percent Two or More Races, and 61 percent Hispanic. Seventy-six percent of the housing is owner-occupied. Fourteen percent of the population lives at or below the Federal poverty guidelines. Nineteen percent of the workers use public transportation to commute to work, and 12 percent of the households have no vehicle available.

Adelphi

The Adelphi community is primarily residential and includes a mix of single family homes and garden apartments. It has approximately 7,600 people; the population of Adelphi is 27 percent White, 39 percent African American, 9 percent Asian, 19 percent Other Race, and 34 percent Hispanic. Thirty-seven percent of the housing is owner-occupied. Eight percent of the population lives at or below the Federal poverty guidelines. Twenty percent of the workers use public transportation to commute to work, and 8 percent of the households have no vehicle available.

College Park

The College Park community includes the City of College Park and the University of Maryland. The campus is the dominant feature of College Park. The US 1 corridor is the main commercial area serving the community. Residential areas include graduate housing, generally garden apartments, and single family homes in the City of College Park. With approximately 28,200 people, the population of the College Park community is 67 percent White, 12 percent African American, 12 percent Asian, 5 percent Other Race, and 10 percent Hispanic.

Fifty-four percent of housing units in College Park are owner-occupied. Three percent of the population lives below the poverty level, although some of this is due to the large number of students, many of whom have low or no income while they attend school. Eleven percent of the workers use public transportation to commute to work, and 9 percent of the households have no vehicle available.

Riverdale

The Riverdale community includes portions of the Town of Riverdale Park and other unincorporated communities such as Riverdale Heights. Residential development characterizes most of the area, along with federal agencies' offices, and the University of Maryland Research Park. There is some older auto-oriented commercial development on Kenilworth Avenue and East West Highway. With approximately 25,700 people, the population is 26 percent White, 40 percent African American, 27 percent Other Race, and 31 percent Hispanic. Thirty-nine percent of the housing is owner-occupied. Nine percent of the population lives at or below the Federal poverty guidelines. Eighteen percent of the workers use public transportation to commute to work, and 18 percent of the households have no vehicle available.

Glenridge/Beacon Heights

The Glenridge/Beacon Heights community is predominantly residential with a mix of single-family homes and garden apartments. With approximately 12,700 people, the population is 16 percent White, 58 percent African American, 20 percent Other Race, and 33 percent Hispanic. Sixty-two percent of the housing units are owner-occupied. Five percent of the population lives at or below the Federal poverty guidelines. Eighteen percent of the workers use public transportation to commute to work, and 12 percent of the community's households have no vehicle available.

New Carrollton

The New Carrollton community is primarily residential with two shopping centers located on Riverdale Road. With approximately 10,000 people, the population is 20 percent White, 49 percent African American, 4 percent Asian, 24 percent Other Race, and 35 percent Hispanic. Seventy-four percent of the housing is owner-occupied. Six percent of the population lives at or below the Federal poverty guidelines. Twenty percent of the workers use public transportation to commute to work, and 4 percent of the households have no vehicle available.

West Lanham Hills

The West Lanham Hills community surrounds the New Carrollton Metro Station, and it includes the CSXT rail corridor and the rail yards used by CSXT, Amtrak, MARC, and Metrorail. In addition to the transportation facilities, the community includes some residential properties and industrial and office parks.

With approximately 7,600 people, the population is 14 percent White, 65 percent African American, 15 percent Other Race, and 25 percent Hispanic. Fifty-three percent of the housing is owner-occupied. Seven percent of the population lives at or below the Federal poverty guidelines. Twenty-two percent of workers use public transportation to commute to work, and 15 percent of the households have no vehicle available.

Community Facilities

Table 4-5 provides a list, by neighborhood, of the community facilities located within the study area. These resources are also identified in Figure 4-1. Note that parks and recreational facilities, as well as impacts to these resources, are discussed separately in Section 4.6.

4.3.3 Preferred Alternative

Long-term Operational Effects

Neighborhood Quality and Community Cohesion

Community cohesion refers to the quantity and quality of interactions among people in a community, as indicated by the degree to which residents know and care about their neighbors. Barriers to accessibility or improvements to accessibility (such as trails and public transportation) affect the ease with which neighbors meet and build positive relationships. Transportation facilities can adversely impact communities by creating barriers that constrain or prohibit movement within the community.

Light rail is typically compatible with pedestrian environments and likely would not have an adverse impact on neighborhood quality or community cohesion. The Preferred Alternative would not result in a major change in community cohesion or neighborhood quality, as it would operate in or adjacent to existing roadways along most of its alignment.

The major arterials in the corridor, such as University Boulevard or Veterans Parkway, currently constrain pedestrians to formal crossing points at intersections. The addition of the Preferred Alternative in or adjacent to these roadways and others of similar scale would not change this condition. On smaller roadways, such as Wayne Avenue, the Preferred Alternative would function as an additional type of vehicle in the existing roadway. As today, pedestrians would cross at pedestrian crosswalks.

Along the Georgetown Branch right-of-way, where many residents on both sides now have direct access to the trail from their backyards, the Preferred Alternative would result in some changes in access to the trail. Residents on the south side of the right-of-way would no longer be able to access the trail directly from their yards because the transitway would be between their yards and the trail. These trail users would need to use the 21 formal access points being constructed as part of the Capital Crescent Trail, as described in Section 2.3.2. These access points would include paving, sidewalks, and ramps/stairs where necessary. While this is a change, it is not a barrier precluding access to the trail within the community.

Along some roadways, access from private driveways or unsignalized side-street intersections would be limited to right-in/right-out only, such as along Wayne Avenue and Piney Branch Road. In these locations, U-turns would be provided at nearby signalized intersections. While this would have an effect on existing traffic patterns, it would not have an effect on community cohesion or quality.

Table 4-5. Community Facilities within the Study Area, by Neighborhood

Neighborhoods with Community Facilities	Community Facility
Bethesda	Montgomery County Police District 2
Rock Creek Forest/Lyttonsville/Rosemary Hills	Pilgrim Baptist Church Rosemary Hills Elementary School Coffield Community Center
Silver Spring	Silver Spring Main Post Office District Court of Maryland—Silver Spring Bethel World Outreach Church International Gospel Ministries House of Pentecost First Baptist Church of Silver Spring St. Michael the Archangel Catholic Church Sligo Creek Elementary School Silver Spring International Middle School
East Silver Spring	Clifton Park Baptist Church
Long Branch	Long Branch Library Long Branch Community Center
Takoma Park	Iglesia Cristiana Canaan New Hampshire Estates Elementary School Takoma Park Spanish Seventh Day Adventist Church Faith Worship Center Maryland Drafting Institute
Langley Park	Greater Grace Church Chillum-Adelphi Fire Co. #34
College Park	University of Maryland University Baptist Church University United Methodist Church
Riverdale	College Park Post Office Niels Bohr Library First Korean Presbyterian Church Kenilworth Post Office St. Bernard School St. Bernard Catholic Church St. John Evangelical Lutheran Church Refreshing Spring Church of God in Christ S.S. Ministries—Visionary Church Emmanuel Grace Tabernacle
Glenridge/Beacon Heights	Word of Faith Church Glenridge Elementary School
West Lanham Hills	Walls for Christ Ministries West Lanham Hills Volunteer Fire Department Co. #28

Sources: M-NCPPC Montgomery County Planning Department, Montgomery County GIS, and M-NCPPC Prince George's County Planning Department Information Management Division

Transit in general, and the Preferred Alternative in particular, would support community cohesion by adding stations and improving walkability in station areas. The reconstruction of roadways with bicycle lanes; the addition of new sidewalks, such as along the east side of Kenilworth Avenue; and the construction of the Capital Crescent Trail between

Lyttonsville and Silver Spring, where no off-road trail exists today, would all promote community cohesion by improving access and connectivity within neighborhoods.

Substantial displacements can have an adverse impact on community cohesion. The largest group of single-family residential displacements would occur along Riverdale Road in Riverdale, where roadway widening would displace 22 homes. As described in Section 2.2.2 and *Supporting Document for Alternatives Development (2013),* MTA conducted an extensive dialogue with these residents prior to the adoption of this design and learned that the majority of residents supported the shift in the alignment which resulted in full rather than partial property acquisition. These houses face a wide and extremely busy roadway and are already effectively separated from the communities behind them and across Riverdale Road.

Redevelopment near stations could enhance economic activity by expanding neighborhood business districts. Section 4.5 gives additional information on the economic benefits from redevelopment near stations. Some of the properties acquired by MTA in the corridor could be sold after construction and redeveloped consistent with existing zoning.

Human Health

The Preferred Alternative would provide the opportunity to improve the overall health of the users of the Purple Line corridor in the following ways:

- Improvements and extensions of the trail system leading to increased physical activity and the use of active transportation modes for some trips. These improvements include the following:
  - The construction of the Capital Crescent Trail from Bethesda to Silver Spring
  - The connection of the Capital Crescent Trail to the Rock Creek Trail, Metropolitan Branch Trail and the Green Trail
  - Accommodating the extension of the Green Trail to the Sligo Creek Trail
  - Other improvements to sidewalks and bicycle lanes
- The safety (crash reduction) improvements resulting from the general upgrade of pedestrian and bicycle facilities that will be implemented in conjunction with the Purple Line.
- The project-related drainage improvements in four stream valley parks and actions planned to maintain, and in the case of Sligo Creek to improve, the water quality of the streams crossing the transitway.
- Sligo Creek, which has been channelized as it flows through a highly developed road network, would be restored 180 feet upstream and 180 feet downstream of Wayne Avenue to provide long-term benefits by improving access to its floodplain, decreasing sediment loads, and reestablishing natural flow patterns.

While these benefits are not easily measureable on an individual level, expanded opportunities for recreation and alternate modes for commuters, and upgraded safety measures all provide the opportunity for a healthier lifestyle. Considered in the context of the proposed higher-density, pedestrian-oriented development planned for several station areas and the improved transit system, the opportunities for additional pedestrian and bicycle trips, as well as better access to employment, healthcare, and community facilities, all point to an overall improvement in human health.

Community Facilities

One community facility, the Silver Spring Main Post Office located at 8653 16th Street in Silver Spring, would be displaced due to the Purple Line Project. The addition of the transitway also would result in minor modifications to the access to several community facilities and would require partial acquisitions of property from some facilities.

As was discussed above, access to some facilities would now be right-in/right-out only, but these would not impact the community facilities as a whole. The same is true for the partial acquisitions of property from the community facilities.

The vestibule of the First Korean Presbyterian Church on Kenilworth Avenue is within the project limits of disturbance, and will need to be removed. MTA has met with the church leadership to discuss

this impact. There also will be some loss of parking from the adjacent lot; however, the capacity of the existing lot is larger than the need, as also discussed with the church leadership. MTA will negotiate just compensation or mitigation with the church.

Impacts to community facilities are listed in Table 4-6, at the end of this section. Additional detail is available in the *Purple Line Social Effects and Land Use Planning Technical Report* (2013).

Safety and Security

Maintaining safety and security at the stations and the neighborhoods surrounding these facilities is an important consideration for many residents within the surrounding neighborhoods. As described in Chapter 5.0, the Purple Line Safety and Security Management Plan (SSMP) sets forth the policy and describes the integration of safety and security activities that are designed to reduce the frequency and severity of accidents and security incidents to MTA's customers, employees, and the general public.

Avoidance and Minimization

MTA worked throughout the alternatives development process to address community concerns by refining the Wayne Avenue surface alignment to include key design elements. Under the Preferred Alternative, the transitway would share the center lanes with vehicular traffic, which would allow on-street parking to continue during off-peak periods in most areas. In addition, by adding left turn lanes at key intersections, overall traffic operations would improve along the corridor, even with the addition of the Purple Line. Further, allowing the light rail vehicles to share the center lanes with vehicular traffic minimizes the taking of private property, with most of the acquisitions being near the intersections due to the addition of turn lanes.

The Preferred Alternative incorporates measures to minimize the impacts on neighborhoods, including the shifting and design of the alignment to reduce property and community impacts. Enhanced pedestrian crosswalks, particularly where Purple Line stations are in or on the sides of busy arterial roadways, have been designed to improve pedestrian safety both for Purple Line passengers and for all pedestrians who use them. On University Boulevard, the station platforms will function as refuges for pedestrians who cannot cross the entire span of the roadway in one signal phase. Specific measures to improve safety and security are discussed in Section 3.7.

Mitigation

MTA will coordinate with the First Korean Presbyterian Church on Kenilworth Avenue and will negotiate just compensation or mitigation.

The Preferred Alternative would provide a net benefit to neighborhood quality, community cohesion, and human health during operation, and, therefore, no mitigation related to these issues is proposed.

Short-term Construction Effects

As discussed in Chapter 5.0, construction would result in temporary reduction of neighborhood quality due to construction barriers and reduced convenience in access, and it may result in impacts on use of community resources during construction.

The Chillum-Adelphi Fire Company #34 is located approximately 500 feet north of the Preferred Alternative alignment on Riggs Road. Purple Line construction activities may hamper emergency access between this fire company and the part of its service area that lies south of University Boulevard.

During construction, modifications to existing access to community facilities could be necessary, and could result in delays for people using the facilities. The creation of temporary construction easements on the property of community facilities may be required in cases where short-term excavation and construction disturbance are anticipated.

There also would be construction-related impacts to school bus routes and stops. Bus stops located in or near the limits of disturbance would be temporarily relocated, and the location of the temporary bus stops would be communicated to students, parents, and bus drivers. Construction activities might lead to temporary delays with buses transporting students to schools. When necessary, temporary detours would be established, and the detour routes would be clearly marked.

Table 4-6. Long- and Short-term Effects to Community Facilities, by Neighborhood

Neighborhood	Community Facility	Long-term Effects	Short-term Effects
Rock Creek Forest/Lyttonsville/Rosemary Hills	Rosemary Hills Elementary School	No long term effects.	Reconstruction of Talbot Avenue would encroach on school property. A signed detour route would be provided for those using Talbot Avenue while Talbot Avenue Bridge is replaced.
	Pilgrim Baptist Church	No long term effects.	A signed detour route would be provided for those using Talbot Avenue while Talbot Avenue Bridge is replaced.
Silver Spring	Silver Spring Post Office	The facility would be displaced.	The facility would be displaced prior to construction.
	St. Michael Catholic Church	The sidewalk and the concrete walkway at the church entrance would be modified.	Pedestrian access would be modified during construction.
	Silver Spring International Middle School	Partial acquisition of property for widening of Wayne Avenue; driveway would be shifted approximately 400 feet east to accommodate future station; the parking lot would be reconfigured.	Pedestrian and vehicular access would be modified during construction.
Long Branch	Long Branch Library	Partial acquisition of property for roadway reconfiguration; the driveway would be converted to right-in/right-out only; pedestrian entrance on Walden Avenue would also be modified.	Pedestrian and vehicular access would be modified during construction.
Langley Park	Chillum-Adelphi Fire Co. #34	No long term effects.	There would be possible delays in responding to calls south of University Boulevard East during construction.
College Park	University Baptist Church	The driveway entrance would be relocated.	Pedestrian and vehicular access would be modified during construction.
	University United Methodist Church	No long term effects.	Pedestrian and vehicular access would be modified during construction.
	University of Maryland	No long term effects.	Pedestrian access would be modified during construction.
Riverdale	Niels Bohr Library	Partial acquisition of property. Direct sidewalk access to River Road would be removed. Access from River Road to Physics Ellipse Drive would be shifted approximately 1000 feet west.	No short term effects.
	St. Bernard Church and School	Partial acquisition of property; changes in grade would affect pedestrian access and secondary access to school.	Pedestrian access would be modified during construction.
	First Korean Presbyterian Church	Partial acquisition of property, removing approximately 10 parking spaces and the building's vestibule.	Pedestrian and vehicular access would be modified during construction.
	Kenilworth Post Office	No long term effects.	Pedestrian and vehicular access would be modified during construction.
	Refreshing Spring Church of God in Christ	Partial acquisition of property.	No short term effects.

Note: Community facilities with minor strip takes were not identified as having short-term effects as long as pedestrian and vehicular access would continue to function for the majority of the construction period.

Sources: M-NCPPC Montgomery County Planning Department, Montgomery County GIS, and M-NCPPC Prince George's County Planning Department Information Management Division.

Construction-generated noise, dust, and congestion also may affect the use of some community resources.

Table 4-6 lists the specific community facilities, by neighborhood, that likely would be subject to these short-term construction effects.

Avoidance and Minimization

MTA will continue to refine and adjust the alignment and will consider adjustments to the construction plan to avoid or minimize impacts to community facilities.

MTA will provide alternative access to community facilities if access is temporarily removed, where practical.

MTA will coordinate with the counties to identify alternative access or temporary off-site parking for community facilities and businesses where access or parking may be temporarily removed, as appropriate.

MTA will coordinate with UMD, Rosemary Hills Elementary School, Sligo Creek Elementary School, and Silver Spring International Middle School to minimize disruptions to the extent reasonably feasible.

Mitigation

MTA will construct the Glenridge Maintenance Facility at a lower grade than the existing park maintenance facility and provide a landscape buffer, as appropriate, between the maintenance facility and the adjacent park and school; MTA will construct retaining walls to minimize the area of grading needed.

The Purple Line Fire Life/Safety & Security Committee will continue to meet prior to and during construction with emergency responders to identify and resolve issues arising from construction and operation.

4.4 Property Acquisitions and Displacements

This section describes the property acquisitions and displacements that would result from the need for right-of-way and other real property to construct and operate the Purple Line. It also describes minimization strategies MTA has taken to eliminate or reduce the need for acquisition and displacements, as well as mitigation measures MTA would undertake to offset adverse effects. For further details, see *Purple Line Economic Effects Technical Report (2013)*.

4.4.1 Regulatory Context and Methodology

All activities related to acquisitions and displacements would be conducted in conformance with the following:

- Uniform Relocation and Real Property Acquisitions Policies Act of 1970 (42 United States Code [USC] 4601), as amended (the Uniform Act) and Public Law 105-117. These statutes mandate that certain relocation services and payments be made available to eligible residents, businesses, and nonprofit organizations displaced as a direct result of projects undertaken by a federal agency or with federal financial assistance. The Uniform Act provides for uniform and equitable treatment for persons displaced from their homes and businesses, and it establishes uniform and equitable land acquisition policies.
- The Real Property Article of the Annotated Code of Maryland, Title 2, Section 2-112 and Titles 12, Subtitle 2, Sections 12-201 to 12-212 govern relocation and assistance for displacements associated with state actions.

Properties to be fully or partially acquired, or which would be subject to an easement, were identified based on the project's LOD, as defined in Section 4.1. Aerial photography, project engineering design, and county land parcel data were used to determine the properties or portions of properties, within the LOD and to determine the extent of impact on each property. For partial acquisitions, a determination was made whether acquisition would affect the use of the property as currently designed and/or whether modifications to the property would be required to maintain use.

Field reconnaissance was performed to verify information assembled through studies of available land use information. The estimates of employees affected by commercial displacements are based upon average square footage per worker for various commercial building types published in the Energy

Information Administration's *Commercial Buildings Energy Consumption Survey* (2003).

The following types of real estate transactions and impacts are discussed in this section:

- **Full Acquisition**—This is the purchase of all fee simple land ownership rights of a property.
- **Partial Acquisition**—This is the purchase of a portion of an overall property. A partial acquisition would include fee simple or easement acquisitions. See below for a description of easement property rights.
- **Displacement**—Displacement results from full acquisitions and the conversion of the existing land use to a transportation use. Displacements are measured by housing unit or business, not tax parcel. For example, the acquisition of an apartment building on a single tax parcel with six units would result in six residential displacements.
- **Easement**—An easement provides for the temporary (during construction) or permanent use of a property for a particular purpose. The Purple Line will have need for both temporary and permanent easements within the project limits. A temporary easement may be purchased from a property for the purpose of storage of materials and equipment, access to construction areas, site grading, or other construction-related activities. Properties affected by easements would be restored to an acceptable pre-construction condition depending upon the individual easement need and agreement. A permanent easement may be purchased from a property to permanently locate infrastructure without completely diminishing property owner use of the land. Examples of permanent easements include storm water management, drainage channels or storm drains, utilities, slope/grading and subsurface/tunnels.

4.4.2 Affected Environment

As described in Section 4.2, the study area is an urban area comprising a mix of uses including residential, commercial, and institutional uses. Mapping showing the existing conditions within the LOD is provided in *Volume 2—Environmental Resource Mapping*.

4.4.3 Preferred Alternative

Long-term Operational Effects

Implementing the Preferred Alternative would require acquiring property and, in some cases, displacing commercial, residential, and institutional uses. Property acquisitions and displacements in this section have been determined based upon the preliminary engineering to date.

Acquisitions

Table 4-7 summarizes the property acquisitions by neighborhood and land use. Fee simple property acquisition would affect 388 properties with a combined area of 70.2 acres. Approximately 30.0 acres, or 321 parcels, would be partial acquisitions, most commonly involving a strip of frontage to widen a right-of-way.

Residential and commercial property acquisitions are spread throughout the project corridor. Riverdale, Takoma Park, and Silver Spring would have the largest numbers of property acquisitions. The largest acquisition of residential acreage would occur in Riverdale, and the largest acquisition of commercial acreage would occur in Rock Creek Forest/Lyttonsville/Rosemary Hills. Institutional land use would have the largest number of acres acquired, in keeping with MTA's effort to minimize residential and commercial land acquisition. This would be accomplished by acquiring publicly owned land where possible. The largest publicly owned institutional land acquisitions would occur in Rock Creek Forest/Lyttonsville/Rosemary Hills for the Lyttonsville Yard, in Glenridge/Beacon Heights for the Glenridge Maintenance Facility, and in Riverdale for right-of-way.

Easements

The Purple Line will need to acquire easement property rights from 315 additional properties within the study area. The project easement acreage need totals approximately 90 acres. The property easement areas would be needed by the project for a variety of potential uses, including drainage, storm-water management, utilities, slope easements, storage of materials and equipment, access to

Table 4-7. Partial and Full Property Acquisitions, Preferred Alternative

Neighborhood	Full Acquisitions				Partial Acquisitions				Total Acreage (acres)		
	Residential	Commercial	Institutional	Total	Residential	Commercial	Institutional	Total	Residential	Commercial	Institutional
Bethesda	0	3	0	3	0	1	1	2	0.0	0.3	0.0
Chevy Chase	1	0	0	1	2	0	0	2	0.2	0.0	0.0
Rock Creek Forest/ Lyttonsville/Rosemary Hills	1	3	3	7	9	10	3	22	0.5	3.8	5.6
Woodside	0	0	2	2	3	4	3	10	0.1	2.4	0.3
Silver Spring	0	4	1	5	22	6	17	45	1.4	2.5	2.3
East Silver Spring	0	0	0	0	3	5	1	9	0.3	0.2	0.1
Long Branch	1	1	0	2	20	3	2	25	1.8	1.3	0.2
Takoma Park	1	2	0	3	15	30	7	52	1.1	1.7	0.4
Langley Park	0	3	0	3	6	18	0	24	0.1	1.6	0.0
Lewisdale	0	0	0	0	4	11	2	17	0.0	0.3	0.5
Adelphi	0	0	0	0	2	0	5	7	0.0	0.0	0.4
College Park	0	0	0	0	0	0	5	5	0.0	0.0	1.1
Riverdale	22	8	0	30	31	20	28	79	5.1	3.2	10.0
Glenridge/Beacon Heights	2	2	2	6	4	3	0	7	1.7	1.6	13.3
New Carrollton	0	0	0	0	0	1	1	2	0.0	0.4	0.9
West Lanham Hills	0	2	3	5	6	3	4	13	0.4	2.0	1.1
Total	**28**	**28**	**11**	**67**	**127**	**115**	**79**	**321**	**12.7**	**21.3**	**36.2**

construction areas, or other project related needs. For temporary easement needs, the use of the property will be only for the duration of construction activity.

Displacements

Of the 70.1 acres of fee simple land acquired, 24.3 acres would require displacements. There would be 116 displacements resulting from the Preferred Alternative, including 53 residential units, 60 commercial facilities, and three institutional properties. These are described below.

Residential

The largest group of single-family residential displacements would occur along Riverdale Road, where roadway widening would displace 22 homes. Three other single family homes would be displaced in three other neighborhoods (Table 4-8). Multi-family residential displacements would include 12 units in the Falkland Chase Apartments in Silver Spring, 12 units in two 6-unit buildings in Long Branch, and a 4-unit building in Takoma Park. Regarding the Falkland Chase Apartments, it should be noted that a redevelopment plan exists that would include the demolition of these apartments, and the plan reserves a portion of the site for the Purple Line. This plan has been approved by Montgomery County, and therefore might occur under the No Build Alternative. However, as no schedule has been established, the 12 units are included in the total potential displacements for the Preferred Alternative.

Commercial

The 60 commercial facilities to be displaced provide goods and services typical of the businesses in the LOD, as listed below:

- 6 gas stations
- 2 auto care businesses
- 1 light industrial property
- 21 retail businesses
- 10 food service businesses
- 20 commercial offices

The commercial displacements would affect an estimated 246 employees, primarily in Silver Spring and Takoma Park (Table 4-9). Commercial displacements in Silver Spring include a strip retail shopping center and a 42,000 square foot office building. Commercial displacements in Takoma Park include the Mega Super Market, occupied by several small businesses providing specialty ethnic food and products (see *Purple Line Social Effects and Land Use Planning Technical Report* for more detailed information).

Institutional

Two of the institutional properties that would be displaced are county-owned facilities. MTA coordination with the counties indicates that these facilities would be relocated elsewhere within the respective counties (Table 4-10). No net loss of employment is anticipated. The Silver Spring Post Office would be relocated elsewhere within the Silver Spring area.

Property acquisitions and displacements are not expected to substantially affect economic conditions in the region or in the study area neighborhoods. There is a sufficient supply of vacant commercial and residential space available within the study area neighborhoods if property owners wish to relocate within the study area. The number of affected jobs would be relatively small in comparison to both the overall level of neighborhood employment and the level of employment in the retail and office sectors that the impacts primarily represent. Employment opportunities affected by commercial property displacements could be offset by relocating the businesses within the neighborhoods surrounding the LOD.

Avoidance and Minimization

Through the public involvement process described in Chapter 8.0, MTA has coordinated, and would continue to coordinate, with affected property owners and tenants to develop means to avoid or minimize property acquisitions and displacements.

Through targeted outreach activities, residential property owners in Riverdale were provided opportunities to offer input on design concepts for the transitway. Their participation led to the decision to shift the alignment to the south of Riverdale Road, despite the need to acquire the properties.

Table 4-8. Residential Displacements by Neighborhood

Neighborhood	Location	Structure Type
Rock Creek Forest/Lyttonsville/Rosemary Hills	Leonard Drive	1 single-family home
Silver Spring	North Falkland Lane	12 units of the Falkland Chase Apartments
Long Branch	Plymouth Street	1 single-family home and 12 apartment units
Takoma Park	East University Boulevard	4 apartment units
Riverdale	Riverdale Road and Patterson Street	22 single-family homes
Glenridge/Beacon Heights	Riverdale Road	1 single-family home
Total Residential Displacements		53

Table 4-9. Commercial Displacements by Neighborhood

Neighborhood	Location	Property Description	No. of Businesses Displaced[1]	Estimate of Employees Displaced[2]
Bethesda	Montgomery Avenue	Newtown Auto Body shop, Design in a Day studio, and Maloney Design Build	3	5
Rock Creek Forest/Lyttonsville/ Rosemary Hills	Brookville Road	Carpentry and Millwork Casework LTD	1	4
Silver Spring	16th Street	Spring Center shopping center (Blockbuster Video, Dollar Power, El Aquila, Jerry's Subs, Spring Discount Beer and Wine, Beauty Supply, Popeye's, Baskin Robbins, SS Package and Shipping, McDonalds, 7-Eleven, Famous Pawnbrokers, Kessler's Dry Clean, Spring Garden Restaurant, Pizza Hut, Jeweler's Warehouse, Crest Opticians, Cameron's Seafood, Signs by Tomorrow and The Laundromat)	20	34
	East West Highway	Rite Aid Pharmacy, FedEx Office	2	15
	Bonifant Street	1110 Bonifant Building (Abode, Inc., CRP, Inc., Donahue Real Estate Services, Dakota Consulting, Financial and Realty Services, LLC, FRS Securities, Futrek, GAI FRS JV, LLC, Interior Facilities Design, LLC, International Leadership Association, Kest, Forte and Rottenberg, KADA, Property Cop, Riverside Technology Inc., United Way, Maryland Service Center, and Vetstreet)	17	98
Long Branch	Piney Branch Road	Washington Express gas station	1	5
Takoma Park	Piney Branch Road	Precision Tune Auto Care	1	5
	University Boulevard	Mega Super Market (Mega Latino Market, Community Thrift Store, Jireh Restaurant, BanRural/UTS Corporation)	4	36
Langley Park	University Boulevard	Exxon gas station, Domino's Pizza, and Citgo gas station	3	14
Riverdale	Kenilworth Avenue	Image 1 Hair Design, Sophisticat Boutique and Art Gallery, Superior Tax	3	5
	57th Avenue	Shell gas station	1	5
	East West Highway	Lawyers Professional Building	1	5
Glenridge/Beacon Heights	Riverdale Road	Sunoco gas station and Exxon gas station	2	10
West Lanham Hills	Annapolis Road	Dulce Vida Bakery	1	5
Total Commercial Displacements and Estimated Employee Displacements			60	246

[1]Number of businesses is estimated to describe magnitude of impacts. Normal business cycle fluctuations may cause variation in the total number or location of specific businesses over time.

[2]Estimated number of employees is based on 2003 Energy Information Administration *Commercial Buildings Energy Consumption Survey*, Table B1., Mean Sq. Ft. per worker for food sales, food service, retail, office, service, warehouse and storage, and other buildings. Estimated number of employees at gas stations is based on an average of EIA survey and National Retail Federation "Retail Sales per Establishment and Employee and Employees per Establishment, 2010." NRF data compiled from U.S. Department of Commerce, Census Bureau and Bureau of Labor Statistics.

Table 4-10. Institutional Displacements by Neighborhood

Neighborhood	Location	Property
Silver Spring	Bonifant Street	Montgomery County Division of Building, Design and Construction
Silver Spring	16th Street	Silver Spring Main Post Office
Glenridge/Beacon Heights	Veterans Pkwy	Prince George's County Parks—Northern Area Maintenance Office

To avoid several displacements along Kenilworth Avenue, the transitway was moved to the median.

To minimize the impact of the acquisition of the Montgomery County maintenance facility's parking lot for the Lyttonsville Yard, MTA will provide a parking facility for both County and MTA employees in Lyttonsville.

Mitigation

Property acquisition activities, including relocations, will be performed in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) as amended and Federal Transit Administration (FTA) Circular 5010.1D, Grants Management Requirements and all applicable Maryland State laws that establish the process through which MTA may acquire real property through a negotiated purchase or through condemnation.

Displaced persons and businesses within the area needed for the project may be eligible for benefits under MTA's Relocation Assistance Program. Benefits could include advisory services, moving and reestablishment costs, and other payments and services as provided by law.

Short-term Construction Effects

Temporary easements would be required for a variety of potential uses during project construction, including storage of materials and equipment, access to construction areas, or other construction related activities, as discussed in Chapter 5.0. Short-term impacts such as dust and noise could result in temporary displacement. These impacts are discussed in Chapter 5.0.

MTA will restore properties affected through a temporary easement to an acceptable pre-construction condition following construction activities, in accordance with the individual easement agreements.

Avoidance and Minimization

Where reasonably feasible, vacant or publicly owned property, rather than privately-owned, developed property, will be identified for temporary use during construction activities. In addition, many of the proposed staging areas are to be located on properties that will be acquired for the project (e.g., the Lyttonsville Yard site, displaced homes along Riverdale Road, and the Glenridge Maintenance Facility site).

In order to reduce construction-related impacts to properties, construction scheduling will help to reduce the duration of temporary easements required. A variety of measures will be taken to minimize the effects of access restrictions on residential and commercial properties. For example, in each zone where heavy construction would occur, an analysis will be conducted prior to construction to consider the access needs of the affected properties, and a Transportation Management Plan will be prepared in consultation with the affected property owners and businesses. See Chapter 5.0 for a description of the Transportation Management Plan.

Coordination also will occur with affected neighborhoods and businesses regarding the use of signage or other mitigation methods where access restrictions impact customer access to retail and commercial establishments.

Mitigation

No mitigation is warranted.

4.5 Economic Activity

This section describes the employment and income trends of the study area, assesses the effects of the Preferred Alternative on regional and local businesses, employment levels, and tax revenue, and discusses mitigation measures MTA will undertake to offset adverse effects. For further detail regarding

the methodology and results of the economic analysis, see the *Purple Line Economic Effects Technical Report (2013)*.

4.5.1 Regulatory Context and Methodology

The study area for economics includes the census block groups fully or partially within 500 feet of the Preferred Alternative alignment or within a ½-mile radius around each station location. For some of the analyses, as well as for comparison purposes, larger areas were examined to reflect the fact that the study area is part of a larger integrated economic region.

Effects are presented qualitatively at the neighborhood level and quantitatively at the regional level, which includes Montgomery County, Prince George's County, and Washington DC.

Data regarding regional employment and unemployment, major employers, and income are from the U.S. Census Bureau, American Community Survey, Maryland Department of Business and Economic Development, and Dun and Bradstreet Selectory, Inc. Current labor force trends were measured at the census tract geographic level and reflect the number of residents, from any one place, who are employed or are seeking work (unemployed). GIS analysis was used to aggregate census tracts by study area neighborhood boundary.

Data regarding future employment trends came from the Cooperative Forecasting program administered by the MWCOG. MWCOG's Round 8.0a, which forecasts to the year 2040, informed the analysis. (Note: the Round 8.0a forecasts assume the construction of the Purple Line.) Employment projection data represent the number of people who are working in any one place and were measured using traffic analysis zones (TAZ), the geographical boundaries used within the MWCOG employment model. The boundaries of the TAZs and census tracts are very similar. Therefore, it was considered methodologically appropriate to present future employment data using TAZ boundaries.

The following analyses were performed to understand the project-related economic effects:

- **Job Creation and Earnings Impact**—the effects of operations and maintenance spending (long-term) and construction expenditures (short-term) on employment, earnings, and output (a measure of economic activity, representing the annual dollar value of all goods and services produced) were estimated using regional multipliers (Regional Input-Output Modeling System, also known as RIMS II) from the U.S. Department of Commerce, Bureau of Economic Analysis (BEA). The regional multipliers cover the Washington DC, Montgomery and Prince George's Counties. Type II multipliers for 2008, which include direct, indirect[2], and induced impacts, were used. Direct effects would result from construction and operation expenditures, while indirect effects would result when direct purchases generate sales and supporting jobs in supplier industries. Induced effects would result when the earnings of construction workers and public transportation operations workers, as well as growth in earnings at suppliers, lead to further retail sales for businesses that provide consumer goods and services.
- **Tax Revenue**—the effect of proposed displacements associated with the Preferred Alternative and the subsequent projected change in tax revenue were quantified using the 2011-2012 real property tax rates for Montgomery and Prince George's Counties.

4.5.2 Affected Environment

Employment

Between 2000 and 2010, the total number of employed residents of the study area grew by 14 percent; in Montgomery and Prince George's Counties, it grew 12 and 13 percent, respectively. The number of employed persons grew 11 percent in the state of Maryland, and 13 percent in Washington DC (Table 4-11).

[2] Indirect effects, in relation to the regional multipliers, refers to the changes in sales, jobs, and income within industries that supply the goods and services to the firms that will be constructing, operating, or maintaining the project. This term is used differently in this analysis than it is in the Indirect and Cumulative Effects analysis in Chapter 7.0 of the FEIS.

Table 4-11. 2000 and 2010 Employment Trends by Area of Residence

Region/Neighborhood	Employed			Unemployment Rate	
	2000	2010	% Change 2000–2010	2000	2010
Washington DC	263,108	297,027	13%	7%	9%
Maryland	2,608,457	2,904,475	11%	3%	7%
Montgomery County	458,824	511,790	12%	2%	5%
Bethesda	10,171	9,632	-5%	2%	5%
Chevy Chase	7,413	7,756	5%	1%	3%
Rock Creek Forest/Lyttonsville/Rosemary Hills	3,263	3,509	8%	3%	8%
Woodside	2,795	2,722	-3%	1%	5%
Silver Spring	14,871	16,819	13%	3%	4%
East Silver Spring	6,820	7,638	12%	3%	9%
Long Branch	3,347	4,169	25%	2%	3%
Takoma Park	12,075	13,116	9%	6%	9%
Prince George's County	399,355	452,459	13%	4%	8%
Langley Park	7,052	10,535	49%	5%	12%
Lewisdale	3,507	4,576	30%	4%	13%
Adelphi	4,435	4,080	-8%	4%	7%
College Park	11,072	11,833	7%	12%	11%
Riverdale	11,174	13,132	18%	7%	9%
Glenridge/Beacon Heights	5,978	6,470	8%	6%	12%
New Carrollton	4,625	4,666	1%	3%	9%
West Lanham Hills	3,237	3,537	9%	7%	9%
Study Area	**111,835**	**124,190**	**11%**	**5%**	**8%**

Notes:
(1) Employed here means the number of individuals residing in each geography who were employed. (i.e., these numbers are based on residents of these areas and do not reflect the number of jobs in these areas)
(2) Unemployment data is also based on the residents of these geographies and indicate the number of individuals who are actively seeking work, as a percentage of the population 16 years and older.
(3) County data in this table is for the entire county, not the portion of the county within the study area.
(4) The U.S. Census Bureau divided census tract 8059.01 into 8059.08 and 8059.09 and divided census tract 7055 into 7055.01 and 7055.02 between the 2000 and 2010 Decennial Censuses. Therefore the change in income levels in the Adelphi and Bethesda neighborhoods may vary slightly from the results shown.

Source: U.S. Census Bureau, 2000 Census and 2010 American Community Survey.

The unemployment rate also was examined for people living in the study area. The unemployment rate in the study area and in the two study area counties and the state of Maryland each increased between 2000 and 2010, largely due to the national recession of 2007-2009. Depending on population growth and the number of people entering and leaving the labor force, unemployment can increase even as the number of jobs grows.

As Table 4-11 shows, the unemployment rate in the study area increased to 8 percent from 5 percent in 2000. In Montgomery County, the unemployment rate increased to 5 percent, and in Prince George's County, the unemployment rate increased to 8 percent in 2010. The overall unemployment rate for the State of Maryland in 2010 was 7 percent, higher than the Montgomery County unemployment level but lower than the Prince George's County unemployment level. The 2010 unemployment rate in Washington DC (9 percent) also increased over the decade, and in 2010, was greater than the two neighboring counties and the state of Maryland.

According to the Bureau of Labor Statistics (BLS), since 2010, overall unemployment in the two study area counties, Washington DC and the state of Maryland has decreased somewhat. While BLS data varies in collection methodology from the U.S.

Census Bureau, the regional trend in unemployment is clear. Between 2010 and the first half of 2012, unemployment fell by 0.7 percent in Montgomery County and 1.0 percent in Prince George's County. Unemployment decreased by 0.9 percent in Maryland and 0.7 percent in Washington DC between 2010 and the first half of 2012 (BLS 2012).

Major Employers

The federal government employs a large number of Montgomery County, Prince George's County, and Washington DC residents. Approximately 16 percent and 20 percent of the employed civilian workforce in Montgomery and Prince George's Counties, respectively, worked for the federal government in 2010 (Table 5 in the *Purple Line Economic Effects Technical Report*). In comparison, approximately 13 percent of the employed workforce for the state of Maryland was employed by the federal government. In Washington DC, 20 percent of the employed civilian workforce worked for the federal government in 2010.

Eleven federal government agencies are located within Montgomery and Prince George's Counties, which makes the federal government the largest employer in the two counties. Other major employers include county school districts and governments, healthcare and hospital facilities, higher education (Montgomery College and the University System of Maryland), and a variety of private businesses.

Regional Activity Centers, as defined by MWCOG, in the regional study area include the Bethesda CBD, Silver Spring CBD, and New Carrollton (MWCOG 2007). The MWCOG Regional Activity Center designation has been used extensively as a technical and policy tool to analyze the effects of growth and change in the region. Other activity centers in the study area include Takoma Park/Langley Park and UMD in College Park. Each activity center contains a mix of retail, office, warehousing, light manufacturing, commercial, and residential land uses that support major employment and residential bases. In addition, a number of regional shopping areas are located in the project corridor, including downtown Silver Spring, University Boulevard in Takoma Park/Langley Park, and Annapolis Road in New Carrollton. Smaller local retail and service establishments are interspersed along the roadways that connect the activity centers.

Employment Projections

The MWCOG projections of future regional job growth reveal large increases in employment between 2010 and 2040 (Table 4-12). These projections assume constructing the Purple Line. The greatest employment growth, 43 percent between 2010 and 2040, is projected for Montgomery County, while Prince George's County and Washington DC also show strong employment gains (32 percent and 24 percent, respectively).

By 2040, employment growth is expected to occur in all study area neighborhoods except Long Branch. The largest percentage increases in neighborhood employment are projected to occur in East Silver Spring (65 percent), Langley Park (217 percent), and Riverdale (67 percent). The largest absolute job growth is projected to occur in the Bethesda, Chevy Chase, Silver Spring, College Park, Riverdale, and West Lanham Hills neighborhoods.

Table 4-13 shows employment projections, divided into four land use/employment categories: Industrial, retail, office, and other. In Montgomery County, between 2010 and 2040, the largest increase in both the number and percentage of jobs is projected to occur in the office employment category. In Prince George's County, the largest absolute employment increase would occur in "other" employment, while the largest percentage increase would occur in office employment. In Washington DC, the greatest absolute employment increase is projected to occur in office employment, while industrial employment is expected to grow at the fastest rate.

For the study area overall, job growth between 27 and 33 percent is predicted in all categories of employment. Employment in the study area neighborhoods is expected to grow or remain stable during the three decades between 2010 and 2040, with the exception of Takoma Park, which shows a substantial decline in "other" employment by 2040. While this decline will be offset by an increase in

office employment, these estimates demonstrate that the Takoma Park employment base is expected to undergo major changes, as redevelopment and shifts in land use occur in the area (e.g., due to the Takoma Langley Crossroads Sector Plan and the Washington Adventist Hospital move to White Oak campus).

Bethesda, Silver Spring, and Riverdale are projected to have the greatest absolute increases in office employment. The office employment gains can be expected since Bethesda and Silver Spring are growing regional employment centers, and Riverdale contains UMD's recently established M Square research park. Office employment is projected to grow at the fastest rate in East Silver Spring.

Chevy Chase and College Park are projected to show the strongest absolute gains in "other" employment, which can be expected since "other" employment includes college and universities; College Park is home to UMD's main campus and University College campus, while the Chevy Chase neighborhood abuts American University, Trinity Washington University, and a branch of Georgetown University.

Riverdale and West Lanham Hills also show substantial growth in "other" employment by 2040, and they would likely benefit from future planned TOD around Metrorail, MARC, and the proposed Purple Line rail stations.

Table 4-12. Employment Projections by Job Location

Geographic Area	Employment		Projected % Change in Employment 2010–2040
	2010	2040	
Washington DC	785,788	977,163	24%
Montgomery County	506,000	723,000	43%
Bethesda	38,543	44,286	15%
Chevy Chase	29,572	36,071	22%
Rock Creek Forest/Lyttonsville/Rosemary Hills	3,390	3,863	14%
Woodside	1,462	1,512	3%
Silver Spring	36,448	44,710	23%
East Silver Spring	1,311	2,167	65%
Long Branch	674	677	0%
Takoma Park	5,010	5,359	7%
Prince George's County	358,385	474,635	32%
Langley Park	1,649	5,228	217%
Lewisdale	1,460	2,076	42%
Adelphi	1,399	1,597	14%
College Park	22,830	33,926	49%
Riverdale	13,385	22,407	67%
Glenridge/Beacon Heights	2,406	3,008	25%
New Carrollton	1,403	1,625	16%
West Lanham Hills	20,456	28,011	37%
Study Area	**181,395**	**236,523**	**30%**

Notes:
(1) MWCOG does not publish data for the State of Maryland as a whole, so statewide data could not be included for comparison in this table.
(2) Employment data presented in this table represent the number of jobs located in each geographic area listed above and are not reflective of the number of employed persons residing in these areas.
(3) County data in this table is for the entire county, not the portion of the county within the study area.

Source: Metropolitan Washington Council of Governments. November 2011. Round 8.0A Cooperative Forecasting: Employment Forecasts to 2040 by Traffic Analysis Zone.

Table 4-13. Employment Projections by Employment Category and Geographic Area, 2010–2040

Geographic Area	2010 Baseline Employment (# of employees)				Projected Change by Employment Category, 2010-2040			
	Industrial	Retail	Office	Other	Industrial	Retail	Office	Other
Washington DC	63,893	86,811	452,268	182,816	67% (+42,810 emp.)	25% (+22,083 emp.)	19% (+85,818 emp.)	21% (+39,164 emp.)
Montgomery County	47,231	90,830	247,631	120,308	41% (+19,296 emp.)	24% (+21,750 emp.)	61% (+150,497 emp.)	21% (+25,457 emp.)
Bethesda	207	4,695	29,765	3,876	2% (+4 emp.)	12% (+573 emp.)	17% (+5,034 emp.)	4% (+135 emp.)
Chevy Chase	0	310	860	28,402	0% (+0 emp.)	131% (+407 emp.)	67% (+574 emp.)	19% (+5,518 emp.)
Rock Creek Forest/ Lyttonsville/ Rosemary Hills	1,372	50	77	1,891	1% (+18 emp.)	0% (+0 emp.)	5% (+4 emp.)	24% (+451 emp.)
Woodside	813	238	181	230	3% (+28 emp.)	3% (+8 emp.)	4% (+7 emp.)	3% (+7 emp.)
Silver Spring	1,129	6,923	25,666	2,730	3% (+31 emp.)	23% (+1,573 emp.)	24% (+6,125 emp.)	19% (+533 emp.)
East Silver Spring	26	426	126	733	0% (+0 emp.)	18% (+78 emp.)	618% (+778 emp.)	0% (+0 emp.)
Long Branch	2	30	52	590	0% (+0 emp.)	0% (+0 emp.)	0% (+0 emp.)	1% (+3 emp.)
Takoma Park	43	1,447	715	2,805	14% (+6 emp.)	25% (+365 emp.)	142% (+1,013 emp.)	-37% (-1,035 emp.)
Prince George's County	56,652	83,653	84,639	133,441	15% (+8,414 emp.)	36% (+30,228 emp.)	40% (+33,499 emp.)	33% (+44,109 emp.)
Langley Park	72	1,224	156	197	225% (+162 emp.)	217% (+2,657 emp.)	213% (+332 emp.)	217% (+428 emp.)
Lewisdale	52	645	239	524	42% (+22 emp.)	50% (+319 emp.)	34% (+82 emp.)	37% (+193 emp.)
Adelphi	136	371	206	686	15% (+20 emp.)	14% (+53 emp.)	8% (+17 emp.)	16% (+108 emp.)
College Park	1,410	2,125	1,649	17,646	37% (+518 emp.)	27% (+567 emp.)	36% (+597 emp.)	53% (+9,414 emp.)
Riverdale	1,627	2,443	4,798	4,517	46% (+745 emp.)	63% (+1,547 emp.)	77% (+3,696 emp.)	67% (+3,034 emp.)
Glenridge/Beacon Heights	130	1,477	343	456	30% (+39 emp.)	22% (+325 emp.)	28% (+95 emp.)	31% (+143 emp.)
New Carrollton	133	536	189	545	25% (+33 emp.)	4% (+19 emp.)	4% (+8 emp.)	30% (+162 emp.)
West Lanham Hills	3,472	6,441	4,509	6,034	36% (+1,246 emp.)	20% (+1,302 emp.)	51% (+2,309 emp.)	45% (+2,698 emp.)
Study Area	10,621	29,381	69,531	71,862	27% (+2,872 emp.)	33% (+9,793 emp.)	30% (+20,671 emp.)	30% (+21,792 emp.)

Notes:
(1) MWCOG does not publish data for the State of Maryland, so it could not be included for comparison.
(2) County data in this table is for the entire county, not the portion of the county within the study area.

Source: Metropolitan Washington Council of Governments. November 2011. Round 8.0A Cooperative Forecasting: Employment Forecasts to 2040 by Traffic Analysis Zone.

Income

Table 4-14 summarizes median household income in Montgomery and Prince George's Counties, Washington DC, and the state of Maryland. It shows annual income in inflation-adjusted 2012 dollars, to allow for appropriate comparison between time periods. Median household income in the two counties and a majority of study area neighborhoods decreased or remained flat over the decade from 1999-2010. This decline corresponded with a smaller decline at the state level.

A number of trends come together to affect household income. The lack of growth in the overall study area median income reflects both national and local economic trends. The 2007-2009 national recession likely contributed to the decline in household income for many residents of the study area. Locally, two demographic trends: 1) an influx of immigrants who tend to initially earn lower wages, and 2) a moderate rise in average population age (increasing the proportion of residents who rely on pensions and Social Security income instead of salary income), may have contributed to the lack of growth in median household income. In contrast, median household income rose in Washington DC between 1999 and 2010.

Table 4-14. Median Household Income, 1999–2010

Geographic Area	Median Household Income in 1999 (2012 $)	Median Household Income in 2010 (2012 $)	Percent Change, 1999–2010
Washington DC	$57,935	$61,780	7%
Maryland	$76,331	$74,575	-2%
Montgomery County	$103,305	$98,565	-5%
Bethesda	$105,339	$122,476	16%
Chevy Chase	$174,519	$174,484	0%
Rock Creek Forest/Lyttonsville/ Rosemary Hills	$95,095	$81,334	-14%
Woodside	$86,094	$90,032	5%
Silver Spring	$83,707	$82,079	-2%
East Silver Spring	$88,759	$78,645	-11%
Long Branch	$76,925	$90,722	18%
Takoma Park	$58,005	$65,973	14%
Prince George's County	$79,779	$75,222	-6%
Langley Park	$57,326	$53,439	-7%
Lewisdale	$78,593	$77,709	-1%
Adelphi	$63,734	$51,770	-19%
College Park	$78,689	$78,521	0%
Riverdale	$57,447	$57,744	1%
Glenridge/Beacon Heights	$65,882	$58,864	-11%
New Carrollton	$96,933	$72,524	-25%
West Lanham Hills	$54,026	$56,994	5%
Study Area	**$83,715**	**$83,762**	**0%**

Notes:
(1) Income data in the 2000 Census was collected based on respondents' prior 12-month income, or income in 1999.
(2) Median household income for each neighborhood is based on the average of the median household incomes for the census tracts within each neighborhood, weighted by the number of households for each census tract.
(3) County data in this table is for the entire county, not the portion of the county within the study area.
(4) The U.S. Census Bureau divided census tract 8059.01 into 8059.08 and 8059.09 and divided census tract 7055 into 7055.01 and 7055.02 between the 2000 and 2010 Decennial Censuses. Therefore, growth in employed persons possibly may be higher in the Adelphi and Bethesda neighborhoods than the results show.

Source: U.S. Census Bureau, 2000 Census, and 2010 American Community Survey.

Income declines were the steepest in the Adelphi, New Carrollton, Glenridge/Beacon Heights, East Silver Spring, and Rock Creek Forest/Lyttonsville/ Rosemary Hills neighborhoods. However, median household income increased in several study area neighborhoods. The greatest increases in median household income occurred in the Bethesda (16 percent), Long Branch (18 percent), and Takoma Park (14 percent) neighborhoods. The West Lanham Hills and Woodside neighborhoods also experienced modest gains in median household income.

4.5.3 Preferred Alternative

Long-term Operational Effects

The Preferred Alternative would foster employment growth in the study area both by supporting existing and future employment opportunities in the corridor, and also by creating new permanent jobs (the latter is discussed under "Employment, Earnings, and Output Effects" below).

Implementing the Preferred Alternative would support employment growth in both Montgomery and Prince George's Counties by providing faster, more direct, and more reliable east-west transit service between existing high density residential areas, regional shopping centers, and major employment centers in the corridor, such as Bethesda, Silver Spring, UMD in College Park, and New Carrollton, as well as other commercial areas, including Langley Park and Riverdale. By connecting directly with Metrorail and other public transportation services, the Preferred Alternative also improves connections not just within the corridor, but between the corridor and the other parts of the regional economy.

Long-term effects on business conditions resulting from the Preferred Alternative are anticipated to be positive. Increased transportation capacity and new/improved connections created by the Preferred Alternative would create competitive advantages for businesses in the study area by improving connections between businesses and their employees and customers. From the labor force perspective, the Preferred Alternative would improve connections for study area residents to access jobs and educational opportunities. In addition, the project is expected to support planned TOD at some station locations (see Section 4.2 and Chapter 7.0).

The industries, occupations, and major employers that dominate the study area are of the type that could take advantage of additional transit opportunities and may be influenced by transit access when selecting employment locations. The federal government, a major employer in the region and corridor, prioritizes access to public transit when locating new federal facilities as per *Executive Order 13514 Federal Leadership in Environmental, Energy and Economic Performance* (2009). The federal focus on site sustainability is echoed in the growing private sector demand for locations with Leadership in Energy and Environmental Design (LEED) certification. The Preferred Alternative can thus be expected to improve the study area's ability to retain existing employment and attract new employment opportunities.

To the extent that the Preferred Alternative creates and/or supports employment and educational opportunities, it would have a positive effect on the income of affected households in the study area.

Displace small businesses will have an impact of lost revenue to shop owners and tenants. As described in Section 4.4.1, MTA will work with all the displaced businesses under the precepts of the Uniform Relocation and Real Property Acquisitions Policies Act of 1970 to ensure that all eligible business are provided the full protection of the law. Benefits could include advisory services, moving and re-establishment costs.

Employment, Earnings, and Output Effects

Implementing the Preferred Alternative would create positive employment, earnings, and output effects to the regional and local economies. The overwhelming majority of operations and maintenance spending is expected to occur within the regional study area economy (defined as Montgomery and Prince George's Counties and Washington DC). Employment associated with operating and maintaining the Preferred Alternative would fall under the transit and ground passenger transportation industry sector. Table 4-15 shows the applicable regional multipliers and the

employment, earnings, and output effects from Preferred Alternative operations and maintenance expenditures. The multiplier effect for the transit and ground passenger transportation industry indicates that every million dollars of spending supports approximately 12 jobs in the study area economy.

Table 4-15. Regional Operations and Maintenance Jobs, Earnings, and Output Created Annually by the Preferred Alternative

Industry	# of Jobs[1]	Earnings (2012 $)	Output (2012 $)
Transit and Ground Passenger Transportation[1]	425	$9,165,000	$50,330,000

Note: Based on total O&M cost of $38.3 million over the No Build Alternative and BEA RIMS II Direct Effect Multipliers, 2011 (11.956 for employment; 0.2393 for earnings; 1.3141 for output). To calculate employment effects, O&M costs were deflated to 2008 using BLS price index (Series id: PCU482).
[1]One job is defined as a job for one person for one year.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, 2011.

Purple Line operations and maintenance expenditures ($38.3 million annually over the No Build Alternative) would result in 425 additional permanent jobs for the regional study area economy. This employment would support a $9.165 million annual increase in household earnings for the regional study area. This effect can also be expressed as a $50.33 million increase in regional output. Because the MWCOG employment projection model assumed construction of the Purple Line, these jobs are included in the study area employment projections, and would not be in addition to the MWCOG estimates shown in Table 4-12. The numbers in Table 4-15 reflect the difference between the No Build and the Preferred Alternative.

Tax Revenue Impacts

Table 4-16 shows the tax revenue effects resulting from the residential and commercial displacements related to the Preferred Alternative. A total of $294,300 in property tax revenue would be lost in Montgomery County, and $129,800 would be lost in Prince George's County once these properties are transferred to MTA ownership. These losses are small (0.02 percent) relative to the total tax base for the two counties, as is shown in Table 4-16. In addition, the Preferred Alternative has the potential to have a net positive effect on the tax base by increasing property values in the corridor (see Chapter 7.0). While the overall effect on a municipal scale is positive, on an individual scale there will be adverse impacts to some small businesses with lost earnings and lost wages.

Slight decreases in municipal tax revenue would also result from displacements related to the Preferred Alternative. The impact would be small relative to the tax bases of the study area municipalities. In addition, eight of the 16 study area neighborhoods would not experience any displacements. The largest number of residential displacements in a neighborhood (22) would occur in the Riverdale neighborhood.

The overall tax base in Riverdale Park is steadily growing due to the build-out of the M Square Research Park and will likely continue to grow with the 37-acre Cafritz future mixed-used development. The greatest value of commercial real estate would

Table 4-16. Tax Revenue Effects Resulting from Preferred Alternative Displacements

Region	2011–2012 Real Property Tax Rate (per $100 assessed value)	Reduction in Assessed Value due to Displacements	Change in Tax Revenue Resulting from Project Displacements	% of Total Projected 2011–2012 Property Tax Revenue
Montgomery County	0.713	-$41,277,400	-$294,300	0.02%
Prince George's County	0.960	-$13,525,000	-$129,800	0.02%
Total: Purple Line Study Area	n/a	-$54,802,400	-$424,100	0.02%

Note: The results presented are for the counties only; the tax loss to the municipalities is not quantified. Tax loss was calculated for full acquisitions (which result in displacements) only; partial acquisitions were not included in the analysis.

Source: Tax rates from Montgomery County Approved FY 2012 Operating Budget, Prince George's County Budget in Brief, FY 2012; tax revenue analysis by PL GEC. Analysis based on total tax revenues of $1.472 billion in Montgomery County, $721 million in Prince George's County, and $2,192 billion for the combined county region.

be displaced in Silver Spring and Takoma Park. However, these neighborhoods have large and diverse commercial tax bases. For these reasons, the immediate effect on municipal tax revenue is expected to be negligible, and the long-term effect is anticipated to be positive.

Local businesses that are displaced may choose to relocate within the same general area, minimizing the impact on the local tax base.

Avoidance and Minimization

MTA has worked to avoid or minimize property acquisition and displacement throughout the design and planning of the project. Recent design refinements such as the Lyttonsville Yard and Kenilworth Avenue are two areas where the number of commercial displacements was substantially reduced.

See Section 8.2.2 for a description of the Purple Line business outreach program and the activities conducted throughout the development of the project.

Minimization

No mitigation is warranted.

Short-term Construction Effects

Construction Impacts on Businesses

As described in Chapter 5.0, in selected areas of the corridor, temporary construction easements, lanes or road closures, or other property restrictions could have negative impacts to some businesses, thus negatively affecting the economy within the study area. Losses of parking and difficulty accessing businesses could deter customers and disrupt deliveries. Small businesses in particular could have difficulty withstanding the resulting loss of commerce. MTA is committed to supporting local businesses in the Purple Line corridor during construction. The Purple Line public outreach program includes a specific outreach effort to businesses. See Section 8.2.2 for more information on this program.

MTA will develop a Business Impact Minimization Plan to support small businesses in the corridor during construction. MTA is evaluating the experiences of other cities to minimize or mitigate impacts and will use the "best practices" to support local businesses as much as possible. The following strategies have been used successfully in other locales, and may be included in the Purple Line plan:

- Construction of the project in segments, to keep disruption to a small area at a time
- Maintaining access to business during construction both for customers and deliveries
- Maintaining or relocating bus stops
- Maintaining parking lot access
- Providing directional signage
- Developing "Open for Business" marketing and advertising tools for use during construction
- Promotion of corridor businesses through social media and the project website
- Construction hotline open 24/7

MTA has reached out to the Montgomery and Prince George's County Economic Development offices as well as CASA de Maryland to identify support services and resources available for small businesses. MTA will continue to coordinate with CASA de Maryland and other local business advocacy groups such as the Takoma Langley Crossroads Development Authority, and local Chambers of Commerce, and will continue to coordinate with the counties on how to facilitate use of these services and resources by Purple Line corridor businesses.

Most importantly, MTA will maintain open communication between the Purple Line public outreach team and local businesses, so business have no surprises and know who to call when they have questions or problems. As noted above, MTA coordination with affected commercial property owners has already started and will continue through project construction and implementation.

Employment and Output Effects from Capital Expenditures

The Purple Line will provide new employment opportunities in the project corridor, consisting mostly of short-term (construction) but some long-term (operations and maintenance) as well. MTA and the Maryland Department of Labor, Licensing and Regulation (DLLR) have identified the most common jobs that would be needed for the construction and operation of the Purple Line. They

have identified the skills and qualifications that workers would need for those jobs, and have compared that to the existing labor pool in the region. Where a shortage of particular workers exists, local job training and certification programs would be created. MTA and DLLR are in the process of identifying partners, i.e. labor unions, local workforce agencies, contractors, schools, and community-based organizations, in Montgomery and Prince George's Counties, with whom coordinated training efforts and pathways to employment can be developed.

The expenditures associated with the construction of the project would, like the ongoing O&M expenditures, impact jobs, earnings, and output in the regional study area (defined as Montgomery and Prince George's County and Washington DC). The economic impact of these capital expenditures to the region is dependent upon whether the goods and services in each spending category are produced locally. Two categories—general construction and professional services—are expected to be predominantly produced within the regional study area economy and would therefore affect local employment. Two cost categories—vehicles and right-of-way—were excluded from the Purple Line analysis because they would not cause an economic effect on the region. Light rail vehicles are not manufactured within the region and thus would not be purchased locally; right-of-way purchases do not involve the production of goods or services.

Table 4-17 shows the impacts of expenditures in construction and professional services (engineering) that would be required for the implementation of the Preferred Alternative. These impacts show the jobs, earnings, and output impacts within the regional study area, including direct, indirect, and induced effects.

In total, the construction of the Preferred Alternative would result in approximately 6,300 new person-years of employment in the regional study area over the approximate five-year construction period. These jobs are associated with the construction of the project and do not represent an ongoing change to regional employment. This new employment would result in a $334 million increase in household earnings for the regional study area. This effect can also be expressed as a $2.1 billion change in output, or the value of goods and services produced, for the regional study area.

Avoidance and Minimization

Where reasonably feasible, vacant or publicly owned property, rather than developed property, would be identified for temporary use during construction activities. In addition, project design and the construction staging plans are continuing to be developed to reduce economic and other impacts on the surrounding communities. These avoidance and minimization efforts are described in other parts of this document (e.g., Chapter 3.0 and Section 4.4). Some of the more relevant measures include the careful scheduling and staging of construction activities to reduce the duration of short-term impacts and the development of a Transportation Management Plan considering the needs of affected properties, which would be developed in consultation with affected property owners and businesses.

Mitigation

As described in Chapter 8.0 MTA has and will continue to coordinate with affected commercial property owners to identify strategies to minimize

Table 4-17. Regional Jobs, Earnings, and Output Created by Capital Expenditures of the Preferred Alternative

Industry	# of Jobs[1]	Earnings (2012 $)	Output (2012 $)
Construction	4,800	$235,039,000	1,539,613,000
Professional, Scientific and Technical Services	1,500	$89,600,000	485,300,000
Total	6,300	$324,639,000	$2,024,913,000

Note: These impacts are based on construction cost of $1,071 million and a professional services cost of $316 million, plus a 5% unallocated contingency for construction and a 2% unallocated contingency for professional services ($75 million and $22 million, respectively).
[1]One job is defined as a job for one person for one year. A job that lasts five years would equate to five jobs in this table.

Source: BEA 2011

the effects of temporary construction easements, lane or road closures, and other property restrictions on existing corridor businesses. MTA will implement a Business Impact Mitigation Plan as described in Section 4.19, Environmental Justice.

4.6 Parks, Recreational Land, and Open Space

This section describes the effect of the Preferred Alternative on parks, recreational land, and open space. Also discussed are minimization strategies MTA has taken to reduce effects on parks, recreational land, and open space, and mitigation measures MTA will undertake to offset impacts.

4.6.1 Regulatory Context and Methodology

The following regulations and guidance apply to parks, recreational land, and open space:

- **Section 6(f) of the U.S. Land and Water Conservation Fund (LWCF) Act of 1965 (16 USC 4601-4 to 4601-11, et seq.)**—regulates the use of parklands that were purchased or developed with LWCF funds.
- **U.S. Capper-Cramton Act of 1930**—authorizes funding for acquiring lands within Washington DC and the area immediately surrounding the Capital for the park and parkway system of the National Capital Region. It provides that "The development and administration thereof [lands acquired with funding under the Act] shall be under the Maryland National Capital Park and Planning Commission and in accordance with plans approved by the National Capital Park and Planning Commission." NCPC has interpreted this Act to mean that any proposed development within lands acquired with funding under the Capper-Cramton Act must be submitted to NCPC for review and to the M-NCPPC for review and approval. In the Purple Line project study area, this requirement applies to the following parks: Rock Creek Stream Valley Park, Sligo Creek Stream Valley Park, Northwest Branch Stream Valley Park, Paint Branch Stream Valley Park, and Anacostia River Stream Valley Park. In compliance with the Capper-Cramton Act, the NCPC would review the analysis of the impacts of the project to these stream valley parks, and the M-NCPPC would approve the analysis based upon the comments received from the NCPC. During their review of the AA/DEIS, the NCPC sent correspondence, dated January 16, 2009, informing FTA and MTA that it will consider the following factors when reviewing plans for development in these parks:
  - Conformance with the *Comprehensive Plan for the National Capital: Federal Elements*
  - Whether there is any federal transfer of properties, e.g., right-of-way acquisition from the National Park Service (NPS)
  - Approval of the alignment of the future extension of the Capital Crescent Trail
  - Impacts to water resources, including water quality, visual impacts, tree canopy removal, and ground disturbance
  - Impacts to wildlife habitat

The following additional regulations and guidance also apply to parks, recreational land, and open space in the study area:

- Maryland Department of Natural Resources (MDNR) Open Space Program
- Moving Ahead for Progress in the 21st Century Act (P.L. 112-141) (MAP-21)
- U.S. Department of the Interior, National Park Service Code of Federal Regulations 36 Parts 1 to 199- Parks, Forests, and Public Property

The following additional regulations and guidance also apply to parks, recreational land, and open space in the study area:

- MDNR Open Space Program: The MDNR's Program Open Space (POS) is a nationally recognized program that administers funds for the purchase and development of recreation areas and open space for public use. The conversion of land acquired or developed using POS funds requires the approval of the Secretary of MDNR, the Secretary of the Department of Budget and Fiscal Planning, and the Director of the Department of Planning. In addition, land conversion requires the replacement of the land used with land of at least equivalent area and of equal recreation or open space value.

- U.S. Department of the Interior, National Park Service Code of Federal Regulations 36 Parts 1 to 199—Parks, Forests, and Public Property, and

This assessment addresses parks and recreational resources owned or operated by M-NCPPC, the NPS, and the Town of Chevy Chase. No parks or recreational resources within the study area defined below are owned or operated by any other entities. Resources were identified using electronic data provided by M-NCPPC, NCPC, and NPS, through coordination with these agencies, and through field reconnaissance.

This assessment of impacts to parks, recreational lands, and open space resources has been coordinated with NCPC, M-NCPPC, and NPS; Appendix G includes correspondence from these agencies.

Section 4(f) of the U.S. Department of Transportation Act of 1966 requires the USDOT to demonstrate that no reasonable and feasible alternative exists to the use of property listed, or eligible for listing, on the National Register of Historic Places (NRHP) and of publicly-owned parks, recreational land, and wildlife or waterfowl refuges and to obtain concurrence from the U.S. Department of the Interior. See Chapter 6.0 for the Section 4(f) Evaluation for the Purple Line.

4.6.2 Affected Environment

The study area for assessing the impacts on parks, recreational land, and open space is a corridor of 500 feet on either side of the Preferred Alternative alignment. All resources within the study area have been evaluated to determine any direct or indirect impacts resulting from constructing or operating the project.

Twenty-five parks, recreational land, and open space resources are located within the study area. As the study area contains no properties purchased or developed using LWCF funding, Section 6(f) does not apply. The five stream valley parks (Rock Creek, Sligo Creek, Northwest Branch, Paint Branch, and Anacostia River) are subject to NCPC review and M-NCPPC review and approval under the Capper-Cramton Act.

MTA had a kickoff meeting with NCPC on February 22, 2012 regarding the Capper-Cramton Act funded parks within the study area. MTA held several additional meetings since that time to provide NCPC with updates for the proposed project and to receive input from NCPC. NCPC will have the opportunity to review and provide comments on the FEIS. As needed, additional coordination will occur between MTA and FTA and NCPC prior to finalizing the FEIS.

There are several different park categories within the proposed project area. While countywide parks serve all residents within Montgomery or Prince George's County, community use parks serve residents of surrounding communities. Parks are further classified as either recreational or conservation oriented. Following is a brief description of the types of parks found within the proposed project area:

- Stream valley parks are primarily countywide conservation-oriented parks that can be described as interconnected linear parks along major stream valleys that provide conservation and recreation areas. Stream valley parks vary in size and typically include hiker-biker trails, fishing, and picnic and playground areas.
- Local parks are community use parks that provide both programmed and unprogrammed recreational facilities. Local parks are typically approximately 15 acres in size and include facilities such as ball fields, play equipment, tennis and multi-use courts, sitting and picnic areas, shelters, buildings, and other facilities.
- Neighborhood parks are small community use parks, typically approximately 2.5 acres in size that provide informal recreation in residential areas. Facilities typically include a playground and fields, sitting areas, shelters, and tennis and multi-use courts.
- Urban parks are typically at least 0.1 acre in size and serve residents and workers from the surrounding area. These parks are designed for active recreation and include such facilities as athletic courts, playgrounds, or similar neighborhood recreational facilities.
- A parkway can typically be described as a broad, landscaped roadway that varies in

length. The recreational use of a parkway is typically driving.

The existing parks, recreational land, and open space resources are shown on Figure 4-3 and are described in Table 4-18.

4.6.3 Preferred Alternative

Long-Term Operational Effects

The Preferred Alternative would affect several parks, recreational lands, and open space resources adjacent to or crossed by the Preferred Alternative. The proposed project would improve some resources, e.g., by providing a direct connection between the Rock Creek National Recreational Trail and the Capital Crescent Trail.

For several park resources, the Preferred Alternative would require the permanent acquisition of strips of land immediately adjacent to existing roadways that would be widened along the boundaries of these resources. Such widening also generally would require removing trees.

The only developed facilities within parks that would be affected would be sitting areas, landscaped structures, artwork, decorative brick paving, and a parking lot within New Hampshire Estates Neighborhood Park. Access from major roadways to the Long Branch Community Center and Northwest Branch Stream Valley Park would be affected, with the new access being restricted to right-in/right-out, with no left turns into or out of these resources. Table 4-19 lists the affected resources and describes the nature of the project's impact.

NCPC Criteria for Approval

This section describes how the Preferred Alternative satisfies the NCPC's criteria for approval under the Capper-Cramton Act, identified in Section 4.6.1.

- **Conformance with the Comprehensive Plan for the National Capital: Federal Elements—** The Purple Line is generally consistent with the *Smart Growth and Sustainable Development Planning Principles* of the Comprehensive Plan as the Purple Line would improve mobility. In addition, as discussed in this FEIS the Purple Line would contribute to addressing poor air quality, alleviating traffic congestion, and increasing access to parkland.
- **Federal transfer of properties—**MTA would acquire 0.61 acre of land from the NPS to reconstruct the Baltimore-Washington Parkway bridges over Riverdale Road (Table 4-19). MTA is coordinating with NCPC and NPS regarding the design of the new bridges, right-of-way needs, as well as construction and operational elements of the Purple Line where it intersects the parkway.
- **Approval of the alignment of the future extension of the Capital Crescent Trail—**MTA is coordinating with NCPC regarding the proposed alignment of the Capital Crescent Trail, especially with regards to how it would traverse Rock Creek Stream Valley Park. Beginning in February 2012, MTA met with NCPC to present the proposed project, including the proposed transitway and trail bridges through Rock Creek Stream Valley Park. MTA's coordination with NCPC is ongoing.
- **Impacts to water resources—**NCPC requested that MTA assess project impacts to water resources in its parks. MTA has determined that through intended compliance with state stormwater management regulations and use of best management practices, the Purple line would have minimal effect on water resources in the parks. The assessment is provided in Section 4.14 of this FEIS.
- **Impacts to wildlife habitat—**NCPC requested that MTA assess potential impacts of the project to wildlife habitat in its parks. MTA has determined that through its use of existing roadway corridors crossing most parks, impacts to and particularly loss of wildlife habitat in parks from right-of-way acquisition would be minimized. The assessment is provided within Section 4.13 of this FEIS.

Avoidance and Minimization

MTA has adjusted the alignment and/or limits of disturbance of the Preferred Alternative in several locations in an effort to minimize impacts to the parks, recreational lands, and open space resources. For example, Montgomery County would convey

0.03 acres that it currently owns to the Sligo Valley Creek Stream Park to reduce the permanent land impacts within this park. In addition, the project would include drainage improvements and water quality facilities in four stream valley parks (Sligo Creek, Long Branch, Northwest Branch, and Anacostia River), Long Branch Local Park, and New Hampshire Estates Neighborhood Park.

Mitigation

MTA will continue to coordinate with the agencies having jurisdiction over the affected parks to develop appropriate mitigation strategies. MTA, through coordination with M-NCPPC, the NCPC, the NPS, and the public, will implement the following measures:

- Expand and upgrade facilities and plant trees in Glenridge Community Park, as well as convert 2.04 acres of land currently used for the Prince George's County Parks' Northern Area Maintenance—Glenridge Service Center either to parkland within Glenridge Community Park or to upgrade and expand athletic fields at the Glenridge Elementary School. This strategy will reduce the permanent land impacts within the park from 5.32 acres to 3.28 acres.
- Restore park properties that are disturbed as a result of construction activities to acceptable conditions through coordination with the park owners.
- Provide replacement parkland for all park impacts; the amount and location of replacement parkland will be determined by MTA in consultation with park owners.
- Coordinate selective tree clearing and identification of significant or champion trees with agencies having jurisdiction.

MTA will continue to coordinate with the agencies having jurisdiction over the affected parks to develop additional appropriate long-term minimization and mitigation.

Short-term Construction Effects

The construction phase of the Preferred Alternative would result in short-term impacts to several parks, recreational lands, and open space resources. These impacts generally involve MTA obtaining an easement to occupy a portion of the park property during construction to access the transitway work area, install temporary bridges in the case of the Baltimore-Washington Parkway, and install drainage pipes (see Chapter 5.0 for more detail on construction activities). Baltimore-Washington Parkway visitors using the exit ramps at Riverdale Road would experience a visual impact during construction as the temporary bridges would be located between the existing bridges and the exit ramps.

Parking and access would be temporarily affected at New Hampshire Estates Neighborhood Park. Other short-term impacts would occur to trails that would require temporary detours during construction to protect public safety. Table 4-19 summarizes these short-term effects by resource.

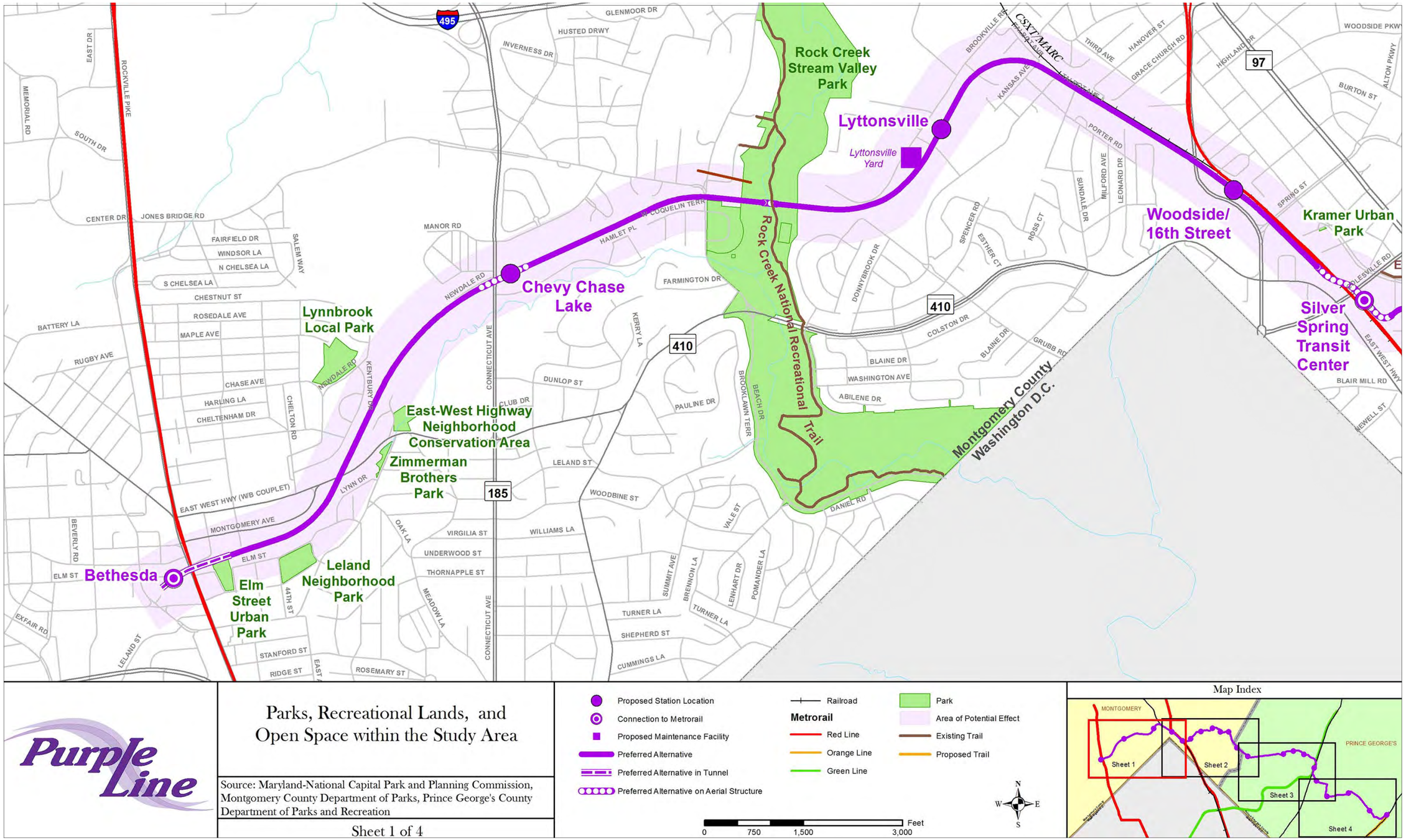
Avoidance and Minimization

MTA will continue to coordinate with the public and with the agencies having jurisdiction over the affected parks, to develop appropriate minimization strategies during construction, including advance public notice of planned activities and temporary changes in access. MTA will continue to coordinate with the agencies with jurisdiction for the duration of the proposed project, as appropriate.

Additional minimization efforts during construction will include the following:

- Roadway or sidewalk closures will be staged to maintain pedestrian and vehicular access.
- For trail detours needed during construction, MTA will coordinate with the agency having jurisdiction over the trail to identify and develop a plan for a temporary detour route; the trail routes will be restored at the end of construction.
- MTA will continue to coordinate with M-NCPPC and the NCPC regarding the design and construction of the Rock Creek Bridges and the trail connection to the Rock Creek Trail.

Figure 4-3. Parks, Recreational Lands, and Open Space within the Study Area



Purple Line

Parks, Recreational Lands, and Open Space within the Study Area

Source: Maryland-National Capital Park and Planning Commission, Montgomery County Department of Parks, Prince George's County Department of Parks and Recreation

Sheet 1 of 4

- Proposed Station Location
- Connection to Metrorail
- Proposed Maintenance Facility
- Preferred Alternative
- Preferred Alternative in Tunnel
- Preferred Alternative on Aerial Structure
- Railroad
- Metrorail
  - Red Line
  - Orange Line
  - Green Line
- Park
- Area of Potential Effect
- Existing Trail
- Proposed Trail

0 750 1,500 3,000 Feet

N W E S

Map Index

Figure 4-3. Parks, Recreational Lands, and Open Space within the Study Area (continued)

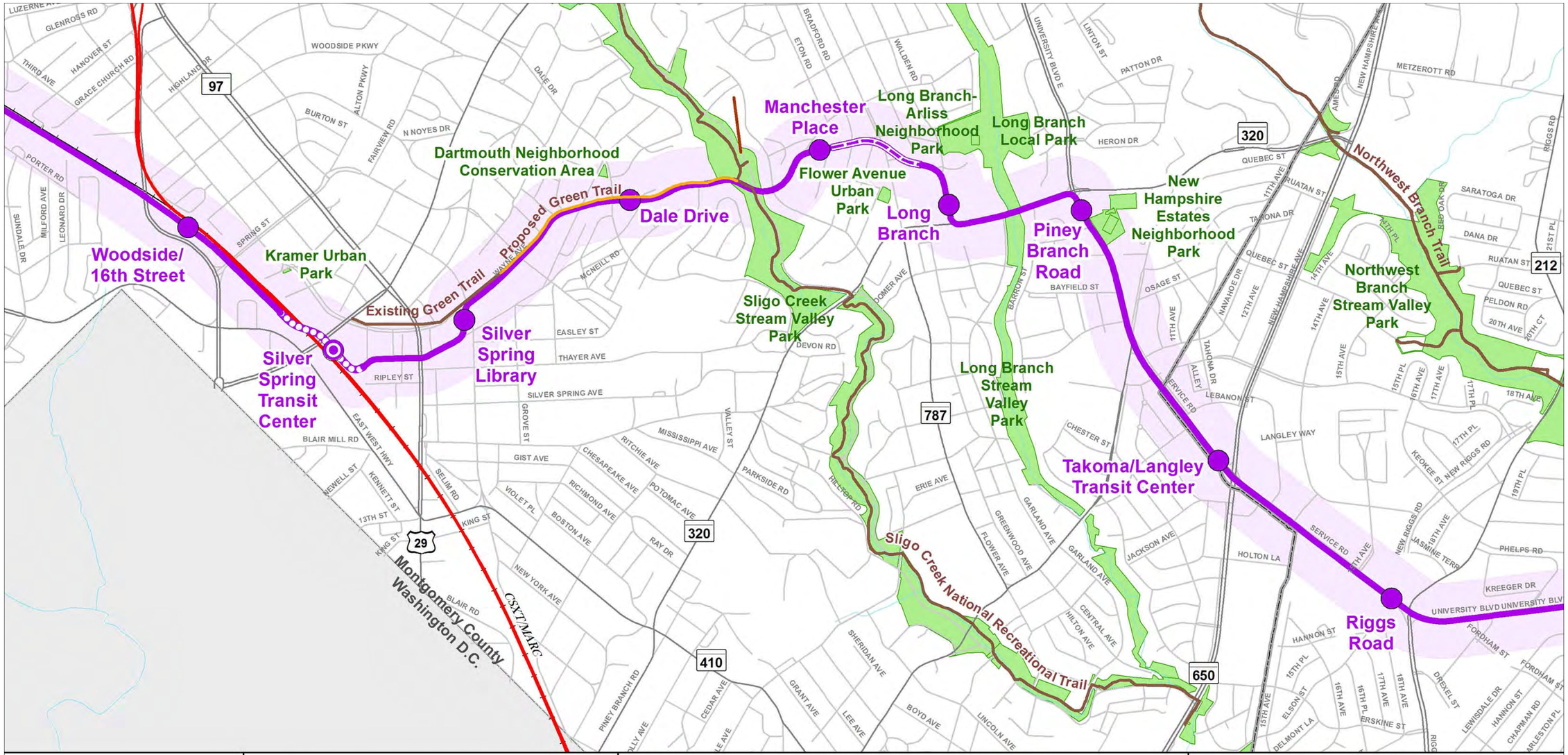


Figure 4-3. Parks, Recreational Lands, and Open Space within the Study Area (continued)

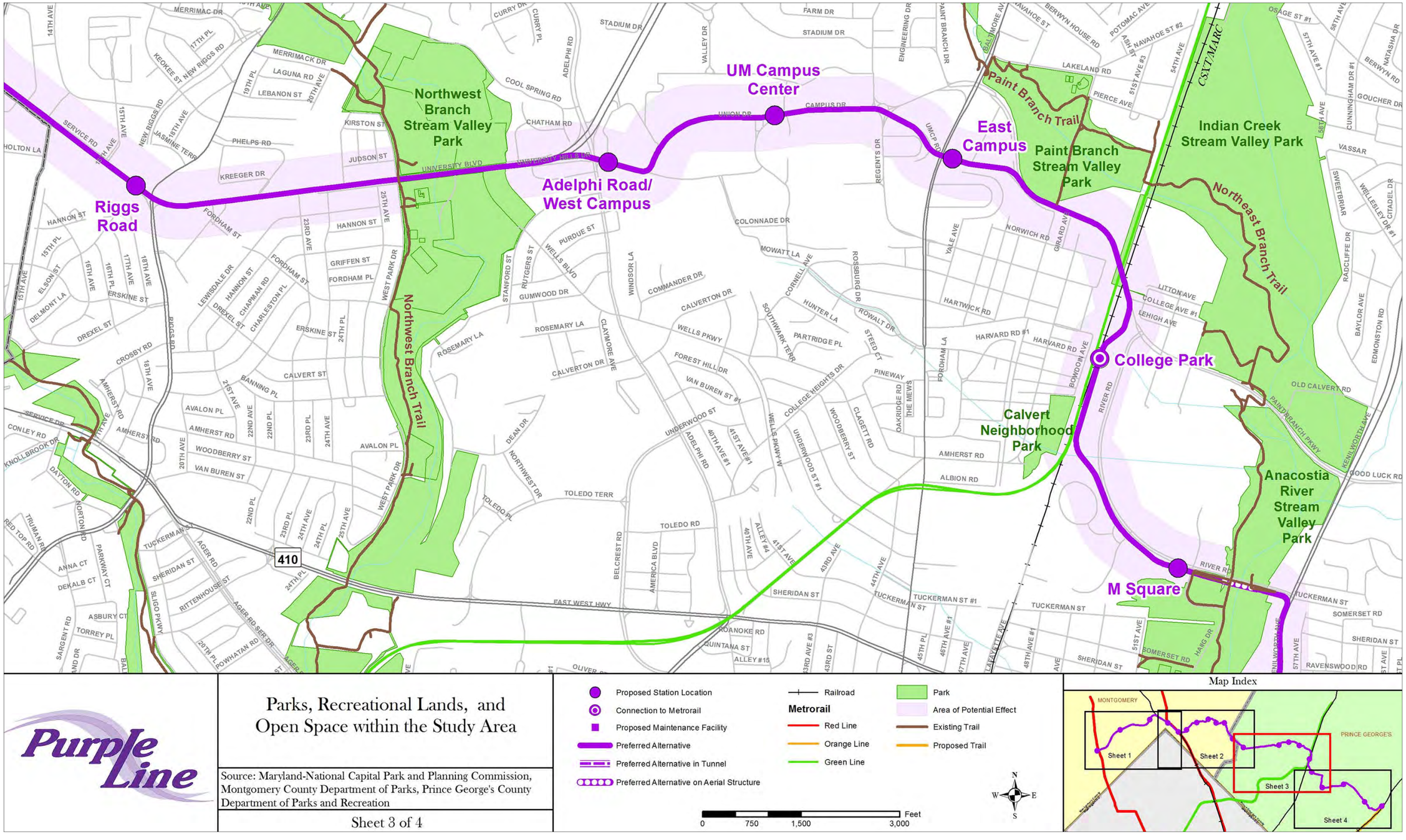


Figure 4-3. Parks, Recreational Lands, and Open Space within the Study Area (continued)

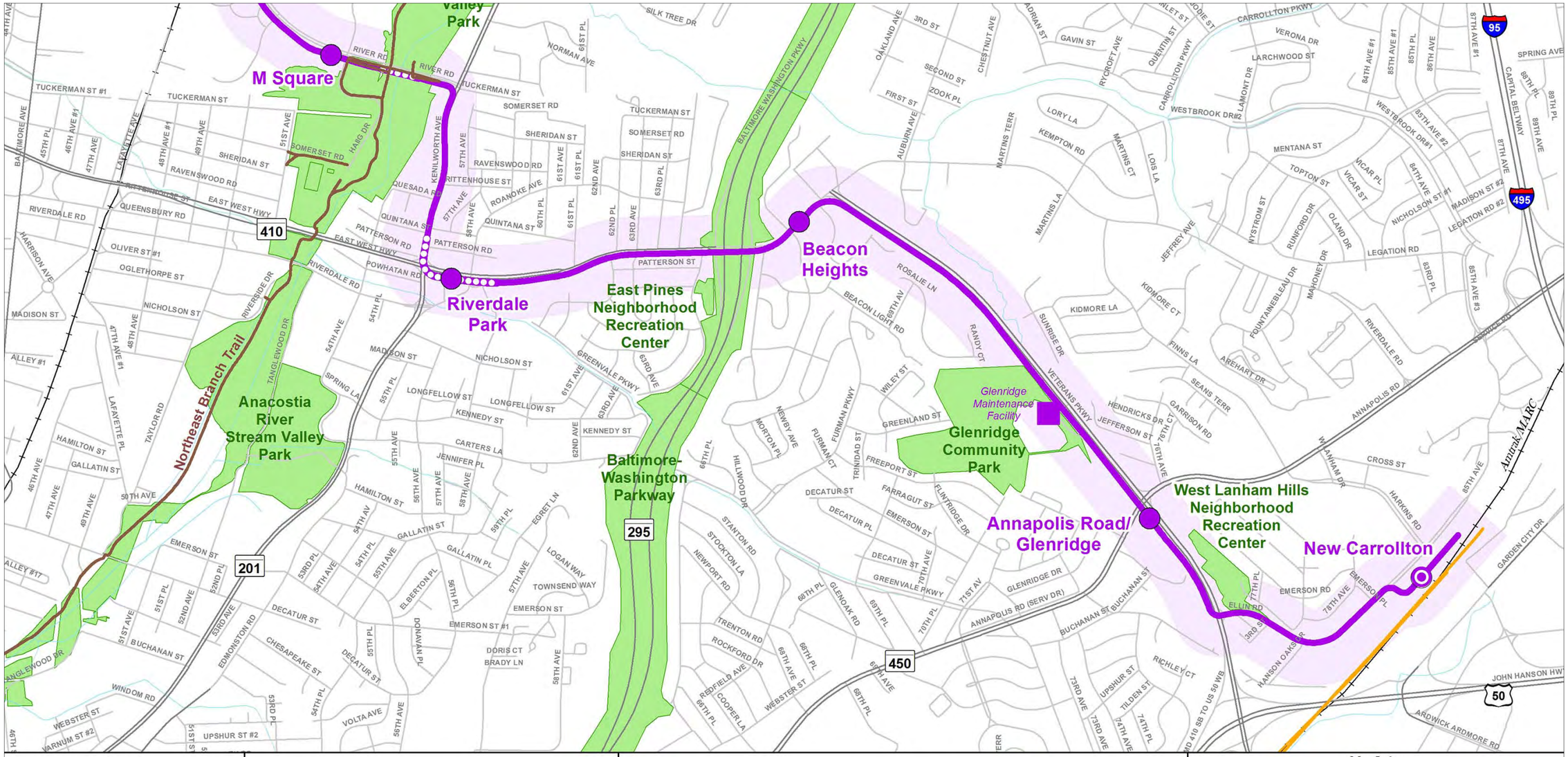


Table 4-18. Park Size, Location, and Description

Resource	Size	Owner	Location and Description
Elm Street Urban Park	2.1 acres	M-NCPPC	Urban park bounded by the Georgetown Branch ROW, 47th Street, Willow Lane, and 46th Street, south of transitway; includes playgrounds, a gazebo, several picnic tables, benches, trails, and public art. Reconstruction expected within the next few years.
Leland Neighborhood Park	3.7 acres	M-NCPPC	Neighborhood park bounded by Elm Street, Oakridge Avenue, Willow Lane, and 44th Street, south of transitway; includes a playground, a basketball court, two tennis courts, and a recreation center.
Zimmerman Brothers Park	1 acre	M-NCPPC	Local park bounded by East West Highway, Maple Avenue, Lynn Drive, and residential development, east of transitway; includes water spigots, landscaping, and a dog waste receptacle.
East West Highway Neighborhood Conservation Area	1.75 acres	M-NCPPC	Undeveloped neighborhood conservation area located to the east of Edgevale Street and north of East West Highway; east of the proposed alignment.
Lynbrook Local Park	5.8 acres	M-NCPPC	Local park bounded by Newdale Road, Kentbury Road, Rosedale Avenue, Maple Avenue, and Lynbrook Drive, west of transitway; includes playground, picnic, and softball and tennis facilities.
Rock Creek Stream Valley Park	3,960 acres	M-NCPPC	Stream valley park along Rock Creek from Olney-Laytonsville Road in Montgomery County to the Washington DC line, crossed by transitway; includes the Rock Creek National Recreational Trail and other trails, lakes, historic plantations, athletic fields, playgrounds, and picnic areas. This park is eligible for the NRHP. The park and trail were purchased and developed, in part, using the POS funds.
Kramer Urban Park	0.25 acres	M-NCPPC	Urban park located at 2nd Avenue and Fenwick Lane, east of the transitway; includes sitting areas.
Dartmouth Neighborhood Conservation Area	0.6 acres	M-NCPPC	Neighborhood conservation area located north of Wayne Ave., south of the Dartmouth Avenue-Dale Drive intersection, north of transitway.
Green Trail (existing)	0.4-mile trail	M-NCPPC	A shared use bicycle and pedestrian trail located between Colesville Road and Cedar Street, north of transitway.
Sligo Creek Stream Valley Park	543 acres	M-NCPPC	Stream valley park located along the Sligo Creek floodplain, crossed by transitway, consists of seven different units, which include Sligo Creek National Recreational Trail and a network of other trails, playgrounds, softball fields, tennis courts, natural areas, picnic amenities and the Sligo Creek Parkway, which is NRHP eligible.
Flower Avenue Urban Park	0.4 acres	M-NCPPC	Urban park located west of Flower Avenue and north of Piney Branch Road, south of transitway; includes a playground and picnic area.
Long Branch Stream Valley Park	41 acres	M-NCPPC	Stream valley park located along Long Branch Creek from Franklin Avenue to Piney Branch Road, abuts transitway along the park's northern border; includes playgrounds, athletic facilities, picnic areas, natural areas, and trails. The park was acquired, in part, using POS Funding.
Long Branch Arliss Neighborhood Park	6 acres	M-NCPPC	Neighborhood park located east of Walden Road and west of Long Branch Local Park, north of transitway; includes a playground, tennis courts, basketball courts, and a picnic area.
Long Branch Local Park	14 acres	M-NCPPC	Local park located along Piney Branch Road, abuts transitway along the park's southern border; includes a playground, softball field, multi-use field, tennis courts, and a picnic area. The park was purchased and developed using POS funds.
New Hampshire Estates Neighborhood Park	4.7 acres	M-NCPPC	Neighborhood park located along Piney Branch Road and University Boulevard; abuts transitway along its southeastern edge; includes playgrounds, athletic facilities, and picnic areas. Facilities within the park were developed, in part, using POS Funding.
Northwest Branch Stream Valley Park	510 acres	M-NCPPC	Stream valley park located along the Northwest Branch of the Anacostia River between Riggs Road and Adelphi Road, crossed by the transitway; includes playgrounds, the Lane Manor Community Recreation and Aquatic Center, the Adelphi Manor Community Recreation Center, and the University Hills Neighborhood Park. The park contains trails including the Northwest Branch Trail along the Northwest Branch of the Anacostia River, and it links the Anacostia River Tributary Trail System and Wheaton Regional Park. The park was purchased and developed using Capper-Cramton Act and POS funding.
Paint Branch Stream Valley Park	Over 1,000 acres	M-NCPPC	Stream valley park located west of Paint Branch Parkway and UMD, south of Lakeland Road, north of transitway; includes the Paint Branch Trail and other trails and athletic fields. The portion within study area is undeveloped. The park was purchased in part using POS Funds.
Indian Creek Stream Valley Park	70 acres	M-NCPPC	Stream valley park located along the Indian Creek Stream Valley, north of Paint Branch Parkway, east of transitway; includes trails, recreational amenities, and forested areas.

Table 4-18. Park Size, Location, and Description (continued)

Resource	Size	Owner	Location and Description
Calvert Neighborhood Park	9 acres	M-NCPPC	Neighborhood park located along the existing CSX corridor in College Park, south of Erskine Road and east of Dartmouth Avenue, west of transitway; includes a playground, basketball courts, a softball field, and wooded recreational areas.
Anacostia River Stream Valley Park	794 acres	M-NCPPC	Stream valley park located along the Anacostia River Stream Valley, crossed by transitway; includes numerous playgrounds, athletic fields, various courts, trails, Edmonston Neighborhood Recreation Center, and Riverdale Community Recreation Center. The park was purchased and developed using Capper-Cramton Act and POS funding. Part of the Anacostia Tributary Trail system, the Northeast Branch Trail runs northeast from Baltimore Avenue near Hyattsville to Lake Artemesia, crossed by transitway; two national bicycle routes, the American Discovery Trail and the East Coast Greenway, converge to create one trail in the vicinity of the proposed project area.
East Pines Neighborhood Recreation Center	2 acres	M-NCPPC	Neighborhood park located to the west of the Baltimore-Washington Parkway, south of Riverdale Road and east of Eastpine Drive, south of transitway; includes playground space, basketball courts, a tennis court, and a community center.
Baltimore-Washington Parkway	19 miles of NPS roadway	NPS	Parkway extending from the eastern border of Washington DC to US 40 in Baltimore, crossed by transitway. Designed as a defense highway and alternative commuter route, it is listed in the NRHP.
Glenridge Community Park	53.5 acres	M-NCPPC	Community park located west of Veterans Parkway and the transitway, adjacent to the M-NCPPC Northern Area Maintenance — Glenridge Service Center (site of the Glenridge Maintenance Facility; includes a playground, athletic fields, basketball courts, tennis courts, a trail network, shelters, and picnic areas). The purchase of land and construction of the facilities within the park were funded in part using POS Funds.
West Lanham Hills Neighborhood Recreation Center	9 acres	M-NCPPC	Neighborhood park located in Landover Hills, abuts transitway along Ellin Road, as well as along portions of the west side of the park; includes a playground, recreation center, basketball court, tennis court, trail, and picnic area. POS funds were used to develop the playground, tennis and basketball courts, trail, and picnic facilities.

Source: M-NCPPC Montgomery County Department of Parks, M-NCPPC Prince George's County Department of Parks and Recreation, and National Park Service.

Table 4-19. Long-term and Short-term Effects

Affected Resource	Long-term Effects	Short-term Effects
Elm Street Urban Park	No long-term effects.	A 0.02-acre temporary construction easement for a trail connection from the park to the Capital Crescent Trail.
Rock Creek Stream Valley Park	The project would provide a direct connection between the Rock Creek National Recreational Trail and the Capital Crescent Trail. Removal of trees from the existing county-owned right-of-way would be required, resulting in visual impacts to the park, including the alteration of views from the trail and of the trail from adjacent properties.	Temporary trail detour during bridge construction.
Sligo Creek Stream Valley Park	Acquisition of 0.24 acre north and south of Wayne Avenue for roadway widening; 0.03 acres of land currently owned by Montgomery County would be conveyed to the park for use as parkland. This would reduce the permanent land impacts within the park to 0.21 acres. Tree removal would be required for the realignment of Sligo Creek (see Section 4.13 for more details).	A 1.68-acre temporary construction easement for the bridge, drainage upgrades and stream realignment; vegetation removal for construction, grading, and access.
Long Branch Stream Valley Park	Acquisition of 0.11 acres to widen Piney Branch Road and reconstruct sidewalks; access would be changed to right-in/right-out only. Tree removal would be required for the roadway widening and drainage improvements.	A 0.36-acre temporary construction easement for grading, bridge construction and culvert extension; vegetation removal for construction, grading, and access.
Long Branch Local Park	Acquisition of 0.02 acres to widen Piney Branch Road and reconstruct sidewalks; access from Piney Branch Road would be changed to right-in/right-out only. Tree removal would be required for the roadway widening and drainage improvements.	A 0.28-acre temporary construction easement for grading, bridge construction and culvert extension; vegetation removal for construction, grading, and access.

Table 4-19. Long-term and Short-term Effects (continued)

Affected Resource	Long-term Effects	Short-term Effects
New Hampshire Estates Neighborhood Park	Acquisition of 0.20 acres to widen University Boulevard to accommodate the proposed transitway and construct the proposed Piney Branch Station at the intersection of University Boulevard and Piney Branch Road; impacts would occur to sitting areas adjacent to University Boulevard, a parking lot and some of the existing aesthetic features such as landscaped structures, artwork, and decorative bricks, would be removed.	A 0.35-acre temporary construction easement for grading associated with roadway widening and upgrading existing stormwater culvert; temporary change to parking and access.
Northwest Branch Stream Valley Park	Acquisition of a combined total of 0.80 acres north and south of University Boulevard for roadway widening; access to the park would be changed to right-in/right-out only, due to closure of the median openings on the University Boulevard between West Park Drive and Adelphi Road. Tree removal would be required for the roadway widening and drainage improvements.	A 3.45-acre temporary construction easement for drainage upgrades, bridge construction, and temporary stream diversion; temporary trail detour.
Anacostia River Stream Valley Park	Acquisition of 1.36 acres to accommodate transitway on the south side of River Road. Tree removal would be required for the roadway widening and drainage improvements.	A 2.58-acre temporary construction easement for staging and bridge construction; temporary trail detour during bridge construction; vegetation removal for construction, grading, and access.
Baltimore-Washington Parkway	Acquisition of 0.61 acres to accommodate transitway along Riverdale Road; replacement of the existing bridges with two longer structures and the replacement of the southern abutments. Minor tree removal would be required within the median of the parkway directly south of Riverdale Road for the lengthening of the parkway bridges.	A 6.72-acre temporary construction easement for bridge and transitway construction; temporary bridges; includes minor tree removal within the median of the parkway directly south of Riverdale Road for the lengthening of the parkway bridges.
Glenridge Community Park	Acquisition of 5.32 acres for the Glenridge Maintenance Facility and its connection to the transitway, requiring approximately 4.1 acres of tree removal within an existing forest conservation area to the west and south of the existing Northern Area Maintenance Yard; 2.04 acres of land currently owned by M-NCPPC and used as part of the Northern Area Maintenance Yard would be conveyed to the park for use as parkland, reducing the permanent land impacts within the park to 3.28 acres.	A 0.37-acre temporary construction easement for the Glenridge Maintenance Facility; includes tree removal and grading.
West Lanham Hills Neighborhood Recreation Center	No long-term effects.	A 0.08-acre temporary construction easement to replace an existing drainage culvert; includes grading existing channel.

4.7 Built Historic Properties

This section describes the effects of the Preferred Alternative on built historic properties, which include historic districts, sites, buildings, structures, and objects that are listed in or eligible for listing in the NRHP. It presents quantitative data regarding the presence of historic properties that are listed in, or eligible for, the NRHP, along with assessments of the Preferred Alternative's effects to these historic properties. Also discussed are minimization strategies MTA has taken to eliminate or reduce effects on historic properties, mitigation measures MTA would undertake to offset adverse effects, and the consultation MTA has undertaken with the affected property owners. Additional information regarding the effects assessment is presented in the *Purple Line Section 106 Assessment of Effects Report for Historic Properties*.

4.7.1 Regulatory Context and Methodology

Section 106 of the National Historic Preservation Act of 1966, as amended, (16 USC 470) requires federal agencies to consider the effects of their project undertakings on any district, site, building, structure, or object that is either listed in the NRHP or are eligible for listing. Section 106 also provides an opportunity for the Advisory Council on

Historic Preservation (ACHP) to comment on federal undertakings.[3]

Area of Potential Effects

The study area for historic properties is referred to as the Area of Potential Effects (APE). The APE defines the area within which the project would possibly directly or indirectly adversely affect historic properties (36 CFR 800.16(d)). For this project, the APE includes a 1,000-foot corridor centered on the Preferred Alternative alignment. This APE was established in consultation with the MHT in November 2011, which is the State Historic Preservation Office in Maryland. Built resources within the APE were assessed for NRHP eligibility. The APE is illustrated in the aforementioned Figure 13 of the *Purple Line Section 106 Assessment of Effects Report for Historic Properties*.

Section 106 Consultation

The guiding regulations, 36 CFR 800, provide the process to carry out Section 106 requirements including giving the State Historic Preservation Officer (SHPO), other consulting parties and the public the chance to comment on projects. The FTA and MTA have included the Montgomery and Prince George's County Historic Preservation Commissions in the planning process. They have been invited to participate in the Section 106 consulting party process and have been solicited for comments on the AA/DEIS and FEIS.

Under Section 106, federal agencies are required to provide the public with information about a proposed project and its effects on historic properties and to seek public comment and input. As required by Section 106, consulting and interested parties for historic properties in the Purple Line APE were identified. These parties were invited to discuss effects to historic properties and provide comments on the effects. MHT is a consulting party. FTA and MTA will coordinate with MHT and other consulting parties to develop appropriate mitigation measures for adverse effects to historic properties.

The public was initially provided with an opportunity to comment on the historic properties identification and evaluation process at three series of public open houses held in June 2006, December 2007, and May 2008. These were held in Bethesda, Silver Spring, Takoma/Langley Park, College Park, and New Carrollton. An environmental resources map showing all recorded historic properties (NRHP and Maryland Inventory of Historic Properties [MIHP]) was on display at each public meeting. In addition, a display board explaining Section 106 and the public involvement process was provided.

Beginning during the AA/DEIS and continuing during the FEIS, MTA invited consulting parties to participate in the Purple Line project Section 106 process. The consulting parties invited were the following:

- Anacostia Trails Heritage Area, Inc.*
- Columbia Country Club*
- Falkland Chase
- Friends of Sligo Creek
- Hawkins Lane Historic District*
- Heritage Tourism Alliance of Montgomery County
- Historic Takoma, Inc.*
- Hyattsville Preservation Association, Inc.*
- Lincoln Park Historical Foundation*
- Maryland Historical Trust*
- Maryland-National Capital Parks and Planning Commission, Montgomery County*
- Maryland-National Capital Parks and Planning Commission, Prince George's County*
- Montgomery County Historic Preservation Commission
- Montgomery Preservation, Inc.
- National Institutes of Health, Office of Communications and Public Liaison
- National Capital Planning Commission*
- National Park Service*
- North College Park Citizens Association*
- Old Town College Park Preservation Association
- Peerless Rockville Historic Preservation, Ltd.

[3] Applicable laws include Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA) (36 CFR 800), Section 101(b)(4) of the National Environmental Policy Act of 1969, Section 1(3) and 2(b) of Executive Order 11593, the Maryland Environmental Policies Act of 1973, and the Maryland Historical Trust (MHT) Act of 1985.

- Prince George's County Historical and Cultural Trust*
- Prince George's County Historic Preservation Commission
- Prince George's County Historical Society
- Prince George's Heritage, Inc.
- Redevelopment Authority of Prince George's County
- Riverdale Historical Society
- Rockville Historic District Commission
- Silver Spring Historical Society*
- University Hills Civic Association
- University of Maryland*

On March 9, 2012, a follow up letter was sent to all parties requesting confirmation of their continued interest. Those who responded (noted with an asterisk [*]) were provided information regarding planning for meetings.

A series of meetings with the public and the consulting parties has been initiated and a dialogue opened regarding historic properties, project effects, and mitigation measures to treat properties determined to be adversely affected. The first consulting party meeting took place on June 11, 2013 to discuss MHT's NRHP-eligibility determinations and the NRHP-listed resources within the study area. A subsequent consulting party meeting on August 8, 2013 discussed the Purple Line's effect on NRHP eligible or listed resources. The consulting parties will be invited to participate in the development of a programmatic agreement to address adverse effects to historic properties, which would be signed by MTA and the entities with jurisdiction over the affected properties.

A preliminary Draft Section 106 Programmatic Agreement for the Purple Line is included in this FEIS for review in accordance with 36 CFR Part 800.6, and is subject to change based on comments from the public and consulting parties. The preliminary Draft Section 106 Programmatic Agreement is provided in Appendix H of the FEIS. FTA will have an executed Programmatic Agreement prior to the Record of Decision.
In addition to the consulting party requests, in a letter dated February 20, 2013 FTA invited the following tribal organizations to consult on the on-going historic resource studies for the Purple Line project:

- Tuscarora Nation
- Shawnee Tribe
- Saint Regis Mohawk Tribe
- Delaware Tribe of Indians
- Onondaga Nation
- Oneida Indian Nation
- Eastern Shawnee Tribe
- The Delaware Nation
- Absentee-Shawnee Tribe of Oklahoma

These tribes were also invited to the consulting party meeting by telephone.

Identification of Properties

The Purple Line historic resources evaluations included efforts to identify previously identified and/or evaluated properties within the APE and field investigations to identify any previously unidentified resources more than 40 years of age within the corridor. In general, properties less than 50 years of age are presumed to be ineligible for the National Register, unless they possess exceptional importance. Assessments of properties for potential eligibility focus on properties that are reasonably expected to be 50 years of age or older at the time of construction. Because construction is expected to occur over a period of several years following completion of the environmental review process, the eligibility assessment include all resources 40 years of age or older at the time the assessment was performed. Efforts were designed to identify and evaluate all resources within the APE that meet the basic NRHP age threshold.

Once the APE was established for the Preferred Alternative, the properties identified in the AA/DEIS became the focus for additional research and evaluation. These properties had been identified using MHT databases, field reviews, and public input as noted above. The information from the AA/DEIS was presented in technical reports (*Architectural History Technical Report*, MTA, 2008; *Phase Ia Archeological Assessment Survey Technical Report*, MTA, 2008).

Architectural fieldwork and archival research on resources in the Purple Line corridor were completed from 2010 through 2012. The MTA

conducted additional data collection, archival research, and fieldwork, and then produced MHT Determination of Eligibility (DOE) forms for each historic property. The MTA also evaluated nine previously identified properties that had not been evaluated for NRHP eligibility and/or required an addendum form and 266 previously unidentified properties within the APE. In total, 278 architectural resources were evaluated for the Purple Line study.

Among properties re-evaluated are the Columbia Country Club, the University of Maryland, and the portion of the Baltimore-Washington Parkway traversed by the project. The properties were re-evaluated to assess the contributing and non-contributing elements in greater detail.

Additional information and correspondence related to the Section 106 process, including concurrence on the APE and DOE forms, is provided in Appendix G.

4.7.2 Affected Environment

Twelve historic properties within the APE were previously recorded and are either eligible for, or are listed in, the NRHP. The additional eleven properties identified through MTA's research bring the total number of historic properties eligible for, or listed in the NHRP within the APE to 23. These properties are shown on Figure 4-4 and described in Table 4-20 and are arranged geographically from west to east along the Preferred Alternative alignment.

4.7.3 Preferred Alternative

Effects Assessments

To assess the effects of a proposed project on historic properties, the criteria of adverse effect are applied to each resource studied (36 CFR 800.5(a)). Adverse effects occur when a proposed project undertaking alters, directly or indirectly, any characteristics that make a historic property eligible for the NRHP. Chapter 5.0 provides information on the anticipated construction activities for the Preferred Alternative. Alterations involve diminishing the integrity of location, design, setting, materials, workmanship, feeling, or association of the historic property. Adverse effects from a proposed project take into account reasonably foreseeable effects that occur later in time, are removed from the resource in distance, or are cumulative in nature.

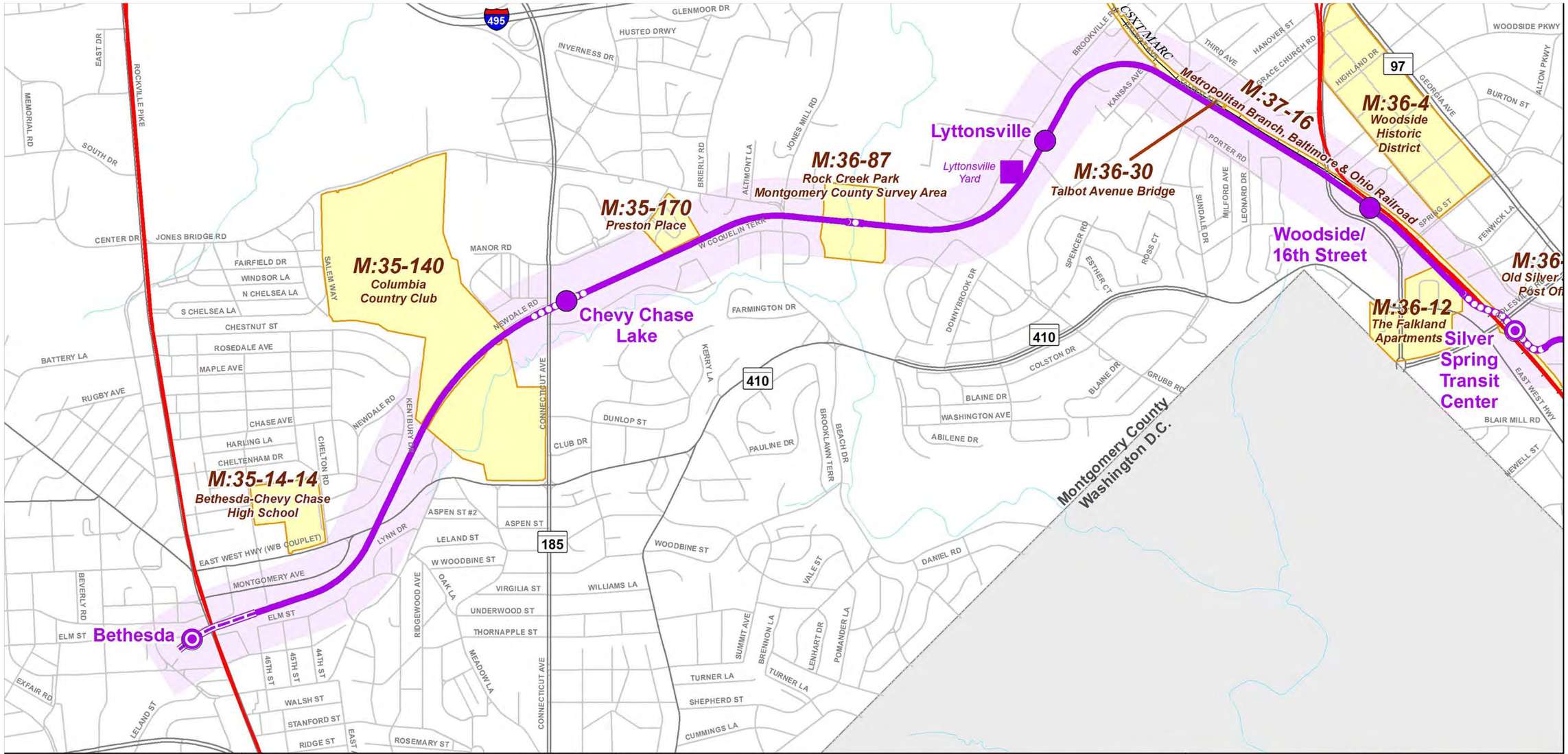
FTA has made preliminary effects findings for each of the eligible or listed historic properties summarized in Table 4-21. FTA is seeking input from the consulting parties and concurrence from MHT regarding these preliminary effects findings. The preliminary findings are included in the *Purple Line Section 106 Assessment of Effects on Historic Properties Report*.

Each historic property that had a finding of No Adverse Effect or Adverse Effect is described below, followed by a discussion of avoidance, minimization, and proposed mitigation measures. A programmatic agreement is being prepared that contains all of the minimization and mitigation commitments related to historic properties. A draft of the programmatic agreement is contained in Appendix H of this FEIS. Preliminary Section 106 mitigation concepts include:

- Prepare Historic American Buildings Survey/ Historic American Engineering Record documentation for the historic properties that will be demolished
- Prepare web-based map providing documentation and educational information on historic properties within the APE
- Develop an interpretive plan that will include historically themed signage or incorporation of historic images at stations
- Provide consulting parties with the opportunity to review and comment on project plans during engineering design phases
- Develop a plan to monitor impacts to historic properties during construction
- Continue coordination with consulting parties throughout design and construction

Potential noise and vibration effects of the project have been analyzed in Sections 4.11 and 4.12. None of the historic properties would be impacted by project-related noise or vibration; thus, those effects are not described individually below.

Figure 4-4. Maryland Historical Trust/National Register Eligible or Listed Properties



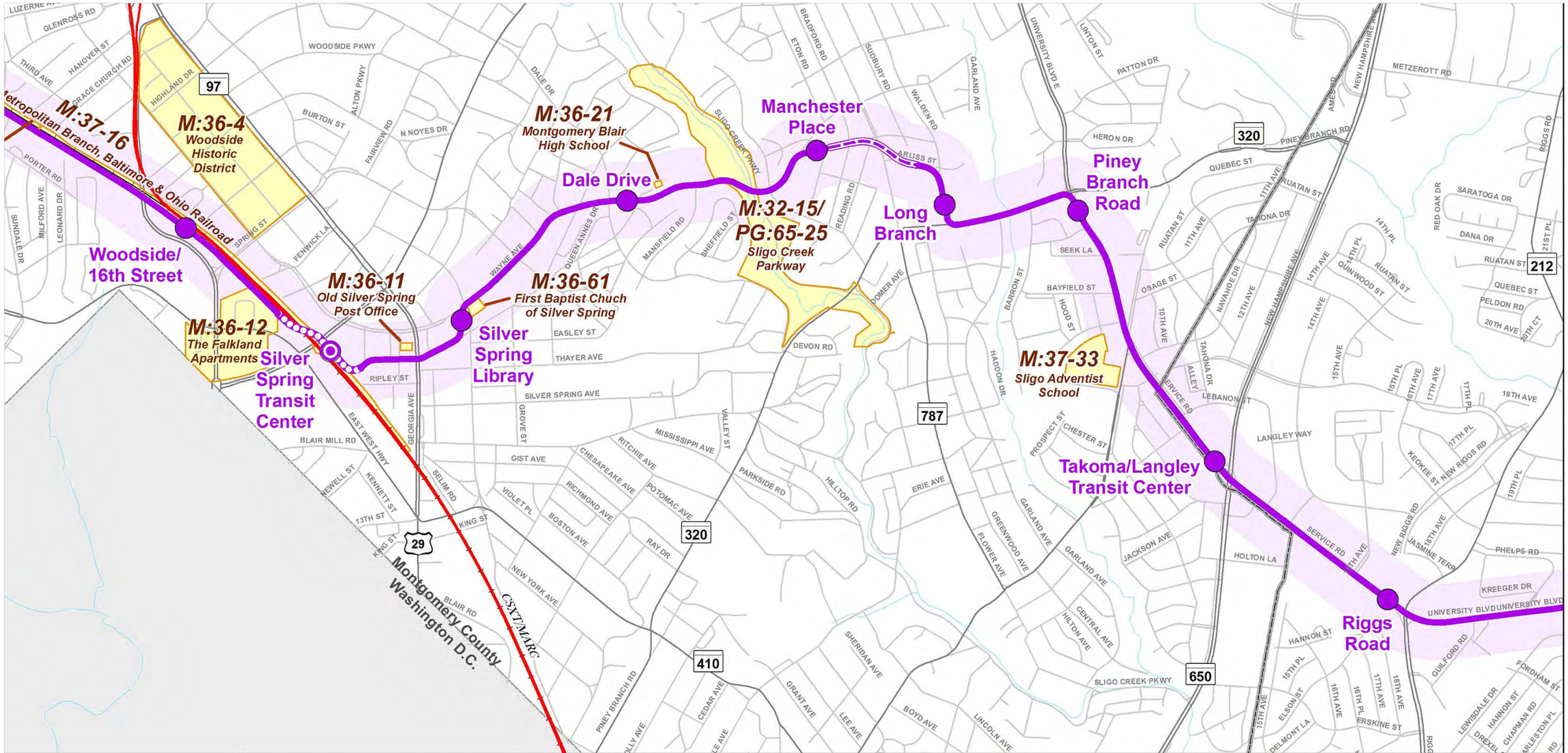
Purple Line

Maryland Historic Trust/National Register Eligible or Listed Properties

Source: Maryland Historical Trust, National Register of Historic Places

Sheet 1 of 4

Figure 4-4. Maryland Historical Trust/National Register Eligible or Listed Properties (continued)



Purple Line

Maryland Historic Trust/National Register Eligible or Listed Properties

Source: Maryland Historical Trust, National Register of Historic Places

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Proposed Station Location
Connection to Metrorail
Proposed Maintenance Facility
Preferred Alternative
Preferred Alternative in Tunnel
Preferred Alternative on Aerial Structure
Railroad
Metrorail
Red Line
Orange Line
Green Line
Eligible/Listed Properties
Area of Potential Effect
N W E S
0 750 1,500 3,000 Feet

Map Index

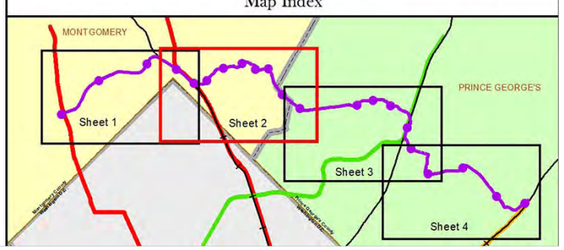


Figure 4-4. Maryland Historical Trust/National Register Eligible or Listed Properties (continued)

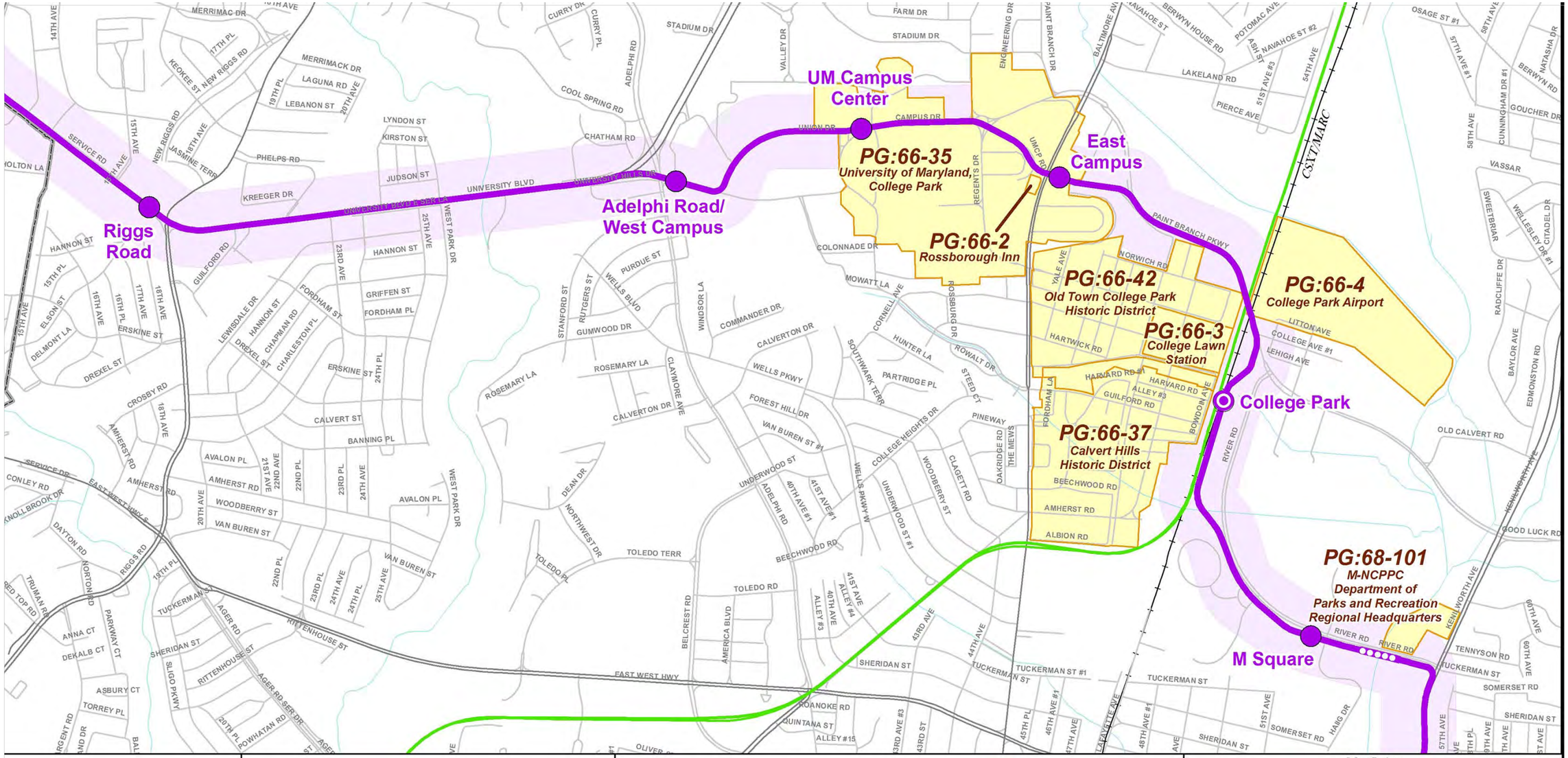


Figure 4-4. Maryland Historical Trust/National Register Eligible or Listed Properties (continued)

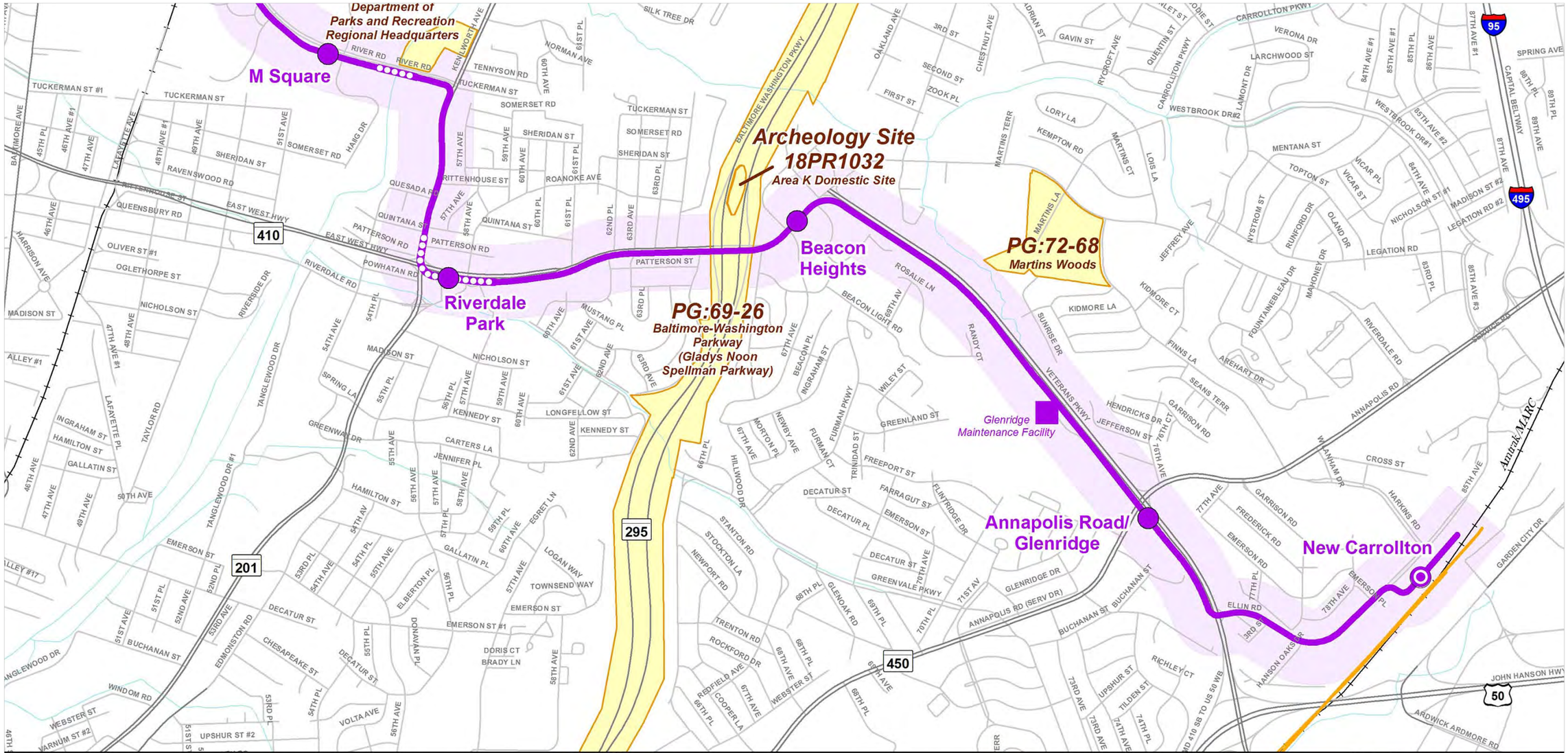


Table 4-20. Eligible/Listed Historic Properties within the Purple Line APE

Inventory #	Historic Property	Description	Eligibility & Applicable Criteria[1]
M: 35-14-14	Bethesda-Chevy Chase High School	The Colonial Revival civic structure was built circa 1935. Built to accommodate the increasing population of the intra-war period; it emulates contemporary civic structures. A separate Administration Building was built in 1952.	Eligible, A & C 10/2012
M: 35-140	Columbia Country Club	The golf course and club house were built in 1911. The course was reconfigured in 1917 to its basic current layout.	Eligible, A & C 11/2002 (11/2012)
M: 35-170	Preston Place	This multi-family residential neighborhood south of Manor Road is comprised of nine groupings of 67 residential units constructed in 1958. It was built to accommodate the growing post-war population and served as a model for other suburban townhome complexes in the Washington DC area.	Eligible, A & C 03/2012
M: 36-87	Rock Creek Park Montgomery County Survey Area	This Montgomery County portion of a nearly 4,000-acre park protects the watershed by preserving the natural landscape in an urban park; the Survey Area includes the creek, a trail and an athletic field.	Eligible, A 11/2012
M: 37-16	Metropolitan Branch, B&O Railroad	Constructed between 1866 and 1873 to carry passengers and goods, the line spurred growth along its 40-mile corridor. Although some features have been replaced or upgraded, new elements have retained the general configuration of the previous components.	Eligible, A & C 10/2000
M: 36-30	Talbot Avenue Bridge	The structure was built in 1918 to cross the Metropolitan Branch, and it contains most of the original elements of the three-span, single-lane metal girder bridge. It is a contributing element to the NRHP-eligible Metropolitan Branch B&O Railroad.	Eligible, C 04/2001
M: 36-4	Woodside Historic District	Benjamin Leighton created the Woodside neighborhood in 1899 primarily for commuters who worked in DC. Houses were constructed using popular turn-of-the-century architectural features and styles such as the Queen Anne, Colonial/Tudor Revival, and Craftsman/Bungalow. The bucolic, tree-lined streets and wide roads continue to lend a park-like atmosphere to the subdivision. The district is bounded by George Avenue, Second Avenue, Spring Street, and Grace Church Road in Silver Spring.	Eligible, A & C 06/1994
M: 36-12	The Falkland Apartments	One of the Federal Housing Administration's first projects, the complex was built in 1937 to accommodate the growing population. It consists of 450 residential units on 22 acres of land. The buildings, most of which include Colonial Revival decorative elements, are two- and three-stories tall, clad in brick, and decorated with a projecting cupola.	Eligible, C 08/1999
M: 36-11	Old Silver Spring Post Office	Built in 1935 under the guidance of the Works Progress Administration, this Colonial Revival Style building had several Beaux Arts decorative motifs. It ceased operation in 1981, and in 1997 it was converted for use as the Silver Spring Library.	Eligible, A & C 04/1981
M: 36-61	First Baptist Church of Silver Spring	The church property includes several contributing resources: a 1956 Modernist church designed by Ronald Senseman, a 1925 Colonial Revival former parsonage building, a 1950 temporary sanctuary, two 1930s bungalows, a playground, and parking lots. Founded in 1924, the church used the parsonage for all church-related events until the construction of the formal church building in 1956.	Eligible, C 09/2012
M: 36-21	Montgomery Blair High School	Constructed in the Colonial Revival style in 1934, it was modeled after the "Wren Building" at the College of William and Mary in Williamsburg, Virginia. Large additions were added to the rear elevation in 1951 and the 2000s, while the windows were replaced in 1984.	Eligible, C 09/1998
M: 32-15 PG:65-25	Sligo Creek Parkway	This resource includes both the parkway and the surrounding viewshed. The five-mile long, 300-foot-wide parkway property runs from University Boulevard in Silver Spring to New Hampshire Avenue in Takoma Park. Designed in the 1920s, the parkway includes a two-lane road and access to several recreational sites along the meandering road, including a golf course, playgrounds, and pedestrian paths. Many of the recreational components and associated infrastructure remain intact.	Eligible, A & C 10/2000

Table 4-20. Eligible/Listed Historic Properties within the Purple Line APE (continued)

Inventory #	Historic Property	Description	Eligibility & Applicable Criteria[1]
M: 37-33	Sligo Adventist School	The building was designed to replace several temporary facilities in 1964; the Adventists had established an elementary school in the area as early as 1917. The school site included elements such as linear massing, a blend of natural and modern components, a zigzag canopy, and articulated fenestration.	Eligible, A & C 08/2011
PG: 66-35	University of Maryland, College Park	The campus covers more than 1,250 acres, with the historic core surrounding McKeldin Mall. Established in 1856, a fire destroyed many of the original buildings. A rebuilding campaign in the early twentieth century embodied tenets of the Colonial Revival style, a theme maintained by many subsequently built campus buildings. The buildings are physically and spatially tied together by an extensive set of walkways and roadways.	Eligible, A & C 11/2012
PG: 66-2	Rossborough Inn	The inn was built in 1803 to cater to travelers along the Baltimore Turnpike (Route 1). The building and surrounding land were donated to the state in the 1850s for the creation of an agricultural college, and it has served as faculty housing, an agricultural experiment station, and an administrative office. The Federal style building was more than doubled in size during a 1930 expansion. The building is also contributing to the University of Maryland, College Park historic district.	Eligible, A & C 09/2012
PG: 66-42	Old Town College Park Historic District	Established in 1889 as a gridded subdivision, the district includes 32 blocks and 250 properties designed as a residential community for middle and upper class residents generally associated with the adjacent university. Homes range in size from small, one-story Bungalows to three-story, high-style homes built in the Queen Anne, Colonial Revival, Mission, and Art Moderne styles, among others. The district is bounded by UMD, Baltimore Avenue, Paint Branch Parkway, Columbia Avenue, and Calvert Road	Eligible, A & C 12/2012
PG: 66-4	College Park Airport	Founded in 1909, the airport is believed to be the world's oldest continually operating air facility. The grounds were leased by the U.S. Army to establish an airfield and training facility; Wilbur Wright was an early instructor. Although none of the original airport buildings exist today, the foundations of five wooden hangars are visible in the landscape.	Listed, A 09/1977
PG: 66-3	College Lawn Station	Located within the Old Town College Park historic district (as a contributing resource), this district is a small subset of residential development constructed during the late nineteenth and early twentieth centuries. The four-block area, which includes single-family homes and multi-family buildings, is bounded by College Avenue, CSXT Railroad, Calvert Road, and Rhode Island Avenue.	Eligible, A 09/12
PG: 66-37	Calvert Hills Historic District	The district is an early twentieth century planned subdivision which partially overlaps with the Old Town College Park Historic District. The Calvert family's Rossborough farm and Riversdale Plantation was platted out into hundreds of single-family lots between 1907 and 1921, with additional expansion after 1928. The district includes 375 properties along gridded streets lined with plantings and sidewalks. Architectural styles include Colonial Revival, Tudor Revival, and Craftsman; non-residential buildings include a school and a post office. The district is bounded by Calvert Road, Bowdoin Avenue, Erskine Road, Calvert Park, Albion Road, and Baltimore Avenue.	Listed, A & C 12/2002
PG: 68-101	M-NCPPC Dept. of Parks and Recreation Regional Headquarters	Situated on a 9.5-acre parcel, the M-NCPPC Regional Headquarters complex includes a main office building, surrounding parking areas, and a series of connecting trails. The Prince George's County headquarters is housed in a 1965 International-style structure on this site.	Eligible, C 03/2012
PG: 69-26	Baltimore-Washington Parkway (Gladys Noon Spellman Pkwy)	The central 19-mile segment of the parkway is owned and operated by the NPS. The roadway was designed in 1942 to standards that would facilitate war-time traffic associated with defense activities; its primary purpose upon completion was to alleviate commuter congestion. Comprising a divided highway with four wide travel lanes, tree-lined medians, and perimeter greenways, the parkway contains picturesque structural elements with decorative treatments. The bridges over Riverdale Road within the Purple Line APE were reconstructed in 1995 and are therefore not considered as contributing elements to the historic district.	Listed, A & C 05/1991 11/2012
18PR1032	Area K Domestic Site	This 2.7-acre site, located in the median of the Baltimore-Washington Parkway, was identified by a Phase I archeological survey in 2011. It is characterized by artifact scatter and the presence of concrete foundation remains dating from the late 19th Century through the early 20th Century.	Phase II Testing Needed, A&D

Table 4-20. Eligible/Listed Historic Properties within the Purple Line APE (continued)

Inventory #	Historic Property	Description	Eligibility & Applicable Criteria[1]
PG: 72-68	Martins Woods	This small, heavily wooded neighborhood was originally designed as the summer residence of Dean Martin, a U.S. Forest Service employee. Six wooden and one stone dwelling were built in the late 1930s and early 1940s to provide a purposeful connection to the natural environment for residents. The buildings embody the characteristics of a Rustic-style vernacular and are located along a long, curvilinear drive.	Eligible, C 06/2012

[1]Applicable Criteria: (A) properties that are associated with events that have made a significant contribution to the broad patterns of our history; (B) properties that are associated with the lives of persons significant in our past; (C) properties that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

Table 4-21. Summary of Effects to Eligible/Listed Historic Properties

Historic Property	Effect
Bethesda-Chevy Chase High School	No Effect; no direct or indirect impacts to this property
Columbia Country Club	No Adverse Effect; introduction of the overhead contact system and reintroduction of rail service primarily within county ROW; minor changes to the existing golf cart underpasses, greens and modification of the north side of the existing berm on which the former railroad operated; project would not compromise the ability of the resource to convey its significance.
Preston Place	No Adverse Effect; alteration of viewshed due to the overhead contact system
Rock Creek Park Montgomery County Survey Area	No Adverse Effect; introduction of two new bridges and the overhead contact system
Metropolitan Branch, B&O Railroad	**Adverse Effect**; removal of contributing element
Talbot Avenue Bridge	**Adverse Effect**; removal
Woodside Historic District	No Effect; no direct or indirect impacts to this property
The Falkland Apartments	**Adverse Effect**; demolition of contributing elements
Old Silver Spring Post Office	No Effect; no direct or indirect impacts to this property
First Baptist Church of Silver Spring	No Adverse Effect; introduction of the overhead contact system and physical elements
Montgomery Blair High School	No Adverse Effect; introduction of the overhead contact system
Sligo Creek Parkway	No Adverse Effect; introduction of the overhead contact system and physical elements
Sligo Adventist School	No Effect; no direct or indirect impacts to this property
University of Maryland, College Park,	No Adverse Effect; introduction of the overhead contact system and physical elements through the campus; project would not compromise the ability of the resource to convey its significance. Majority of improvements will be along existing roadways which have been altered over the past 25 years.
Rossborough Inn	No Adverse Effect; introduction of the overhead contact system
Old Town College Park Historic District	No Effect; no direct or indirect impacts to this property
College Park Airport	No Adverse Effect; the Preferred Alternative would be aligned in existing travel lanes on Paint Branch Parkway. The Parkway occupies a corner of the historic property, having been built in 1977 subsequent to the National Register listing and historic boundary definition. Paint Branch Parkway is not a contributing element to the historic property. MTA would not acquire the property the Preferred Alternative would occupy. The Preferred Alternative would not diminish the integrity of character-defining features that render the College Park Airport eligible for the NRHP.
College Lawn Station	No Effect; no direct or indirect impacts to this property
Calvert Hills Historic District	No Effect; no direct or indirect impacts to this property
M-NCPPC Dept. of Parks and Recreation Regional Headquarters	No Effect; no direct or indirect impacts to this property
Baltimore-Washington Parkway (Gladys Noon Spellman Pkwy)	No Adverse Effect; introduction of the overhead contact system and physical elements
Area K Domestic Site	No Effect; no direct or indirect impacts to this property
Martins Woods	No Effect; no direct or indirect impacts to this property

As a result of the effects assessments documentation, the FTA determined that there will be an adverse effect to three historic properties. The project was determined to have no effect to ten properties and no adverse effect to ten properties.

Based on the Section 106 effects assessments, the FTA determined that the proposed project would have an **Adverse Effect** on historic properties.

Columbia Country Club (No Adverse Effect)

The Columbia Country Club is located on two irregularly shaped parcels of land separated by the Georgetown Branch of the B&O Railroad (now occupied by the Georgetown Branch Interim Trail). The railroad predates the Columbia Country Club, having been completed in 1909 as a short freight line running between Silver Spring and Georgetown in Washington, DC. The Columbia Country Club was designed around the railroad.

The Columbia Country Club is an early 20th century golf course designed by noted architect Frederic Pyle and is Eligible under NRHP Criteria A and C. The alignment of the Preferred Alternative has been shifted slightly to the north outside the county-owned Georgetown Branch right-of-way. The right-of-way was previously determined not eligible for the NRHP on April 11, 2002 as the corridor was found to have lost integrity. The Georgetown Branch Interim Trail, which is located within the County-owned land, is enclosed by a chain link fence.

The Purple Line transitway (including its overhead contact system) and the Capital Crescent Trail would be primarily within the existing County right-of-way. No stations or other large-scale, above-ground elements are proposed where the corridor runs between the two parcels that comprise the Columbia Country Club.

Montgomery County, MTA, and the Columbia Country Club have agreed on the design of the Preferred Alternative through the Club. The Preferred Alternative minimizes impacts to the golf course facilities located within and adjacent to the county-owned right-of-way, including parts of Holes 14, 15, and 17, as well as landscaping, two existing cart tunnels under the right-of-way, and cart paths.

Consultation

Initially, MTA proposed the Preferred Alternative on an alignment centered in the County-owned right-of-way. In this configuration, MTA would not have had to acquire additional right-of-way from the Columbia Country Club to accommodate the transitway and trail. Because several greens and tees are located in the County-owned right-of-way, the project would have impacted golf course elements and landscaping on both sides of the existing trail. During extensive consultation between MTA and the Columbia Country Club, the Club expressed concerns about potential effects to the views from the clubhouse to the south. Consequently, the County, MTA, and the Club agreed to design modifications in this location, including a slight shift of the Preferred Alternative to the north. By making the shift, existing golf course elements (historic Holes 1, 15, 17, and 18) and landscaping in right-of-way on the south side fo the alignment would be preserved. On the north side of the right-of-way, the shift will require a relocation of Hole 14.

As part of building the Preferred Alternative, MTA would construct retaining walls along the right-of-way to minimize the limits of project disturbance from construction. To overcome the large difference in elevation, MTA will construct a series of shorter walls in a terraced configuration along part of the north side of the alignment. In many places, 4-foot high solid parapet noise panels would be installed. MTA is coordinating with the Club regarding the re-design of the green at Hole 14; this minor change would not diminish the characteristics that render the hole a contributing element.

Preliminary Finding of Effect

The reintroduction of rail service in the former railroad right-of-way would create an effect but would not diminish the integrity of the historic property and would not constitute an adverse effect. The project elements to be within the county-owned right-of-way and within the boundary of the Club property are relatively minor; close consultation with the property owner has led to an agreed-upon context sensitive design.

In summary, although the Preferred Alternative would introduce new elements into the landscape, within the historic property boundary, these

changes would not alter the Columbia Country Club's historic integrity related to location, design, setting, materials, workmanship, feeling, and association. The resource would retain its integrity and ability to convey its significance. The property would remain intact with its early 20th century clubhouse, panoramic views, and historic course layout. The Preferred Alternative would have no adverse effect on the Columbia Country Club.

Preston Place (No Adverse Effect)

Preston Place is eligible under NRHP Criteria A and C. Although the Preston Place property is adjacent to the Preferred Alternative, a rail corridor had existed there for over 50 years prior to the construction of these dwellings. Therefore, while the Preferred Alternative would alter the setting and feeling of the viewshed from the historic property, it would not diminish the characteristics that render the Preston Place property eligible for the NRHP. The Preferred Alternative would have no adverse effect on Preston Place.

Rock Creek Park Montgomery County Survey Area (No Adverse Effect)

The Rock Creek Park Montgomery County Survey Area is eligible under NRHP Criterion A. To satisfy Section 106 requirements for identifying and assessing the effects of this project, only the area of the park within the APE was evaluated rather than the entire Rock Creek Park. The proposed transitway and Capital Crescent Trail would be aligned within the existing county-owned right-of-way, which is the non-eligible Georgetown Branch rail corridor. In 2002, the MHT determined that the Georgetown Branch of the B&O Railroad was not eligible for the NRHP because its historic integrity had been compromised. The new elements would be entirely within the former rail corridor. While the Preferred Alternative would introduce new visual elements (i.e., the transitway including its overhead contact system, the Capital Crescent Trail, and the bridges carrying the transitway and the trail across Rock Creek), it would not diminish the park's location, design, setting, materials, workmanship, feeling, or association. Therefore, the Preferred Alternative would have no adverse effect on the Rock Creek Park Montgomery County Survey Area.

Metropolitan Branch of the B&O Railroad (Adverse Effect)

The Metropolitan Branch of the B&O Railroad is eligible under NRHP Criteria A and C. The project includes two elements that would affect the resource: a portion of the right-of-way would be acquired for the Preferred Alternative and trail, and the Talbot Avenue Bridge would be removed and replaced.

A portion of the Preferred Alternative and trail would be located within the CSXT right-of-way, impacting approximately 1.83 acres of the historic resource. The impacted land area is primarily ballast track bed with no aboveground railroad infrastructure.

Removal of the historic Talbot Avenue Bridge[4], a contributing element to the Metropolitan Branch of the B&O Railroad, would alter the integrity of this historic property by diminishing the property's design, setting, materials, workmanship, feeling and association. The removal of bridge would render the bridge no longer eligible for the NRHP. Because Preferred Alternative would require removing the contributing Talbot Avenue Bridge, the project would have an adverse effect on the Metropolitan Branch of the B&O Railroad.

Talbot Avenue Bridge (Adverse Effect)

Talbot Avenue Bridge is eligible under NRHP Criterion C. The bridge would be removed as part of the Purple Line project. It is representative of the industrial modifications that occurred along the rail system in the first quarter of the twentieth century. The modifications were typically associated with improvements in technology related to both materials and structural components. Removal of the bridge would render it no longer eligible for the NRHP as an individual property as it would remove all integrity of location, design, setting, materials, workmanship, feeling, and association. The Preferred Alternative would have an adverse effect on the Talbot Avenue Bridge.

[4] It should be noted that Talbot Avenue Bridge, is both individually eligible for the NRHP and eligible as a contributing element within the Metropolitan Branch of the B&O Railroad historic property. Impacts are assessed to the property first as a contributing element, and second as an individual historic property.

Falkland Apartments (Adverse Effect)

The Falkland Apartments is eligible under NRHP Criterion C. The northeastern boundary of the Falkland Apartments complex overlaps the Preferred Alternative limit of disturbance. Two sections of two apartment buildings and surrounding lands, identified as contributing elements to the historic property, would be demolished to implement the Preferred Alternative. In addition, parking areas within the historic property boundary would be removed from the apartment complex to incorporate the land into the project. Demolition of portions of the historic property would diminish its design, setting, materials, workmanship, feeling and association. The Preferred Alternative would have an adverse effect on The Falkland Apartments.

First Baptist Church of Silver Spring (No Adverse Effect)

The First Baptist Church of Silver Spring is eligible under NRHP Criterion C. The Preferred Alternative would be located in the center of Wayne Avenue, which is bounded by sidewalks and lined with above-ground utilities. The transitway would be a new element within the viewshed of the historic Church property; however, as a transportation use, the Preferred Alternative would not be a visual departure from other transportation-related elements and utilities already in the viewshed. This alteration would not diminish the church's location, design, setting, materials, workmanship, feeling, or association. The Preferred Alternative would have no adverse effect on the First Baptist Church of Silver Spring.

Montgomery Blair High School (No Adverse Effect)

The Montgomery Blair High School is eligible under NRHP Criterion C. The Preferred Alternative would be located in the center of Wayne Avenue in the vicinity of the building. MTA would relocate the existing driveway to the school and redesign the school's parking lot, west of the building to enable roadway widening to accommodate the transitway. The driveway and parking lot modifications would occur well outside of the boundary of the property and would not detract from the significance of the resource.

The introduction of the Preferred Alternative in the center of Wayne Avenue would not impact the characteristics that make the Montgomery Blair High School significant. The school's viewshed has previously been modified by the addition of non-contributing elements associated with the building (most notably, building additions and parking lots). Additionally, Wayne Avenue contains a variety of modern transportation-related elements. Finally, there are currently many above-ground transmission lines, cable lines, and electrical lines carried on poles along both sides of Wayne Avenue in front of the building, adding visual clutter to the setting. Due to all of these existing setting characteristics, the Preferred Alternative would not diminish the characteristics that render the historic property eligible for the NRHP. The Preferred Alternative would have no adverse effect on the Montgomery Blair High School.

Sligo Creek Parkway (No Adverse Effect)

The Sligo Creek Parkway is eligible under NRHP Criteria A and C. The Preferred Alternative would be located on Wayne Avenue through Sligo Creek Park, crossing the Sligo Creek Parkway at grade. The Preferred Alternative would include the overhead contact system, but no other associated aboveground elements would be visible from the historic parkway. The current setting is mature trees and shrubs; no significant viewsheds are present either toward the crossing or from the crossing to the north or south. The bridge carrying Wayne Avenue over Sligo Creek was reconstructed in 2004 and is not a contributing element. While the proposed overhead contact system would be a minor change to the viewshed to and from the parkway, the transitway would not diminish the characteristics that render the Sligo Creek Parkway eligible for the NRHP. The Preferred Alternative would have no adverse effect on Sligo Creek Parkway.

University of Maryland, College Park (No Adverse Effect)

The district is significant under NRHP Criterion A for its role in the development of higher education and agriculture in Maryland and NRHP Criterion C for its collection of Colonial Revival and Georgian Revival collegiate buildings. The period of significance of the historic district is from 1856 to 1961. The Preferred Alternative would cross through a portion of the NRHP-eligible historic district boundaries. Within the APE of the project, there are

38 contributing resources and 25 non-contributing resources to the district.

Stations within the District

MTA planned the Purple Line in consultation with UMD officials to provide access to the center of the UMD campus for students, faculty, and campus visitors. Two transit stations are proposed within the historic district.

Campus Center station would be toward the western end of the district on Campus Drive near the Cole Student Activities Building. It would have a side platform configuration and. would generally occupy the existing Campus Drive footprint, with minor widening, to the east of the Cole Student Activities Building., Cole Student Activities Building is a contributing resource within the district. The station would be at grade; the platform and shelter would not detract from the contributing status of the property, or from the Historic District as a whole. At this location, Campus Drive currently has two through travel lanes, a parking lane on the south side, and a bus pull-out with bus shelters on the north side of Campus Drive. All of the contributing buildings in the vicinity of Campus Center station are set well back from the road. The station in this location would not have an adverse effect on any of the contributing buildings in this vicinity or on the historic district as a whole.

East Campus station would be built along Rossborough Drive, east of US 1. The station would consist of an at-grade platform and shelter along the roadway. Rossborough Drive in this location has three travel lanes, a concrete sidewalk along the north side of the road, and a narrow island, concrete walkway, and parking lot along the south side of the road. Given the existing transportation features of Rossborough Drive and its surroundings, as well as the minimal elements of the station, East Campus station would not diminish the characteristics that make the district or its contributing elements eligible for the NRHP. East Campus station would have no adverse effect on the elements of the district or the historic district as a whole.

Transitway within the District

The Preferred Alternative transitway would be a new transportation element crossing through the historic district. However, the transitway would run primarily within existing roadways within the western two-thirds of the district, on Campus Drive and Union Drive, both of which have been upgraded and widened during the late 20th century. Additional modifications to the roadways have included new sidewalks, street furniture, modern lighting, bus pull outs, and planting and landscaping. The introduction of the transitway along these existing streets would not create any adverse effects to the historic district as it is a continuation of transportation use along these routes. The introduction of the overhead contact system along these routes would be a new visual element, but there are currently modern street lights, signage, and bus shelters along the roads, which are all modern elements. The introduction of the overhead contact system would be a change, but would not be an adverse effect.

The transitway would cross the modern traffic circle at Regents Drive before traversing a small portion of lawn to the north of the Eppley Recreation Center, and then continuing eastward, adjacent to a modern parking lot, to US 1. The transitway would cross over US 1 along Rossborough Drive between the two contributing buildings as well as large modern parking lots. In consultation with UMD officials, MTA integrated the Preferred Alternative into the campus and aligned it primarily on existing roadways and other non-contributing elements. As a result, the transitway would not diminish the characteristics that make the district or its contributing elements eligible for the NRHP.

No contributing buildings would be impacted by the Preferred Alternative. Small portions of open land would be crossed by the Preferred Alternative, but these areas were undeveloped through the 1960s and post-date the district's period of significance. Overall, the Preferred Alternative would be a new element crossing through the historic district, creating an effect, but the project would not create impacts that would substantially diminish the resource's integrity of design, setting, workmanship, feeling, and association. All elements that make the

University of Maryland, College Park, Historic District eligible, including its buildings, overall layout, and contributing historic open spaces, would remain intact and the district would retain its integrity and ability to convey its significance. The Preferred Alternative would have no adverse effect on the University of Maryland, College Park Historic District.

Rossborough Inn (No Adverse Effect)

The Rossborough Inn is eligible under NRHP Criteria A and C. It is historically associated with adjacent transportation facilities since the building was originally erected in 1803 as a roadside tavern. Over the years, the original roadway (US 1) to which the inn is oriented has been widened, while the area around the historic inn has developed from a rural enclave to an educational campus, and ultimately to what is now a suburban corridor. The proposed transitway would be on the roadway on the north side of the inn, in an area where a roadway, a parking lot, and other modern transportation-related elements already exist. While the proposed project would add the transitway and an overhead contact system, no other above-ground, project-related changes are proposed. The setting adjacent to the inn has been heavily altered, and the construction of the transitway would not change any of the characteristics that make the resource eligible for the NRHP. The Preferred Alternative would have no adverse effect on the Rossborough Inn.

College Park Airport (No Adverse Effect)

Founded in 1909, College Park Airport claims to be the world's oldest continually operating airport. The grounds on which the airport stands were leased by the U.S. Army in 1909 for the establishment of an inaugural airfield for this portion of the country. The airport also offered flight instructions to local individuals. One of the first instructors was aviation pioneer Wilbur Wright, who achieved fame with his brother at Kitty Hawk, North Carolina, a decade earlier. Although none of the original airport buildings is extant, the foundations of five wooden hangars are still in existence. One of these was later reused as the underpinning of a maintenance building. This structure now houses an aviation museum. Because of its notable association with aviation history, the College Park Airport was listed in the NRHP in 1977 under Criterion A.

The Preferred Alternative would run to the west of the airport and will be located on a portion of the historic property, where the alignment barely clips the historic property boundary. In this area, the line runs on Paint Branch Parkway, an existing roadway that is included in the 1977 NRHP boundary, which appears to adhere to an earlier parcel boundary that the parkway now occupies. No significant changes will occur in this area because the parkway already exists within this small area of the airport's historic property boundaryA retaining wall and a grade separation exist between the roadway and the airport parcel, thus the roadway (which would include the Preferred Alternative) would not be visible from most of the airport property

Although the project involves the installation of above-ground wiring along Paint Branch Parkway, the new rail components would not be visible from most of the airport or any of the early-twentieth century foundations due to existing conditions in this area. The project would not diminish the integrity of character-defining features that render this historic property eligible for the NRHP, including its location, design, setting, materials, workmanship, feeling, or association. The Preferred Alternative would have no adverse effect on the historic College Park Airport.

Baltimore-Washington Parkway (No Adverse Effect)

The Baltimore-Washington Parkway is listed in the NRHP under Criteria A and C. The transitway would cross under the Parkway, along the south side of Riverdale Road. The Preferred Alternative alignment would intersect the southern abutments of the existing bridges, thereby necessitating replacement of the parkway bridges over Riverdale Road with longer bridges. The existing bridges, constructed in 1995, are non-contributing elements within the historic parkway property. Although the Preferred Alternative would result in longer parkway bridge spans over Riverdale Road, no contributing elements to the historic resource would be altered since the parkway bridges are not contributing elements to the historic resource. Through coordination with the National Park Service, the officials with jurisdiction over the

affected portion of the parkway, MTA developed a compatible replacement bridge design with an integrated screen to protect the overhead contact system. The screen is designed to protect the wires while being visually unobtrusive from the parkway. Thus, while bridge replacement and the protective screening would slightly alter the parkway's setting and design, the Preferred Alternative would not diminish characteristics that make the parkway eligible for the NRHP. The Preferred Alternative would have no adverse effect on the Baltimore-Washington Parkway.

Avoidance, Minimization and Consultation

Columbia Country Club

MTA, through its consultations with the Columbia Country Club, has refined the Preferred Alternative design by shifting the alignment slightly to the north on to Country Club property. This shift avoids and minimizes impacts to golf course elements, landscaping, and particularly views from the clubhouse on the south side of the county-owned right-of-way. The shift results in minor impacts to the golf course and landscaping on the north side of the right-of-way. Minimization strategies include shifting the green of Hole 14 (in consultation with the Columbia Country Club, and constructing terraced retaining walls on the north side immediately adjacent to the northern right-of-way line. These elements would be designed in consultation with the Country Club. The terraced area would contain planting areas for suitable landscape materials. The shift would avoid impacts to four holes, and would results in impacts to Hole 14, and minor landscape impacts outside of the right-of-way.

MTA will continue to plan and implement the project design elements in consultation with the Columbia Country Club and the MHT.

Rock Creek Park Montgomery County Survey Area

MTA, in coordination with the M-NCPPC, will provide transitway and pedestrian structures through the Rock Creek Park that include design elements to minimize the effects of the project.

University of Maryland College Park

MTA has coordinated with the University extensively and MTA will continue to coordinate with UMD regarding the design of the transitway.

Baltimore-Washington Parkway

MTA coordinated extensively with the National Park Service on the design and construction plans for the Purple Line. In addition to what is listed in Section 4.6, MTA will implement the following minimization measures for the Baltimore-Washington Parkway to maintain its historic integrity:

- The permanent replacement bridges of the Baltimore-Washington Parkway over Riverdale Road will have a similar arch design as the existing bridge structures and would include horizontal arched shields above the transitway overhead wires.
- The stone façade from the existing bridge abutments will be re-used on the new bridge abutments. If additional stone is required, it will come from the same source or would be selected in consultation with the NPS to match the existing stone.
- The catenary wires will be attached to the bridges to minimize the number of poles throughout the parkway.
- Landscape Plans will be developed in accordance with the *Baltimore-Washington Parkway Design Elements-Section 2: Parkway Landscape-Recommendations,* dated April 1984 and submitted to NPS for review and approval.
- Protected resources will be identified and marked for protection in field prior to construction activities (i.e. trees, archeological sites).

Mitigation

In accordance with Section 106 of the National Historic Preservation Act, MTA and the Maryland Historical Trust are preparing a Programmatic Agreement that outlines commitments and mitigations concerning historic and archeological resources under Section 106. Preliminary Section 106 mitigation concepts include:

- Prepare Historic American Buildings Survey/Historic American Engineering Record

documentation for the historic properties that will be demolished
- Prepare web-based map providing documentation and educational information on historic properties within the APE
- Develop an interpretive plan that will include historically themed signage or incorporation of historic images at stations
- Provide Consulting Parties with the opportunity to review and comment on project plans during engineering design phases
- Develop a plan to monitor impacts to historic properties during construction
- Continue coordination with Consulting Parties throughout design and construction

FTA will have an executed Programmatic Agreement prior to the Record of Decision. MTA will implement the project in accordance with the Section 106 Programmatic Agreement.

Short-term Construction Effects

Short-term and temporary effects were considered in all effects assessments. Construction could cause short-term effects to listed or eligible sites. MTA expects relatively small areas of the proposed project corridor would potentially experience vibration and noise effects from construction activities at any one time. The duration of exposure to construction-related vibration and noise at any one property would, therefore, be limited.

Avoidance and Minimization

MTA will minimize temporary vibration or noise effects during construction by evaluating and implementing specific materials and construction methods as deemed necessary. Additional details on avoidance, minimization, and mitigation of temporary noise and vibration impacts can be found in Sections 4.11 and 4.12.

Mitigation

MTA will restore all landscaping or other visible elements at listed or eligible sites to a condition acceptable to the parties with jurisdiction. This commitment will be specified in the Programmatic Agreement.

4.8 Archeological Resources

This section describes the effects of the Preferred Alternative on archeological resources, along with strategies MTA has taken to eliminate or reduce effects on archeological resources. Additional information regarding the archeological resources assessment and project effects is presented in *Section 106 Effects Report/Light Rail Alignment Areas Associated with the Purple Line Project* as well as the *Phase IB Archeological Survey of Light Rail Alignment Areas Associated with the Purple Line Project, Montgomery and Prince George's Counties, Maryland*.

4.8.1 Regulatory Context and Methodology

One potentially NRHP eligible archeological site is located within the APE. The Area K Domestic Site (#18PR1032) is a large historic site identified by an artifact scatter, along with the presence of concrete foundation remains dating from the late-nineteenth century through the early-twentieth century, possibly associated with the Young tenant farm. The 2.7-acre site is located within the property of the Baltimore-Washington Parkway. Because of the quantity and nature of the artifacts recovered, along with existing building foundation remains, the site is considered potentially eligible for listing in the NRHP under both Criterion A, because of the potential for the deposits to offer additional information regarding urbanization of the Riverdale area, and Criterion D because of the potential to reveal additional information on life in the Western Shore Coastal Plain of Maryland during the Industrial Urban Dominance Period (1870–1930).

Results of Phase IA and IB Surveys[5]

Two previous Phase IA archeological reconnaissance level surveys (A.D. Marble, 2002 and PB, 2010) were undertaken for the alternatives evaluated in the AA/DEIS. The initial Phase IA

[5] Phase I investigations consist of a combination of background research and fieldwork designed to identify resources and define site boundaries within a given project area or Area of Potential Effect (APE). Phase IA refers to the background research portions of these efforts. Frequently, Phase IA efforts are sufficient to demonstrate that an area has no potential for archeological resources. Phase IB efforts involve fieldwork and archeological testing of locations identified during the Phase IA as having archeological potential.

survey identified 21 areas of archeological potential (AAP). Once the Locally Preferred Alternative (LPA) was selected, the number of AAPs was reduced to 17, as four AAPs were located outside the LPA's area of potential effect. Subsequently, after the identification of the Preferred Alternative including stations, yard, maintenance facility, and TPSS locations, some of the AAPs were expanded or adjusted; however, no new AAPs were identified.

Between April and October 2011, a Phase IB archeological survey was completed to investigate the 17 AAPs and to re-evaluate the Fire Site (18PR0263) and Engineering Research Corporation Site (18PR0258), two previously recorded archeological sites located within the APE. MTA was not granted access to one AAP, Area P. The remaining AAPs (Areas A-O, and Q) were evaluated through field surveys, which involved walking the AAPs looking for surface evidence of disturbance to assess whether testing was warranted. Seven AAPs had extreme disturbance or excessive slope, reducing their potential for preserved archeological deposits to the point that further investigation is not warranted. Subsurface testing employing shovel test pits was performed at the nine remaining AAPs. Four of these AAPs (Areas F, H, I, and K) contained archeological deposits. Within these four AAPs, five new archeological sites were identified (18PR1035 within Area F, 18PR1036 within Area H, and sites 18PR1032, 18PR1033, and 18PR1034 within Area K). Site 18PR1032 (Area K Domestic Site), identified as a late nineteenth to early twentieth century domestic site, was determined to be potentially eligible for listing in the NRHP. The remaining four sites were found to be historic artifact scatters and concentrations and determined not eligible for the NRHP.

During the Phase IB survey, the two previously recorded sites within the APE were re-evaluated and determined to be not eligible for the NRHP. Specific information on both previously recorded sites is listed below:

- The Fire Site (18PR0263), identified as a prehistoric lithic scatter site, was determined eligible in 1985; however, the portion of the site within the LPA APE was documented as being extensively disturbed and determined to not be eligible for listing in the NRHP.
- The Engineering Research Corporation (ERCO) Site (18PR0258), identified in 1985 as a mid-twentieth century airfield and factory site, was reevaluated due to redevelopment of the property. It was observed that the archeological site had suffered significant disturbances and was determined not eligible for listing in the NRHP.

4.8.2 Preferred Alternative

Long-term Operational Effects

MTA has designed the Preferred Alternative to entirely avoid the only potentially eligible resource within the APE, the Area K Domestic Site (#18PR1032). Therefore, no effect to archeological resources is expected as a result of the Preferred Alternative.

Mitigation

Because no effect to the Area K Domestic Site will occur, no mitigation is necessary.

Short-term Construction Effects

The proposed temporary bridges to carry Baltimore-Washington Parkway over Riverdale Road will be constructed between the existing ramps and the existing bridges. This will completely avoid the archeological site identified in the median (see Chapter 5.0 for more information on construction activities).

Short-term project-related effects to the Area K Domestic Site would, therefore, not occur as all construction access, activities, and disturbance would avoid the resource.

Mitigation

Mitigation is not warranted.

4.9 Visual Resources

This section describes the effect of the Preferred Alternative on visual resources. It discusses the methodology used, identifies existing visual resources in the study area, and discusses long-term and short-term impacts of the Preferred Alternative, including minimization strategies and mitigation measures.

4.9.1 Regulatory Context and Methodology

As FTA does not have visual assessment guidelines, MTA used FHWA's *Visual Impact Assessment for Highway Projects* (FHWA 1988) in this analysis.

The visual assessment study area is 500 feet on either side of the Preferred Alternative. An inventory was completed to identify the visual environment, character, and quality; identify visually sensitive areas; and determine viewers.

The visual environment is the setting of an area, including the resources that affect an observer's visual experience of an area. Visual character is a composite description of the visual resources, considering the form, scale, and diversity of man-made and natural landscape components. Visual quality is the value placed on the visual environment according to viewer observation and preference.

A visually sensitive area is one upon which a human value has been placed for reasons of historic importance, natural beauty, or other reasons. Examples of visually sensitive areas in the study area are:

- Parks and other recreational areas, such as the stream valley parks and the Georgetown Branch right-of-way
- Roadways that are primarily residential in character
- Master planned or designed districts or facilities, such as the Columbia Country Club and the UMD campus

Viewers are the people who are likely to observe the visual environment. The major groups of viewers who would be affected by the new visual elements of the Preferred Alternative have been identified for each of the corridor's ten visual assessment units (VAU), which are described below. Such groups might include residents, workers who are employed in the VAU, visitors who come to the area, transit riders, pedestrians, cyclists, or roadway users (including motorists, transit riders, pedestrians, and cyclists) who travel in or through the VAU.

To analyze the potential visual effects of the Preferred Alternative on the visual environment, as experienced by viewers, the study area was divided into ten visual assessment units generally based on the cohesiveness of land use and development patterns. The VAUs are defined as follows:

- **VAU 1**—Bethesda station to Stewart Avenue
- **VAU 2**—Stewart Avenue to Colesville Road
- **VAU 3**—Colesville Road to Fenton Street
- **VAU 4**—Wayne Avenue to western Plymouth Street tunnel portal
- **VAU 5**—Eastern Plymouth Street tunnel portal to Adelphi Road/West Campus station
- **VAU 6**—Adelphi Road/West Campus station to US 1
- **VAU 7**—US 1 to College Park Metro Station
- **VAU 8**—College Park Metro Station and River Road
- **VAU 9**—Kenilworth Avenue and Riverdale Road
- **VAU 10**—Veterans Parkway to New Carrollton Metro station

The elements of the Preferred Alternative were examined to determine whether or not they would affect the visual environment of any sensitive areas within each VAU. Effects were rated based on the potential for viewers to discern the visual change, considering existing visual character and quality of the affected area.

Effects were rated as low, moderate, or high as defined below, based on a composite assessment of visual character, quality, sensitivity, and the changes introduced by the Preferred Alternative:

- **Low visual effect**—a slight change in visual character or quality, with no substantive effect on a visually sensitive area. New visual elements would be generally compatible with existing visual character, and little to no viewer response to visual changes is expected.
- **Moderate visual effect**—either (1) a slight change in visual character or quality, resulting in a high level of viewer response, or (2) an extensive change in visual character or quality with only a minimal viewer response. New visual elements would be somewhat compatible with existing visual character and quality.
- **High visual effect**—an extensive change to visual character or quality, or substantial effect on a visually sensitive area. New visual elements would be generally incompatible with existing visual character and quality, resulting in a high level of viewer response.

4.9.2 Affected Environment

The sections below describe the visual environment and quality, and identify likely viewer groups and sensitive areas for each of the VAUs.

VAU 1: Bethesda Station to Stewart Avenue

VAU 1 is comprised of moderately to heavily developed urban land along the Georgetown Branch right-of-way from downtown Bethesda, the western terminus of the Purple Line, to Stewart Avenue in Lyttonsville, the eastern terminus of the Georgetown Branch Interim Trail (Figure 4-5).

Figure 4-5. Georgetown Branch Interim Trail

Bethesda is a mature inner ring suburb of Washington DC that developed as a streetcar suburb. It has an urban central business district and residential neighborhoods. To the east are Chevy Chase, primarily a low density, lightly wooded residential area, and the Columbia Country Club, a distinctive, intentionally designed landscape (Figure 4-6). Farther east is the forested Rock Creek Stream Valley Park (Figure 4-7 and Figure 4-8). Beyond the park is Lyttonsville, a mixture of single family homes, high-rise apartment buildings, and commercial uses, with light industrial uses along the Georgetown Branch right-of-way.

The Georgetown Branch right-of-way, a former railroad corridor, is lined with mature trees and a scrub-shrub understory that is separated from adjacent properties along much of its length by fencing. Also located in this VAU is Rock Creek Stream Valley Park, a wooded stream valley with several grass recreation fields and a paved trail along the creek. The Rock Creek Bridge, a 280-foot long, 70-foot tall trestle, is the only prominent

Figure 4-6. Columbia Country Club Looking North from the Georgetown Branch Interim Trail

Figure 4-7. Rock Creek Bridge

Figure 4-8. Rock Creek Stream Valley Park Looking South from the Georgetown Branch Interim Trail

man-made structure in the park within the study area. East of Rock Creek Stream Valley Park, the buffer of vegetation along the Georgetown Branch right-of-way becomes thin. The VAU is bisected by Connecticut Avenue, a suburban corridor, with office, retail, and light industrial uses mixed in scale and form.

Viewers in this VAU include trail users, residents, pedestrians, and roadway users.

This area is considered to have a high degree of visual sensitivity because of the mature trees and the prominence of the natural environment that characterize this part of the park and the trail.

VAU 2–Stewart Avenue to Colesville Road

VAU 2 consists of portions of two railroad rights-of-way, one unused by rail service, and the other currently used for both freight and passenger service. For approximately 1,000 feet between Stewart Avenue and the CSXT mainline, the corridor continues in the Georgetown Branch right-of-way through the light industrial area of Lyttonsville. The separate Georgetown Branch Interim Trail ends at Stewart Avenue and continues as a signed route along local roads. The remainder of the VAU parallels the CSXT mainline and WMATA tracks that run in a depressed right-of-way that transitions from wooded banks bordering single family residential neighborhoods to apartment complexes and suburban-style commercial strip centers as it approaches downtown Silver Spring. This right-of-way, the CSXT Metropolitan Branch right-of-way, is listed on the NRHP. The Talbot Avenue Bridge which crosses the Metropolitan Branch right-of-way is also listed on the NRHP (Figure 4-9)

Viewers in this VAU include trail users, residents, pedestrians, workers, and roadway users.

Because of the light industrial uses in Lyttonsville and the active rail corridor, this area is considered one of low visual sensitivity.

Figure 4-9. CSX Corridor along Talbot Avenue—Rosemary Hills Elementary School in Background

VAU 3—Colesville Road to Fenton Street

VAU 3 is comprised of downtown Silver Spring between the Silver Spring Transit Center and the intersection of Fenton Street and Wayne Avenue. Downtown Silver Spring is a modern urban core, with a wide range of commercial, residential, and public uses in predominantly medium- and high-rise structures.

Viewers in this VAU include workers, residents, pedestrians, transit patrons, and roadway users.

Busy urban streets characterize this area. Given this, the area is considered to have a low degree of visual sensitivity.

VAU 4—Wayne Avenue to Western Plymouth Avenue Tunnel Portal

VAU 4 is the portion of Wayne Avenue in which the Preferred Alternative would be constructed on the surface. Wayne Avenue is an arterial roadway used by five local bus routes.

In the west, there is an area of mixed uses near downtown Silver Spring that transitions to a residential neighborhood of predominantly mid-twentieth century single family homes along a two- to four-lane roadway (Figure 4-10). Land uses also include several medium and high-rise apartment buildings, First Baptist Church, St. Michael's the Archangel Catholic Church, the Silver Spring International Middle School, and Sligo Creek Elementary School. Mature trees and landscaping enhance the residential character of this area. Bisected by Sligo Creek and the stream valley park

this VAU is characterized by a steep grades descending to the creek.

Viewers in this VAU include residents, pedestrians, workers, transit patrons and roadway users.

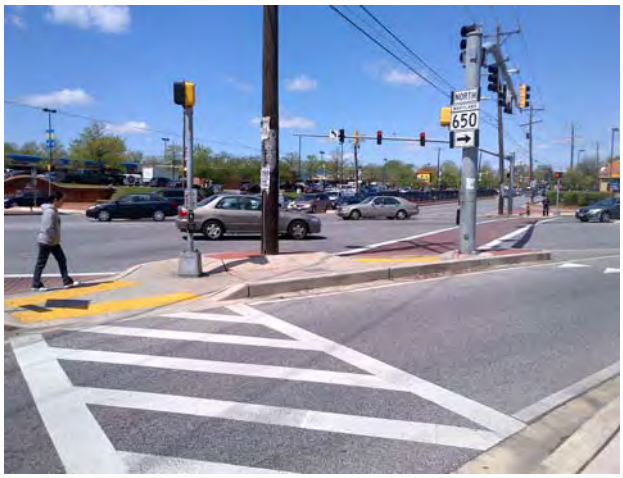
This area is considered to have a high degree of visual sensitivity due to the residences and the mature trees in the area.

Figure 4-10. Wayne Avenue

VAU 5 — Eastern Plymouth Street Tunnel Portal to Adelphi Road/West Campus Station

VAU 5 extends along Arliss Street, Piney Branch Road, and University Boulevard (Figure 4-11). It is an older suburban neighborhood and commercial area with many automobile-oriented uses with extensive parking lots bordering four- to six-lane roadways and scattered parklands.

Figure 4-11. University Boulevard at New Hampshire Avenue



Arliss Street is a five-lane road with two travel lanes, parking on both sides and a two-way left turn lane in the median. On one side are large parking lots for commercial development, and on the other are garden apartments and town houses. Piney Branch Road is a four-lane arterial flanked by aging garden apartments and strip-type commercial uses. Street trees are intermittently present along the roadway, and the road crosses Long Branch Stream Valley Park. The intersection of Piney Branch Road and University Boulevard has multiple through lanes, and accommodates large amounts of traffic.

University Boulevard is a heavily-used arterial that ranges from four to six lanes wide. In some locations parallel service roads provide access to the residential buildings, creating an even wider transportation right-of-way. The multitude of signs and utility poles and lines create a high degree of visual clutter (Figure 4-11). The road crosses Northwest Branch Stream Valley Park just west of Adelphi Road. University Boulevard is lined with older garden apartments and strip commercial development. There is a high level of pedestrian activity in this area, despite the unfavorable built environment.

Viewers in this VAU include workers, residents, pedestrians, transit patrons, and roadway users.

The wide roadway, lack of landscaping, and the quantity of signage and utilities make this an area of low visual sensitivity.

VAU 6 — Adelphi Road/West Campus Station to US 1

VAU 6 is entirely on the University of Maryland campus. The transitway would be primarily on existing or planned roadways within the campus. It would enter from the west along Campus Drive; then follow Presidential Drive to join Union Drive (Figure 4-12). Currently this area is primarily surface parking lots, but the University Facilities Master Plan has identified this area for development to include buildings, parking garages, and a new street network including the Purple Line. The transitway would continue east on Campus Drive to Regents Drive. This two-lane roadway adjacent to the brick colonial revival style buildings that line McKeldin Mall is the main transportation corridor

through campus and as such is used by buses, cars, and service vehicles.

Figure 4-12. Campus Drive in University of Maryland

From Regents Drive the transitway would turn southeast and run between the Engineering Fields and Reckord Armory, leaving the campus at the intersection of US 1 and Rossborough Drive. The eastern portion of this VAU is within the university-defined "UMD Historic Core" planning district. This portion of the university campus has numerous historic buildings and developed landscaped areas. The playing fields and lawns, sited among a complex of administration and public buildings including the Rossborough Inn, form a prominent public image of the campus and serve as the backdrop for the primary campus entrance. The large grassy areas in this area of campus (intramural playing fields and open lawns) create wide vistas. The parking lots adjacent to the Armory and the Visitors Center are not prominent in the viewshed.

Viewers in this VAU include students, UMD employees, visitors, and roadway users.

As the main east-west transportation route through the university, the western portion of this VAU on Campus Drive is considered to have a moderate degree of visual sensitivity.

The eastern portion of this VAU is considered an area of high visual sensitivity due to these expansive open spaces and the historic Rossborough Inn.

VAU 7—US 1 to College Park Metro

VAU 7 includes the UMD East Campus and Paint Branch Parkway to the College Park Metro station. East Campus is a planned redevelopment project in an area that formerly housed support facilities for the University. The proposed development includes a hotel and a mix of housing and commercial spaces. The transitway would follow Rossborough Drive to Paint Branch Parkway through this development.

The transitway would follow Paint Branch Parkway between the East Campus development and the College Park Metro station. In this VAU the land uses are a mixture of multi-family residential, light industrial, and commercial, with a number of transportation uses including an airport, the CSXT and WMATA tracks, and parking for both the Metro station and nearby uses. Paint Branch Parkway is a four-lane arterial with noise walls on the south side of the roadway.

Viewers in this VAU include residents, workers, pedestrians, transit patrons, and roadway users.

Given the intention to design the East Campus development to incorporate the Purple Line and the proposed urban character of this area, and the existing character of Paint Branch Parkway, this VAU is considered to have a low degree of visual sensitivity.

VAU 8—College Park Metro and River Road

VAU 8 is a developing area along River Road through the M Square Research Park, which is a new 130-acre office park along River Road, a four-lane street (Figure 4-13). Many of the parcels in this area are under development. The eastern end of this VAU crosses the Anacostia River Stream Valley Park.

Viewers in this VAU include residents, workers, pedestrians, park and trail users, transit patrons, and roadway users.

Figure 4-13. M Square Research Park

Given the character of this area as an office park, it is considered to have a low degree of visual sensitivity. The park is below the grade of the roadway and so has a moderate degree of visual sensitivity.

VAU 9—Kenilworth Avenue and Riverdale Road

VAU 9 contains older commercial and residential development. Kenilworth Avenue, East West Highway, and Riverdale Road are heavily-used roadways ranging from four to six lanes wide. The roadways are lined with utility poles and signage. The east side of Kenilworth Avenue is single family homes, while the west is mid-20th century commercial development. Aging commercial development surrounds the intersections of Kenilworth Avenue and East West Highway and Riverdale Road (Figure 4-14). East on Riverdale Road, the area becomes more residential, principally smaller, aging single family homes, until the Baltimore-Washington Parkway. The parkway is a National Park Service facility which crosses Riverdale Road just west of the Beacon Heights neighborhood (Figure 4-15). The parkway is a 29-mile scenic highway serving as a focal entrance to the Washington DC region. The parkway features an integrated design and aesthetic treatments that are distinct in comparison to typical highway design. The limited-access highway is visually defined by its perimeter greenways, tree-lined medians, adjacent woodlands, and decorative structural elements of its bridges, which are readily apparent from the Riverdale Road interchange. Along Riverdale Road in Beacon Heights are garden apartments and some commercial development, including a strip shopping center and several gas stations (Figure 4-16).

Viewers in this VAU include residents, workers, pedestrians, transit patrons, and roadway users. Viewers of the Baltimore-Washington Parkway include park visitors (parkway users).

Due to the wide arterial roadways, aging residential and commercial development, and existing visual clutter, this area is considered to have a low degree of visual sensitivity; except for the Baltimore-Washington Parkway which is considered to have a moderate degree of visual sensitivity.

Figure 4-14. Near Riverdale Park Looking East at the Intersection of Kenilworth Avenue and East West Highway

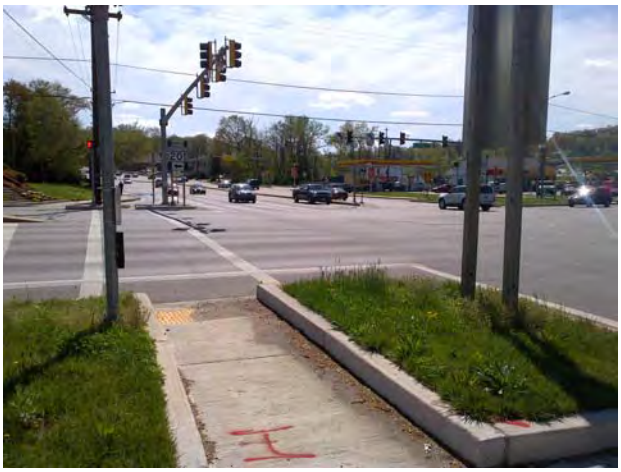


Figure 4-15. Baltimore-Washington Parkway over Riverdale Road

Figure 4-16. Beacon Heights

VAU 10—Veterans Parkway to New Carrollton Metro station

VAU 10 extends from the proposed Beacon Heights Station at the intersection of Riverdale Road and Veterans Parkway to the New Carrollton Metro station. Veterans Parkway is a four-lane arterial with wide shoulders, a grassy median, and no sidewalks. Suburban residential neighborhoods flanking both sides of the roadway are accessed by internal streets and set back from the parkway, buffered by a mix of deciduous trees and shrubs. The posted speed limit is 45 miles per hour. The M-NCPPC Northern Area Maintenance—Glenridge Service Center and the Glenridge Community Park are located on the south side of Veterans Parkway. Further east in the VAU, Ellin Road is a smaller, less heavily used road; here also the residential development is not oriented to the roadway and is buffered by vegetation. At the intersection of Harkins Road, the New Carrollton Metro Station is located across from the IRS New Carrollton Financial Service Center and a private office building (Figure 4-17). These developments and the Metrorail Station have extensive surface parking.

Viewers in this VAU include residents, workers, pedestrians, transit patrons, and roadway users.

Due to the width of the right-of-way and the set back of residential properties this area is considered one of low visual sensitivity.

Figure 4-17. IRS Financial Service Center on Ellin Road

4.9.3 Long-term Operational Effects

The Preferred Alternative would result in changes to the visual environment from the introduction of new visual elements, or the removal or replacement of existing elements.

In all VAUs, the transitway would add the linear elements of the tracks and overhead wire system, which includes the poles supporting the wires. These new visual elements cannot be avoided and in most locations these elements would not be anticipated to result in an adverse effect as they are not vastly different from a roadway or the existing utility infrastructure. The tracks in or adjacent to a roadway would not be a substantial visual impact in an area of low or moderate sensitivity.

Stations and power substations would also be new visual elements in the corridor. The at-grade stations have been designed to have a minimal impact on the surrounding environs. The platforms would be approximately 14 inches above the top of the rails and would be 200 feet long and 10 to 18 feet wide. The station shelters would be steel and glass structures whose transparency would minimize their appearance in the communities where they would be located. Three of the stations would be on elevated structures. Each of these has been uniquely designed to be compatible or attractive additions to the surrounding community. In areas of moderate or high visual sensitivity the power substations would be screened or landscaped to be compatible with the surrounding neighborhood character.

There are, however, visually sensitive areas and other features that characterize the corridor's visual environment that may be affected by the Preferred Alternative. The effects and the mitigation proposed for each VAU are discussed in the following sections.

VAU 1: Bethesda Station to Stewart Avenue

The Georgetown Branch right-of-way would undergo high level of visual impact. It will become the right-of-way of both the Preferred Alternative and the Capital Crescent Trail (Figure 4-18). As a result, much of the existing vegetation would be removed and most of the existing tree canopy would be eliminated. While the right-of-way would

be replanted after construction, which at maturity would assist in mitigating this visual impact, the overall appearance of the right-of-way would be substantially changed from present conditions. In addition, the right-of-way would have a four-foot retaining wall on the south side of the transitway from Bethesda Station to Rock Creek Stream Valley Park, and on the north side of the trail from East West Highway to Rock Creek Stream Valley Park. Depending upon location and topography, views from the trail and of the trail from adjacent properties would be substantially altered or essentially eliminated due to either the removal of vegetation or the addition of retaining walls.

Columbia Country Club would be affected along the north side of the Georgetown Branch right-of-way by the project, including grading changes in landform, some tree clearing, relocating portions of Holes 14, 15 and 17 and reconstructing the golf cart crossings of the Georgetown Branch right-of-way.

The bridges carrying the transitway and trail over Connecticut Avenue would generally be compatible with the existing visual character and quality of suburban land use and transportation infrastructure already present or planned in this location. These bridges would be larger in scale and mass than much of the surrounding development.

The construction of the transitway and trail, even though they would occur within a former railroad right-of-way, would result in substantial changes in the viewshed of Rock Creek Park users and local residents. The existing embankment on which the Georgetown Branch Interim Trail is located would be lowered to create a wider base for the transitway and trail. The existing Rock Creek trestle bridge would be replaced with new transit and pedestrian bridges (Figure 4-19). These bridges would be modern steel truss bridges, and while they would provide a broader open space beneath, they would be considerably lower than the current bridge (15 feet lower for the transitway bridge and 30 feet lower for the trail bridge). The trail connection from the Capital Crescent Trail to the Rock Creek Trail would be a switchback path on the northeast side of the Preferred Alternative; while designed to minimize tree removal, it would nonetheless result in visual changes due to tree removal.

Figure 4-18: Capital Crescent Trail

Figure 4-19. Rock Creek Bridges

A major new element in this VAU would be the Lyttonsville Yard between Rock Creek Park and Stewart Avenue (Figure 4-20). The construction of the yard would include the replacement of the Lyttonsville Place bridge and the displacement of a commercial building on Brookville Road. This would have a moderate effect on the visual environment for trail users.

VAU 2 — Stewart Avenue to Colesville Road

The segment of the Georgetown Branch right-of-way east of Stewart Avenue is surrounded by light Industrial and commercial uses. The Preferred Alternative and trail would be a change, but would only be a low visual effect.

Along the CSXT corridor there were would be a number of visual effects, but all would have low visual impact. The character of the CSX mainline and WMATA right-of-way would be changed as the trees would be cleared for construction of the transitway on the south side of the CSXT corridor and the trail on the north. The single-lane Talbot Avenue Bridge that is listed on the NRHP would be replaced with a new wider bridge, altering the view of this crossing.

The view of the right-of-way from the Rosemary Hills Elementary School would be altered by the construction of the Preferred Alternative between the school and the CSXT corridor. There would be changes in the profiles of the 16th Street and Spring Street bridges across the right-of-way. The displacement of the Spring Center shopping center and its replacement by a station and potential redevelopment would be a low impact visual effect.

Figure 4-20. Lyttonsville Station with Operations Building in the Background

The displacement of two commercial buildings on East West Highway on the south side of the right-of-way near Colesville Road would not produce a highly noticeable void in local visual character in this urban area.

The removal of several units from the ends of two buildings in the Falkland Chase Apartment complex would be a low visual impact.

VAU 3 — Colesville Road to Fenton Street

The bridge carrying the Purple Line over Colesville road, the station platform and shelter are large structures, but they are not dissimilar in scale to the high-rise buildings and new transit center in downtown Silver Spring (Figure 4-21). The visual effect of the new structures would be high to pedestrians, transit patrons, roadway users, and viewers from surrounding buildings.

A multi-story contemporary office building on Bonifant Street and a portion of the adjacent parking structure would be displaced. In an urban context such as downtown Silver Spring, the removal of these buildings for other structures would be a low visual effect.

VAU 4 — Wayne Avenue to Western Plymouth Street Tunnel Portal

The widening of Wayne Avenue and the construction of the transitway in the roadway would change the setting of the area by reducing the front yards of residential properties, and the removal of some street trees. In this residential area of high sensitivity the Preferred Alternative would have a high visual impact particularly to residents.

The bridge over Sligo Creek would be widened and some trees would be removed, but the general aspect of the park would not be affected.

Two six-unit apartment buildings would be displaced above the portal of the Plymouth tunnel. The overall effect of this change and the presence of the portal itself would be high.

Figure 4-21. Silver Spring Transit Center Station

VAU 5 — Eastern Plymouth Street Tunnel Portal to Adelphi Road/West Campus Station

The tunnel portal on Arliss Street and the roadway widening and retaining walls would be a new visual element with a moderate visual effect.

The widening of Piney Branch Road to accommodate the Purple Line in the median would result in the reconstruction of the entrances to some of the apartment complexes, and the removal of some trees in Long Branch Stream Valley Park, Long Branch Local Park, and along Piney Branch Road. This would be a moderate visual effect for roadway users and local residents.

The addition of the Preferred Alternative to University Boulevard would not noticeably change the character of the roadway, as it is a wide transportation corridor today in an area of low visual sensitivity. In some locations street trees would be eliminated and in New Hampshire Estates Neighborhood Park a sitting area and some landscaping would be removed. The reduction of University Boulevard to four lanes would provide opportunities for additional landscaping, both by the sidewalks, as well as in some median locations.

The change in the grade of University Boulevard east of Northwest Branch Stream Valley Park would require the median to be elevated above the roadway to accommodate the construction of the transitway. This would be a moderate visual effect, particularly for adjacent residents.

VAU 6 — Adelphi Road/West Campus Station to US 1

The addition of the Preferred Alternative to the existing roadways on campus, which are currently used by Metrobus, TheBus, and Shuttle-UM, would be a low effect. The reconstruction of Campus Drive and Union Drive with dedicated transit lanes and one lane for general traffic would be a moderate visual impact. The impact of the addition of new intersections and new signals at some intersection would be negligible.

The visual effect of the Preferred Alternative east of the "M" traffic circle would be moderate (Figure 4-22). In this open grassy area, the transitway would be visible in the background of the viewshed and would be a moderate visual effect to pedestrians and others on campus.

Figure 4-22. Relocated UMD "M"

VAU 7 — US 1 to College Park Metro

Rossborough Lane through East Campus and Paint Branch Parkway are areas of low visual sensitivity where the impact of the changes would be low.

VAU 8 — College Park Metro and River Road

The landscape in this VAU is of low sensitivity and the anticipated degree of change from the Preferred Alternative is low. The transitway bridge over the Northeast Branch would be parallel to, and would have the same profile as the existing roadway bridge, resulting in a low visual effect.

VAU 9 — Kenilworth Avenue and Riverdale Road

The major visual change resulting from the Preferred Alternative in this VAU would be the aerial structure across the intersection of Kenilworth Avenue and Riverdale Road and the elevated Riverdale Park station (Figure 4-23). This large bridge and station would have a high visual impact.

The displacement of 22 single family residences on the south side of Riverdale Road would be a low impact visual effect because the roadway is a heavily used state highway.

The Baltimore-Washington Parkway, being an NHRP listed resource, is a visually sensitive viewshed. MTA would relocate the two southern abutments carrying the parkway bridge decks over Riverdale Road to build the Preferred Alternative. Thus, the bridge would be removed and reconstructed with the abutments approximately 30 feet

Figure 4-23. Riverdale Park Station

to the south of their current location. The existing abutments, constructed in 1995, are non-contributing elements within the historic parkway property. The same stone veneer used on the 1995 abutments would be reused on the new abutments. The new bridge spans would use a similar arch design as the existing structures. Protective screening for the overhead wire system would be used to eliminate the view of wires from the parkway. The effect of relocating the parkway bridge abutments and replacing the bridges across Riverdale Road (to accommodate the passage of the transitway beneath them) would not be high (Figure 4-24). There would be no long-term effect on the visual character as the new bridges will replicate the appearance of the existing ones.

Figure 4-24. Baltimore Washington Parkway Bridge

VAU 10—Veterans Parkway to New Carrollton Metro Station

The principal change in the visual environment in VAU 10 would be the construction of the Glenridge Maintenance Facility, which would be more visible from Veterans Parkway than the existing M-NCPPC Northern Area Maintenance—Glenridge Service Center. While a moderate change, in this area of low visual sensitivity the overall effect would be low.

There would be changes in the appearance of Glenridge Community Park as a result of the removal of trees and the exchange of land between the Maintenance Facility and the park for a net loss of 3.28 acres of park land; however the overall visual effect would be low to moderate.

Two commercial buildings would be removed east of Annapolis Road. This would have a low visual impact.

The widening of Ellin Road will reduce the wooded buffer along the south side, but the general character of the area would not be affected, resulting in a low visual effect. Figure 4-25 is a rendering of the Beacon Heights station.

Figure 4-25. Beacon Heights Station

Table 4-22 presents a summary of the effects in each VAU.

Avoidance and Minimization

In designing the Preferred Alternative, MTA has made continual efforts to respect the visual quality and integrity of the neighborhoods in which the project would be built, using context sensitive design techniques. Through its public involvement and stakeholder coordination program, MTA has worked with communities and stakeholders to understand community concerns and visions. Project elements such as the station shelters, described earlier, were developed with input from local stakeholders. MTA has been mindful of the need to consider carefully the location of traction power substations, and where appropriate provide landscaping or other screening to address the visual impacts of these structures. MTA will work with local stakeholders to identify minimization strategies and mitigation for visual impacts. The following are locations where MTA has or will coordinate with stakeholders.

- The National Park Service was concerned about visual impacts to the Baltimore-Washington Parkway from the reconstruction of the parkway bridges. MTA presented the Park Service with a range of options for the design and construction of the bridges (VAU 9). With Park Service participation, MTA was able to develop a design and a construction plan that is acceptable to the Park Service and would maintain the visual experience of the parkway users and other viewers. See Chapter 6.0 and Section 4.7 for more details.
- The Town of Chevy Chase is concerned about the visual impacts of the Purple Line on adjacent residential properties. MTA is continuing to meet with the Town of Chevy Chase Mitigation Advisory Committee to discuss the design of the Purple Line and the Capital Crescent Trail (VAU 1). This collaboration involves identifying opportunities to minimize noise and to discuss aesthetics and trail access issues. MTA will continue to coordinate and consult with affected communities regarding the aesthetic treatments of the transitway elements.

Table 4-22. Summary of Visual Effects

VAU	Project Components/Visual Changes	Ratings*		
		Extent of Visual Change	Visual Sensitivity	Visual Effect
VAU 1 Bethesda Station to Stewart Avenue	Retaining walls	H	H	H
	Transitway in the Georgetown Branch right-of-way,			
	Removal of existing trees in the right of way and replacement with new landscaping			
	Trail bridge over the transitway for a connection to Elm Street Park at eastern end of Air Rights Building			
	Two new bridges over Connecticut Avenue			
	At-grade bridge at Jones Mill Road			
	Replacement of single wooden trestle bridge over Rock Creek with dual steel girder bridges			
	Connection of the Capital Crescent Trail to Rock Creek Trail			
	Yard facility in Lyttonsville			
	Replacement of the Lyttonsville Place bridge			
	Stations			
VAU 2 Stewart Avenue to Colesville Road	Replacement of the Talbot Avenue bridge	L	L	L
	Trail bridge over the CSXT corridor			
	At-grade transitway with ballasted tracks, overhead wire system, poles, and TPSS			
	Station			
	Displacement of the Spring Center Shopping Center			
	Replacement or modification of 16th Street bridge			
	Replacement of the Spring Street bridge			
VAU 3 Colesville Road to Fenton Street	SSTC station — elevated platform and shelter	H	L	M
	Station in the Silver Spring Library			
	Transitway (elevated and at grade) with overhead wire system, poles, and TPSS			
	Two bridges connecting the transitway and the trail with the SSTC			
	Displacement of three commercial buildings			
VAU 4 Wayne Avenue to Western Plymouth Street Tunnel Portal	Widening of Wayne Avenue	H	H	M to H
	Stations			
	Replacement of Sligo Creek bridge			
	Plymouth Street tunnel portal			
	Displacement of two six-unit apartment buildings			
	At-grade transitway with embedded tracks, overhead wire system, poles, and TPSS			
VAU 5 Eastern Plymouth Street Tunnel Portal to Adelphi Road/ West Campus Station	Tunnel portal in Arliss Street	M to L	L	M
	Street widening and associated retaining walls along Arliss Street			
	At-grade transitway with overhead wire system, poles, and TPSS			
	Stations			
	Building and commercial canopy displacements			
	Elevation of the transitway above the roadway grade along University Boulevard between Northwest Branch Stream Valley Park and Adelphi Road			
VAU 6. Adelphi/West Campus Station to US 1	At-grade transitway along roadways and across open areas with overhead wire system, poles, and TPSS	M	M to H	M
	Stations			
	Relocation of the "M" and the removal of the traffic circle where is it currently located			
	Realignment of several intersections			
VAU 7. US 1 to College Park Metro	At-grade transitway in roadways with overhead wire system, poles, and TPSS	L	L	L
	Stations			

Table 4-22. Summary of Visual Effects (continued)

VAU	Project Components/Visual Changes	Ratings*		
		Extent of Visual Change	Visual Sensitivity	Visual Effect
VAU 8. College Park Metro and River Road	Lowered elevation of Paint Branch Parkway	L to M	L	L
	Stations			
	At-grade transitway along roadways and across open areas with overhead wire system, poles, and TPSS			
	New transit bridge over the Northeast Branch Anacostia River			
	Realigned Northeast Branch Trail access			
VAU 9. Kenilworth Avenue and Riverdale Road	Transitway along at grade roadways with overhead wire system, poles, and TPSS	L to H	L to M	L to H
	Widening of and realignment of Kenilworth Avenue			
	Elevated transitway and station at East West Highway/Riverdale Road/Kenilworth Avenue intersection			
	Realignment of intersection of Mustang Drive and 62nd Avenue			
	Displacement of 22 residential properties on the south side of Riverdale Road			
	Lengthening of the Baltimore-Washington Parkway bridges			
	At grade station			
	Widening and realignment of Riverdale Road east of Parkway			
	Displacement of one residence and two commercial properties in Beacon Heights			
VAU 10. Veterans Parkway to New Carrollton Metro station	Transitway along at grade roadways with overhead wire system, poles, and TPSS	M	L	L to M
	Replacement of existing county maintenance facility with Glenridge Maintenance Facility			
	Stations			
	Displacement of two commercial buildings east of Annapolis Road			
	Signalization of Hanson Oaks Drive/Ellin Road intersection.			

*The ratings of High, Moderate, and Low are represented by H, M, and L, respectively.

- The University of Maryland expressed concerns about changes to the visual character of campus with the addition of the Purple Line and its ancillary facilities. MTA has worked with University to identify and minimize visual impacts to sensitive resources; specific issues included the design and location of the Preferred Alternative on campus, and the relocation of the "M" and the removal of the traffic circle where it is located currently (VAU 6). In 2012, the University endorsed the cooperatively developed plans in the new Campus Facilities Master Plan. MTA will continue to coordinate with the University and the Maryland Historical Trust as the project design advances.
- MTA has coordinated with the Columbia Country Club to maintain the existing views from the clubhouse and southern fairways and greens (VAU 1). The Country Club has provided input on landscape treatments and grading on the slopes of the railroad berm to reduce visual effects to both the playing areas and landscape views from the clubhouse area. MTA will continue to coordinate with the Columbia Country Club on the visual and aesthetic elements of the transitway.
- MTA is coordinating with the county on the design of the Capital Crescent Trail to provide an aesthetically-pleasing facility while meeting safety requirements and ADA requirements (VAU 1 and VAU 2).
- Visual impacts to the Connecticut Avenue area from the proposed Connecticut Avenue bridges are a community concern. MTA will continue to coordinate and consult with Montgomery County and the local community regarding the aesthetic treatment of the bridge structures over Connecticut Avenue (VAU 1).

- The new bridges replacing the existing trestle bridge over Rock Creek would be a visual change. MTA will continue to coordinate with M-NCPPC and the National Capital Planning Commission regarding the design and construction of the Rock Creek bridges (VAU 1).
- MTA worked extensively on the location and design of the Lyttonsville and Glenridge storage and maintenance facilities to minimize visual impacts to viewers, particularly adjacent residents (VAU 1 and VAU 10).

Mitigation

MTA will use the Art-In-Transit program to enhance key elements of the project, as appropriate.

Short-term Construction Effects and Mitigation

The introduction of construction equipment, trucks, fencing, or walls surrounding proposed construction staging and laydown areas, as well as fugitive dust, would create temporary visual impacts to neighborhoods surrounding or adjacent to where these construction activities would occur. See Chapter 5.0 for a discussion of where these construction impacts are anticipated.

Some areas of the corridor likely would be affected more substantially than others during construction, including the construction staging areas and the locations of large project elements such as the aerial structures, the bridges across Rock Creek, the Plymouth Street tunnel, and demolition sites.

Baltimore-Washington Parkway visitors using the exit ramps at Riverdale Road would experience a visual impact during construction as the temporary bridges would be located between the existing bridges and the exit ramps.

Avoidance and Minimization

To minimize short-term visual effects, MTA will require that the construction contractors utilize best management practices to maintain an orderly appearance of active work zones and staging areas.

Mitigation

No mitigation is warranted.

4.10 Air Quality

This section describes the current regulations pertaining to the control of air pollutants, the pollutants of concern present in the Purple Line study area, the effect of the Preferred Alternative on air quality both within the study area and throughout the broader region, and minimization strategies MTA would take to eliminate or reduce air quality impacts. For further details, see *Purple Line Air Quality Technical Report (2013)*.

4.10.1 Regulatory Context and Methodology

The Clean Air Act (CAA) (42 USC 7401 et seq.) is the overarching statute regulating air quality in the United States. Among other things, it requires the U.S. Environmental Protection Agency (EPA) to set the National Ambient Air Quality Standards (NAAQS), designate areas that are not in attainment of the NAAQS, and subsequently approve state plans for achieving those standards.

The NAAQS include primary and secondary standards. The primary standards were established at levels sufficient to protect public health with an adequate margin of safety. The secondary standards were established to protect the public welfare from the adverse effects associated with pollutants in the ambient air.

The EPA classifies urban environments as being in "attainment," "maintenance," or "non-attainment." An area that does not meet the NAAQS for one or more pollutants is said to be in "non-attainment" of the NAAQS enforced under the CAA; a previous non-attainment area that has demonstrated compliance with the NAAQS is considered a "maintenance" area.

Per 40 CFR Part 93, the USDOT is required to ensure that its actions "conform to" the state's air quality plan in nonattainment areas, known as the State Implementation Plan (SIP). The process for determining compliance with a SIP is known as "transportation conformity." Conformity to a SIP requires that a proposed project not cause a violation, worsen an existing violation, or delay timely attainment of the NAAQS. The USDOT is required to make a transportation conformity

determination each time it approves a transportation plan, program, or project in a nonattainment area.

NAAQS/Pollutants of Concern

The EPA has established NAAQS for six pollutants, which are commonly known as "criteria pollutants": ozone, carbon monoxide (CO), particulate matter ($PM_{2.5}$ and PM_{10}), nitrogen dioxide, sulfur dioxide, and lead (Table 4-23). Of the six criteria pollutants, those that can be traced primarily to motor vehicles are relevant to a transportation project's air quality impacts. These pollutants include ozone and its precursor molecules (volatile organic compounds and nitrogen oxides—VOC and NO_x), as well as CO and particulate matter. These pollutants cause a variety of adverse health effects. In addition to the criteria pollutants, the EPA regulates mobile source air toxics (MSAT) and greenhouse gases (GHG). Following is a brief description of each motor vehicle-related pollutant:

- **VOC and NOX**—ground-level ozone is formed through the chemical reaction of VOC and NO_x from motor vehicle exhaust. Ozone is harmful to breathe and damages vegetation, crops, and buildings.
- **CO**—carbon monoxide is emitted from engines due to the incomplete combustion of fuel. It interferes with the oxygen-carrying capacity of the blood to the vital organs.
- **$PM_{2.5}$ and PM_{10}**—particulate matter is emitted from engines and dust sources, and causes respiratory distress by traveling into the lungs and damaging tissues.

Table 4-23. National Ambient Air Quality Standards for Criteria Pollutants

Pollutant		Averaging Period	National Standards	
			Primary Standard	Secondary Standard
Ozone (O_3)		8 hour[1]	0.075 ppm	Same as primary standard
		1 hour[2]	0.12 ppm/revoked	No secondary standard
Particulate Matter (PM)	PM_{10}	24 hour[3]	150 µg/m^3	Particulate Matter (PM)
	$PM_{2.5}$	Annual	12 µg/m^3	15 µg/m^3
		24 hour[4]	35 µg/m^3	
Carbon Monoxide (CO)		8 hour[5]	9 ppm	No secondary standard
		1 hour[5]	35 ppm	No secondary standard
Nitrogen Dioxide (NO_2)		1 hour[6]	0.010 ppm	No secondary standard
		Annual[7]	0.053 ppm	Same as primary standard
Sulfur Dioxide (SO_2)		1 hour[8]	75 ppb	No secondary standard
		3 hours[5]	No primary standard	0.5 ppm
Lead (Pb)		Rolling 3-month average[9]	0.15 µg/m^3	Same as primary standard

Note: ppm = parts per million, ppb = parts per billion, µg/m^3 = micrograms per cubic meter

[1]To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentration measured at each monitor within an area must not exceed the standard.

[2]As of June 15, 2005, the EPA revoked the one-hour ozone standard in all areas except the 14 eight-hour ozone nonattainment Early Action Compact areas. The project is not located in one of these areas.

[3]Not to be exceeded more than once per year on average over three years.

[4]To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations of $PM_{2.5}$ from single or multiple community-oriented monitors must not exceed the standard.

[5]Not to be exceeded more than once per year.

[6]To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed the standard.

[7]Annual mean, arithmetic average.

[8]To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed the standard.

[9]Not to be exceeded.

Source: EPA, National Ambient Air Quality Standards (NAAQS) October 2011.

- **MSATs**—mobile source air toxics such as benzene, formaldehyde, etc. are emitted from a variety of stationary and mobile sources such as engines, and are known or suspected to cause cancer or other serious health ailments.
- **GHGs**—greenhouse gases such as carbon dioxide (CO_2) are emitted in motor vehicle exhaust and have been attributed to climate change and global warming.

Mesoscale Pollutant Emissions Methodology

For NEPA disclosure and alternative comparison purposes, a quantitative mesoscale emissions burden analysis was conducted in Prince George's and Montgomery Counties for the criteria pollutants for which the region is designated as non-attainment or maintenance. Both counties are currently classified as "nonattainment" areas for the 1997 $PM_{2.5}$ and 1997 8-hour ozone standards, "maintenance" areas for the 1990 CO standard, and attainment areas for all other criteria pollutants.

The analysis estimated air pollutant levels for 2014 Base Year, 2020 Interim Year, and 2040 Design Year. Using the average weekday loaded network from the Maryland Alternatives Analysis Phase II (MDAA II M80) Travel Demand Model, in combination with emission factors (developed using Mobile6.2[6]), an evaluation of emissions for both the Preferred Alternative and the No Build

Alternative was completed to determine how each would affect the Prince George's County and Montgomery County ozone (precursor VOC and NO_x), CO and $PM_{2.5}$ emissions.

[6] Mobile6.2 is an emission factor model used for predicting gram per mile emissions under various conditions. It was used for emission factor development in this air quality analysis in an effort to demonstrate consistency with related planning documents such as the 2012 CLRP. The Mobile6.2 emission factors were also used for the Microscale CO hot analysis for the same reason. Note that MOVES is a new model being phased in by USEPA. CO analyses started before 12/20/12 may continue to use the Mobile6.2 software.

Microscale Pollutant Emissions Methodology

Both CO and $PM_{2.5}$ can have major localized impacts on air quality, in addition to their mesoscale impacts, which contribute to the nonattainment or maintenance designation for the region. The microscale analysis methodology used for these two pollutants is discussed below.

Microscale CO

In accordance with the EPA's 1992 *Guideline for Modeling Carbon Monoxide from Roadway Intersections*, CAL3QHC Version 2.0 was used as the preferred air pollutant dispersion modeling software. Emission factors were derived from Mobile6.2. Synchro7 was used in support of this dispersion modeling software to supply intersection volumes, level of service, delay, and signal phasing information.

Fifty intersections affected by the Purple Line were screened for microscale CO analysis. The following criteria were used to select a representative set of intersections for detailed analysis for microscale CO impacts:

- The top three intersections with the highest entering traffic volume
- The top three intersections with the highest delay were selected from the intersections whose Level of Service was at a "D" or worse, and were also in the top twenty intersections by volume.

This screening method is recommended by EPA, as the intersections with the highest volumes and worst LOS represent a cross section of the "worst case" intersections. It is assumed that if these "worst case" intersections do not violate the NAAQS, then all other intersections in the study area with lower volumes and a better LOS should also not violate the NAAQS.

Microscale $PM_{2.5}$

A microscale analysis is typically completed for fine particulate matter ($PM_{2.5}$). However, the Purple Line meets the CAA and 40 CFR 93.116 requirements for $PM_{2.5}$ without a microscale analysis because its electric light rail vehicles would not increase the amount of diesel vehicles in the study area, which are primary contributors of $PM_{2.5}$ emissions.

In addition, a project-level analysis of $PM_{2.5}$ impacts was not required because LRT projects are not projects "of air quality concern" as defined in 40 CFR 93.123(b) (1) and *Transportation Conformity Guidance for Qualitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas* (EPA, 2006).

Mobile Source Air Toxics Emissions Methodology

To analyze the Preferred Alternative's effect on on-road MSAT levels, the available FHWA's *Interim Guidance Update for Mobile Source Air Toxic Analysis in NEPA Documents* (2012) was used. This FHWA's interim guidance is the only guidance that provides specific procedures for analyzing potential MSAT impacts for the NEPA purpose. The guidance identifies a three-tiered approach for MSAT analysis, based upon the potential of a project to affect MSAT levels in the region. The Purple Line is classified as a Tier II project under that guidance, because it is a project that improves operations of highway, transit, or freight, without adding substantial new vehicle capacity to the roadways, and without creating a facility that is likely to meaningfully increase MSAT emissions. Tier II projects require a qualitative (not quantitative) analysis, which is based on comparing changes in VMT (assuming the vehicle mix does not change) between the Preferred Alternative and the No Build Alternative.

Although a qualitative analysis cannot measure the health impacts from MSATs particularly on local conditions, such an analysis can identify and compare relative differences in MSAT emissions levels between the Preferred Alternative and the No Build Alternative.

Greenhouse Gas Emissions Methodology

For NEPA disclosure and alternative comparison purposes, a quantitative mesoscale greenhouse gas emissions analysis was also conducted. The analysis estimated greenhouse gas pollutant levels for 2014 Base Year, 2020 Interim Year, and 2040 Design Year for both the No Build Alternative and Preferred Alternatives. MOVES 2010b was used per EPA guidance to prepare greenhouse gas emission factors since the MOVES model accounts for revisions to GHG emissions and fuel economy standards; it also incorporates new emissions test data. The criteria by which the No Build Alternative is compared to the Preferred Alternative are the outputs of the greenhouse gas emissions analysis in tons of CO_2, CH_4, N_2O, elemental carbon $PM_{2.5}$, hydrocarbons, and BTU of total energy.

4.10.2 Affected Environment

The Air and Radiation Management Administration within the Maryland Department of the Environment (MDE) is responsible for implementing and enforcing air quality regulations in Maryland. This work occurs through several methods, including air pollution monitoring. Table 4-24 summarizes the reported air quality data for the years 2009 through 2011.

The project corridor encompasses both Prince George's County and Montgomery County. Both counties are in the Metropolitan Washington DC-MD-VA region. The region is currently classified as "nonattainment" for the 1997 $PM_{2.5}$ and 1997 8-hour ozone standards; as "maintenance" (formerly nonattainment) areas for the 1990 CO standard; and as an attainment area for all other criteria pollutants. As noted above, a SIP is developed for each criteria pollutant for which the region is in nonattainment or maintenance status. The most recent SIPs in place for the region are the 8-hour ozone SIP (May 2007), the fine particulate matter ($PM_{2.5}$) SIP (March 2008), and the carbon monoxide maintenance plan (September 1995).

Table 4-24. Maximum Monitored Pollutant Concentrations (2009 to 2011)

Pollutant and Averaging Period	NAAQS	Units	Monitored Values		
			2009	2010	2011
Carbon Monoxide, 1-hour 2nd Max	35	ppm	4.2	3.7	4.2
Carbon Monoxide, 8-hour 2nd Max	9	ppm	3.8	3.1	2.4
Nitrogen Dioxide, 1-hour 98th Percentile	100	ppb	63	59	55
Ozone, 8-hour 4th Max	0.075	ppm	0.071	0.086	0.086
SO_2, 1-hour 99th Percentile	75	ppb	39	21	20
$PM_{2.5}$, 24-hour 98th Percentile	35	µg/m^3	26	28	25
$PM_{2.5}$, Annual Mean	12	µg/m^3	10.5	11.4	10.4
PM_{10}, 24-hour 2nd Max	150	µg/m^3	47	85	40
Lead	0.15	µg/m^3	Not avail	Not avail	Not avail

Note: Values obtained from the following representative monitoring sites, which are between 4 and 12 miles from the study area: Rockville (Montgomery County); Beltsville and Upper Marlboro (Prince George's County); and L & 20th, 420 34th St N.E., 2500 1st St N.W (Washington DC).
PM2.5 is a regional pollutant and the nonattainment designation was made based on the levels monitored over a regional monitoring network as compared to those from selected stations near the study area.

Source: EPA AirData, 2012. http://www.epa.gov/airdata/

4.10.3 Preferred Alternative

Long-term Operational Effects

Mesoscale Pollutant Emissions

As discussed previously, for NEPA disclosure and alternative comparison purposes, the mesoscale emissions burdens were predicted for Base Year 2014, Interim Year 2020, and Design Year 2040 and are presented in Table 4-25. The year of peak emission burden is anticipated to be the nearest year, Base Year 2014, after which emission control technology is expected to reduce mesoscale emissions, despite the expected increase in overall VMT in the future.

The predicted mesoscale emissions burdens indicate that the Preferred Alternative would yield slightly higher $PM_{2.5}$ pollutant levels (0.2 percent), slightly lower ozone precursor NO_x (0.1 percent) levels, and virtually no change in other mesoscale pollutant levels compared to the No Build Alternative in Interim Year 2020. The Preferred Alternative is predicted to decrease all mesoscale pollutant levels (between 0.1 to 0.3 percent) compared to the No Build Alternative in Design Year 2040 within the study area in Prince George's and Montgomery Counties.

Microscale CO Emissions

Fifty-two intersections affected by the Purple Line were screened for microscale CO analysis following the EPA's 1992 *Guideline for Modeling Carbon Monoxide from Roadway Intersections.* Seven intersections from the screening evaluation were selected for CO microscale analysis. Table 4-26 lists the intersections selected for microscale analysis and identifies the predicted maximum CO concentrations at each intersection for Base Year 2014, Interim Year 2020, and Design Year 2040. The CO microscale analysis revealed maximum 1-hour CO concentrations below the NAAQS of 35 ppm, and maximum 8-hour CO concentrations below the NAAQS of 9 ppm for all scenarios. No violations of the NAAQS are predicted for either the Preferred Alternative or the No Build Alternative.

Mobile Source Air Toxics Emissions

The amount of MSATs emitted along the project corridor in the future would be proportional to the total VMT predicted under each alternative, assuming the vehicle mix does not change. Vehicle mix pertains to the distribution of vehicle classifications on the roadway network (e.g., the percent of VMT by light duty gasoline vehicle, heavy duty diesel trucks, etc.)

Table 4-25. Mesoscale Pollutant Emissions

Pollutant	Season	Baseline	2014	2020			2040		
			Base	No Build Alternative	Preferred Alternative	% Change Between Alternatives	No Build Alternative	Preferred Alternative	% Change Between Alternatives
$PM_{2.5}$ (Tons)	Annual	605	321.6	270.9	271.4	0.2%	270.7	270.4	-0.1%
Ozone precursor VOC (Tons)	Ozone season daily	43.8	16.54	12.67	12.67	0%	12.19	12.18	-0.1%
Ozone precursor NO_x (Tons)	Ozone season daily	102.32	32.72	16.87	16.86	-0.1%	10.94	10.91	-0.3%
CO (Tons)	Winter season daily	1702.90	230.23	209.7	209.7	0%	212.0	211.6	-0.2%

Note: CO = carbon monoxide; VOC = volatile organic compounds; NOx = nitrogen oxides; PM2.5 = fine particulate matter.
The baseline year for the 1997 PM2.5 standard and 1997 8-hr ozone standard is 2002. The baseline year for the 1990 CO standard is 1990.

Source: MDAA II M80 Travel Demand Model; emission factors referenced from MWCOG

Table 4-26. Microscale CO Emissions

Intersection	NAAQS	2014	2020		2040	
		Base	No Build Alternative	Preferred Alternative	No Build Alternative	Preferred Alternative
Maximum 1-hour CO Concentrations (ppm)						
University Blvd (MD 193) at Piney Branch Rd (MD 320)	35	4.4	4.5	4.4	4.0	4.5
University Blvd (MD 193) at New Hampshire Ave (MD 650)	35	4.7	4.0	4.3	4.1	4.5
University Blvd (MD 193) at Riggs Rd (MD 212)	35	4.9	4.2	4.1	4.3	4.1
Campus Dr at Adelphi Rd	35	4.8	5.3	4.3	4.7	4.8
Paint Branch Pkwy at Metro Parking	35	3.8	3.9	4.3	6.6	6.5
Kenilworth Ave (MD 201) at E-W Highway (MD 410)	35	4.7	4.1	4.8	4.7	5.2
Veterans Pkwy (MD 410) at Annapolis Rd (MD 450)	35	4.4	3.9	4.4	3.5	3.6
8-hour CO Concentrations (ppm)						
University Blvd (MD 193) at Piney Branch Rd (MD 320)	9	3.5	3.6	3.5	3.2	3.6
University Blvd (MD 193) at New Hampshire Ave (MD 650)	9	3.7	3.2	3.4	3.3	3.6
University Blvd (MD 193) at Riggs Rd (MD 212)	9	3.9	3.4	3.2	3.4	3.3
Campus Dr at Adelphi Rd	9	3.8	4.2	3.4	3.7	3.8
Paint Branch Pkwy at Metro Parking	9	3.1	3.1	3.4	5.2	5.2
Kenilworth Ave (MD 201) at E-W Highway (MD 410)	9	3.8	3.3	3.8	3.7	4.1
Veterans Pkwy (MD 410) at Annapolis Rd (MD 450)	9	3.5	3.1	3.5	2.8	2.8

Concentrations include a background concentration of 3 ppm and 2.4 ppm for the 1-hour and 8-hour concentrations, respectively, as recommended by the Maryland Department of the Environment

Source: CAL3QHC Version 2.0; Synchro7 traffic model; emission factors referenced from MWCOG

Table 4-27. Vehicle Miles Traveled under the No Build and Preferred Alternatives

Parameter	2014	2020			2040		
	Base	No Build Alternative	Preferred Alternative	% Change Between Alternatives	No Build Alternative	Preferred Alternative	% Change Between Alternatives
VMT (in 1,000s)	45,278	49,675	50,116	0.1%	53,383	53,292	-0.0%

Source: MDAA II M80 Travel Demand Model

Table 4-27 presents the annual VMT for each alternative for each analyzed year. VMT estimates predict that the Preferred Alternative would have a slightly higher VMT in the study area compared to the No Build Alternative in 2020 and a slightly lower VMT compared to the No Build Alternative in 2040. As such, MSATs levels within the study area under the Preferred Alternative are expected to be slightly higher in 2020 and slightly lower in 2040 than the respective levels under the No Build Alternative.

MSAT emissions per mile are also projected to decrease in the future as compared to present levels as a result of the EPA's national control programs, which are projected to reduce annual priority MSAT emissions by 83 percent between 1999 and 2050, despite the anticipated 102 percent increase in VMT over that time period[7].

There may be localized areas where ambient concentrations of MSATs could be higher or lower under the Preferred Alternative than under the No-Build Alternative. However, the magnitude and duration of these potential increases in health effects compared to the No Build Alternative cannot be accurately quantified because of the limitation of current modeling tools. Along with these general limitations of modeling tools, there is also a lack of monitoring data in most areas for use in establishing project-specific MSAT background concentrations.

Conformity Determination

The Transportation Conformity Rule provides criteria and procedures for determining the conformity to the SIP of transportation plans, programs, and projects funded or approved under Title 23 USC or the Federal Transit Act. The attainment status of this area is as follows (Prince George's and Montgomery Counties share the same attainment statuses):

- Maintenance area for CO
- Nonattainment area for $PM_{2.5}$
- Moderate nonattainment area for ozone

As such, a SIP conformity determination with the following items is required:

- The project must originate from a conforming transportation plan and program
- The project must eliminate or reduce the severity and number of violations of the NAAQS

Transportation projects that are included in a conforming transportation plan and program are considered to conform to the rule. The Purple Line project is listed as Project ID #2795 in the 2013-2018 Transportation Improvement Plan (TIP), and as Project ID #1042 in the 2012 CLRP, both approved by the National Capital Region Transportation Planning Board on July 18, 2012. Inclusion of the Purple Line in the conforming TIP and CLRP designates the Purple Line as a conforming transportation project and precludes the need for a separate regional emissions analysis. A mesoscale analysis of Prince George's and Montgomery Counties was performed for full disclosure of air quality impacts.

The project's CO microscale analysis predicts that CO levels for all future years would be below the one-hour and eight-hour NAAQS of 35 ppm and 9 ppm, respectively. According to guidance, light rail projects are not of air quality concern for $PM_{2.5}$. As such, the project is not expected to create or worsen violations of the $PM_{2.5}$ NAAQS. Therefore, this project would comply with the conformity

[7] Federal Highway Administration, *Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents* (2012).

requirements, on both regional and local levels, established by the Clean Air Act.

Greenhouse Gas Emissions

Data is presented in Table 4-28 for various pollutants and processes related to GHG, including CO_2, methane, nitrous oxide, elemental carbon particulate matter, hydrocarbons, and total energy used.

CO_2 and total energy are the two most common measures of a project's impact on greenhouse gas emissions.

In 2020, mesoscale CO_2 levels and total energy consumption are expected to be slightly higher under the Preferred Alternative than under the No Build Alternative, but in 2040, mesoscale CO_2 levels and total energy consumption are expected to be slightly lower under the Preferred Alternative.

Mitigation

Since the project is included in a conforming TIP and the Preferred Alternative would not cause or contribute to a violation of the NAAQS, no long-term adverse impacts to either localized or mesoscale air quality are anticipated. Therefore, no mitigation is proposed for long-term operational effects.

Short-term Construction Effects

The construction duration of the project is not anticipated to exceed five years in any single location; thus, any impact incurred during construction would be considered a temporary impact (see Chapter 5.0 for more information on the anticipated construction activities). According to 40 CFR 93.123(c) (5), CO, PM_{10}, and $PM_{2.5}$ hot-spot analyses are not required for construction-related activities that cause temporary increases in emissions. The primary air quality concerns during construction would be a localized increase in the concentration of fugitive dust (including airborne particulate matter, $PM_{2.5}$ and PM_{10}), as well as mobile source emissions both on and off the construction site from on- and off-road construction equipment and vehicles. Disruption of traffic during construction (such as temporary reduction of roadway capacity and increased queue lengths) could result in short-term elevated concentrations of localized pollutants such as CO and PM.

Avoidance and Minimization

MTA would make an effort to minimize the amount of emissions generated by traffic disruptions during construction, especially during peak hours.

Table 4-28. Annual Greenhouse Gas Emissions

Pollutants/Processes	2014	2020			2040		
	Base	No Build Alternative	Preferred Alternative	% Change between Alternatives	No Build Alternative	Preferred Alternative	% Change between Alternatives
CO2 (Tons)	10,327,270	10,289,952	10,360,877	0.7%	10,325,356	10,302,836	-0.2%
CH4 (Tons)	628	638	639	0.2%	747	746	-0.1%
N2O (Tons)	261	182	182	0.1%	159	159	-0.1%
Elemental Carbon PM2.5 (Tons)	337	134	134	0.4%	51	51	-0.1%
Hydrocarbons (Tons)	9,849	6,876	6,888	0.2%	6,151	6,146	-0.1%
Total Energy (BTU Billions)	123,046	122,555	123,421	0.7%	122,928	122,661	-0.2%
Total Distance (Million Miles)	17,863	19,654	19,826	0.9%	21,117	21,084	-0.2%

Source: MOVES 2010b; MDAA II M80 Travel Demand Model; MOVES input tables referenced from MWCOG.
**Percent change based upon calculations of totals before rounding—refer to Appendix F.*

Mitigation

MTA will require the construction contractor to implement dust control measures in accordance with MDE requirements and require that construction equipment complies with EPA's Tier 2 engine emission standards. Possible dust and emission control measures include the following:

- Minimizing land disturbance
- Constructing stabilized construction site entrances per construction standard specifications
- Covering trucks when hauling soil, stone, and debris
- Using water trucks or calcium chloride to minimize dust
- Stabilizing or covering stockpiles
- Minimization of dirt tracking by washing or cleaning trucks before leaving the construction site
- Using ultra-low sulfur diesel fuel for diesel equipment
- Equipping some construction equipment with emission control devices such as diesel particulate filters
- Permanently stabilizing and seeding any remaining disturbed areas

4.11 Noise

This section describes the existing noise environment, identifies project-related noise levels that would result from the Preferred Alternative, and describes measures that have been incorporated into the design to reduce project-related noise. More detail regarding the noise analysis findings is provided in in the *Purple Line Noise Technical Report (2013)*.

4.11.1 Introduction

A noise impact assessment was conducted in accordance with NEPA and FTA impact assessment guidelines and procedures. The details of the analysis methodology are outlined in detail in FTA's guidance manual for assessing noise and vibration impacts of proposed mass transit projects, *Transit Noise and Vibration Impact Assessment* (FTA 2006).

The noise analysis study area is a 700-foot corridor centered along the Preferred Alternative alignment which is further expanded to encompass areas within 1,000 feet of the proposed yard and maintenance facilities. The study area is based upon screening distances identified in the *Transit Noise and Vibration Impact Assessment* manual.

Methodology

The following methodology was implemented for the noise analysis:

- Identify representative noise-sensitive properties and land uses within the study area that would potentially be adversely affected by operating the Preferred Alternative
- Measure existing ambient noise levels at each representative noise-sensitive receptor location
- Estimate project-related noise exposure levels at each receptor location and compare with FTA impact criteria
- Identify reasonable and feasible design refinements that would reduce project-related noise and incorporate them into the project

FTA Criteria

The noise criteria that FTA uses to determine impacts vary based on land use, as follows:

- **Category 1**—Buildings or parks where quiet is an essential element of their intended purpose
- **Category 2**—Residences and buildings where people normally sleep, where sensitivity to noise is of the utmost importance
- **Category 3**—Institutional land uses with primarily daytime and evening use, such as schools, libraries, theaters, and churches

Land use categories 1 and 3 (primarily daytime uses) were assessed using the peak hour noise level (Leq [1 hr]) descriptor, while land use category 2 (daytime and nighttime use) were assessed using the twenty-four-hour based day-night (Ldn) descriptor. The Ldn descriptor is the average hourly sound level over a 24-hour period, which adjusts for greater sensitivity people have to noise during the nighttime sleeping hours by adding a 10-decibel adjustment from 10:00 p.m. to 7:00 a.m. Both the Leq and Ldn descriptors use an A-weighted decibel scale, referred to as dBA, which incorporates an adjustment to sound levels to account for the

frequency range which best approximates human hearing and perception to changes in sound levels.

FTA impact criteria compare existing outdoor noise levels with the noise generated solely by the transit noise source. The severity of noise impact is characterized by two curves (illustrated in Figure 4-26) that allow for higher project noise exposure where there are higher levels of existing background noise, up to a threshold level beyond which project noise exposure would result in an impact. The left vertical axis in the figure applies to FTA land use Categories 1 and 2, and the right vertical axis to Category 3. Noise levels above the top curve are considered to cause Severe Impact since a substantial percentage of people living in the area would be highly annoyed by the new noise. Noise levels in the range between the two curves are deemed to be Moderate Impacts, and levels below the bottom curve represent No Impact.

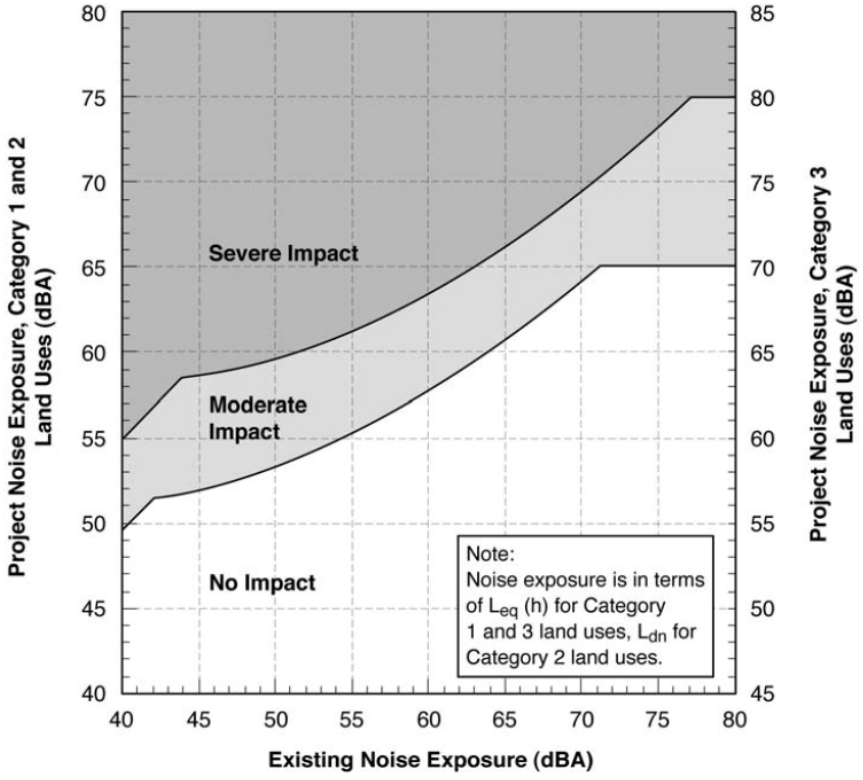
4.11.2 Affected Environment

A review of aerial photography and field inspections of the study area identified residential communities, parks, and institutional uses within the project corridor. Eighty-three representative locations consistent with the three FTA use categories were chosen for monitoring and analysis, as shown on Figure 4-27. Receptor sites were selected based on their sensitivity to noise and vibration, close proximity to line operations and therefore representative of potential exposure for a larger area surrounding each representative site. Noise measurements were collected during the time period covering January 2011 to June 2012 using laboratory-calibrated sound level meters.

The measured day-night noise levels at residential land uses within the study area ranged from 55 dBA at Receptor M-5 (single-family residences along Elm Street in Chevy Chase) to 78 dBA at Receptors M-22 (multi-family residences along Falkland Lane in Silver Spring) and M-39 (a residential property on Erskine Road in College Park). In general, the lower measured noise levels occurred in suburban communities while the higher noise levels typically occurred in more urban settings adjacent to roadways with greater vehicular traffic.

Measured peak hour noise levels at parks within the study area ranged from 52 dBA at Receptor P-3 (Rock Creek Stream Valley Park) to 77 dBA at Receptor P-11 (Glenridge Community Park). Peak hour noise levels at University of Maryland receptors within the study area ranged from 57 dBA at Receptor UMD-1 (Ludwig Field & Kehoe Track) to 68 dBA at Receptor UMD-3 (Health Center on Campus Drive). Measured peak hour noise levels at institutional receptors in the study area ranged from 52 dBA at Receptor M-16 (Rock Creek Pool on Grubb Road) to 74 dBA at Receptor M-19A (Rosemary Hills Elementary School).

Figure 4-26. Noise Impact Criteria for Transit Projects



Source: Transit Noise and Vibration Impact Assessment, FTA, 2006.

Figure 4-27. Representative Noise and Vibration Monitoring and Assessment Locations

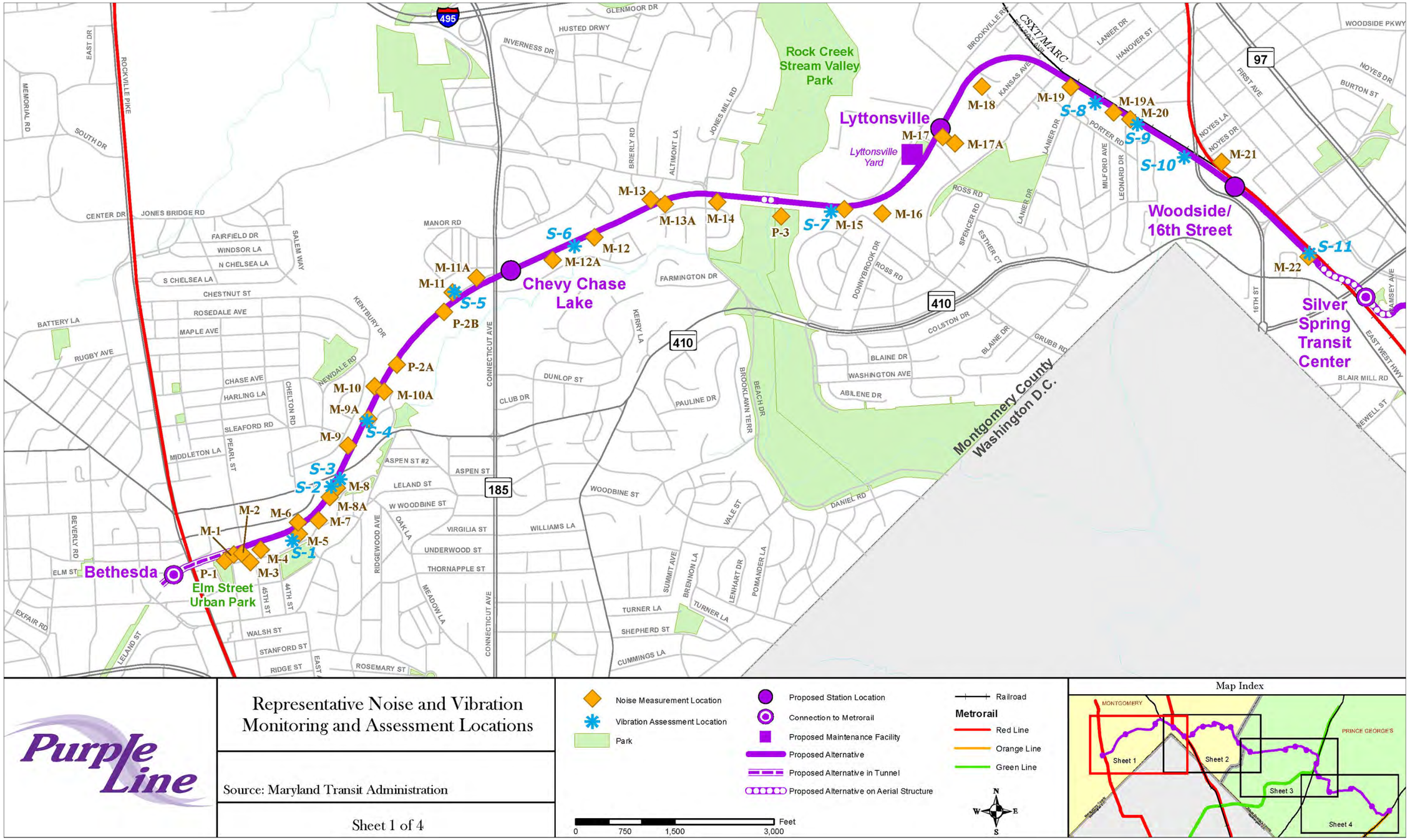


Figure 4-27. Representative Noise and Vibration Monitoring and Assessment Locations (continued)

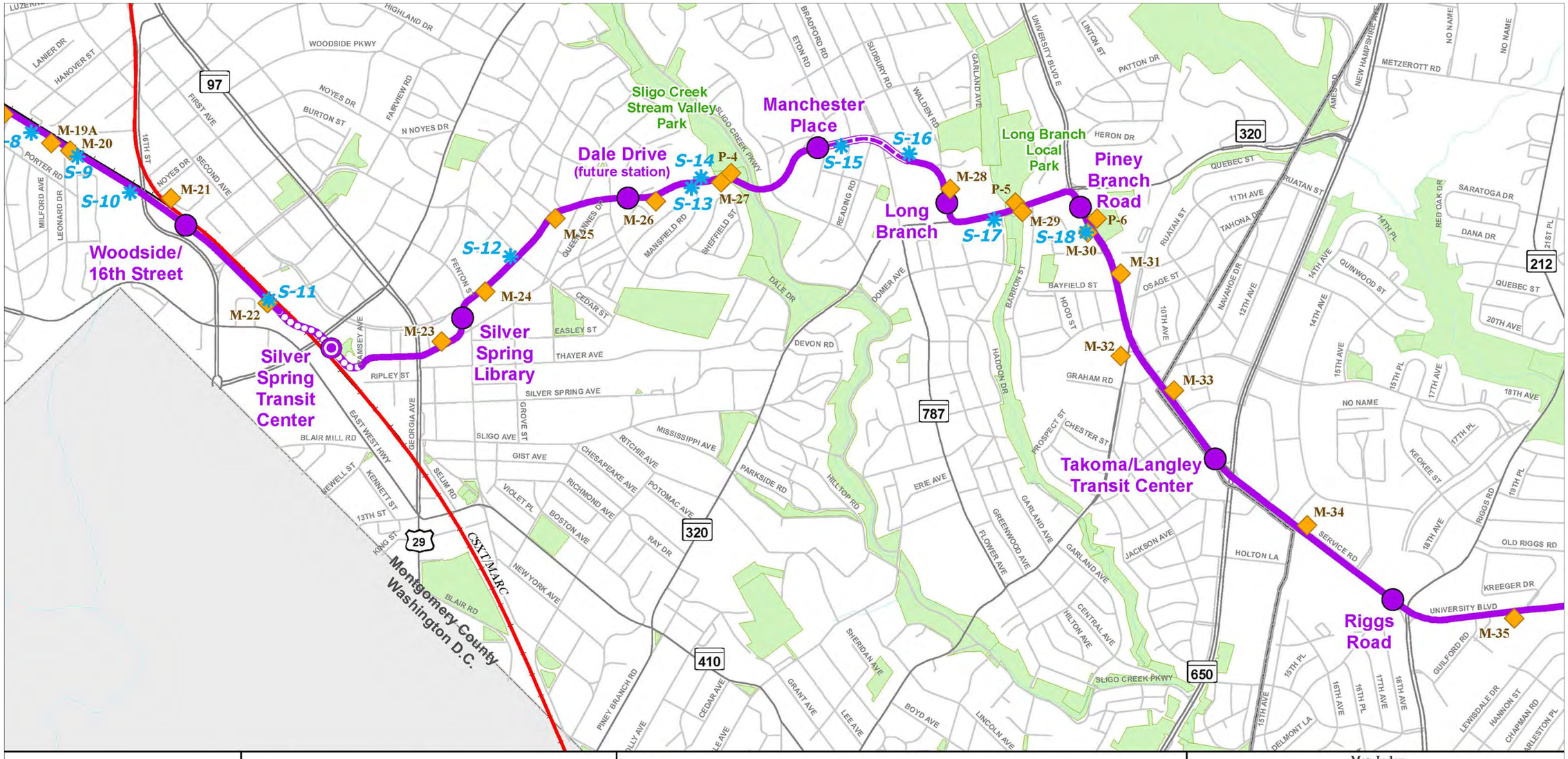


Figure 4-27. Representative Noise and Vibration Monitoring and Assessment Locations (continued)

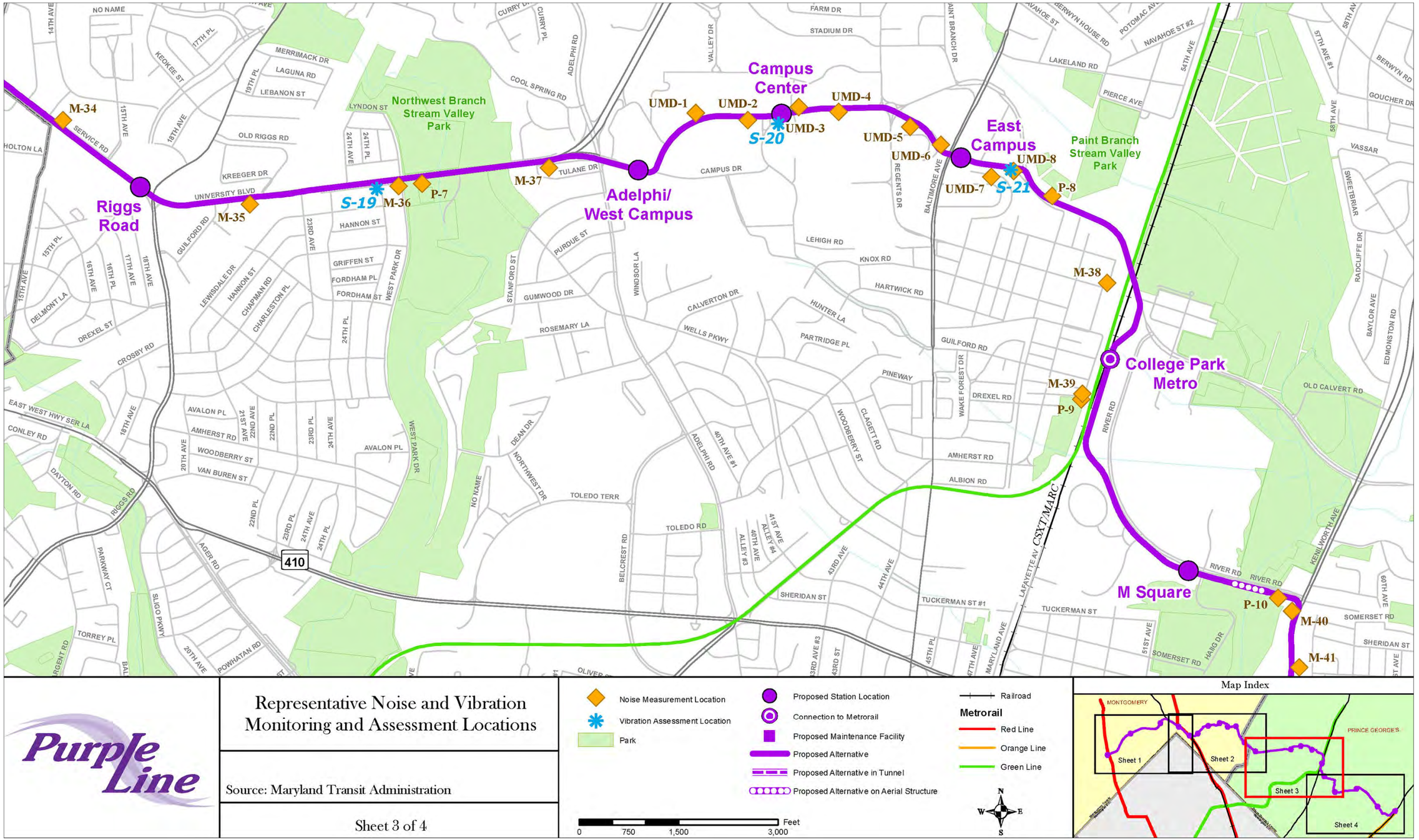
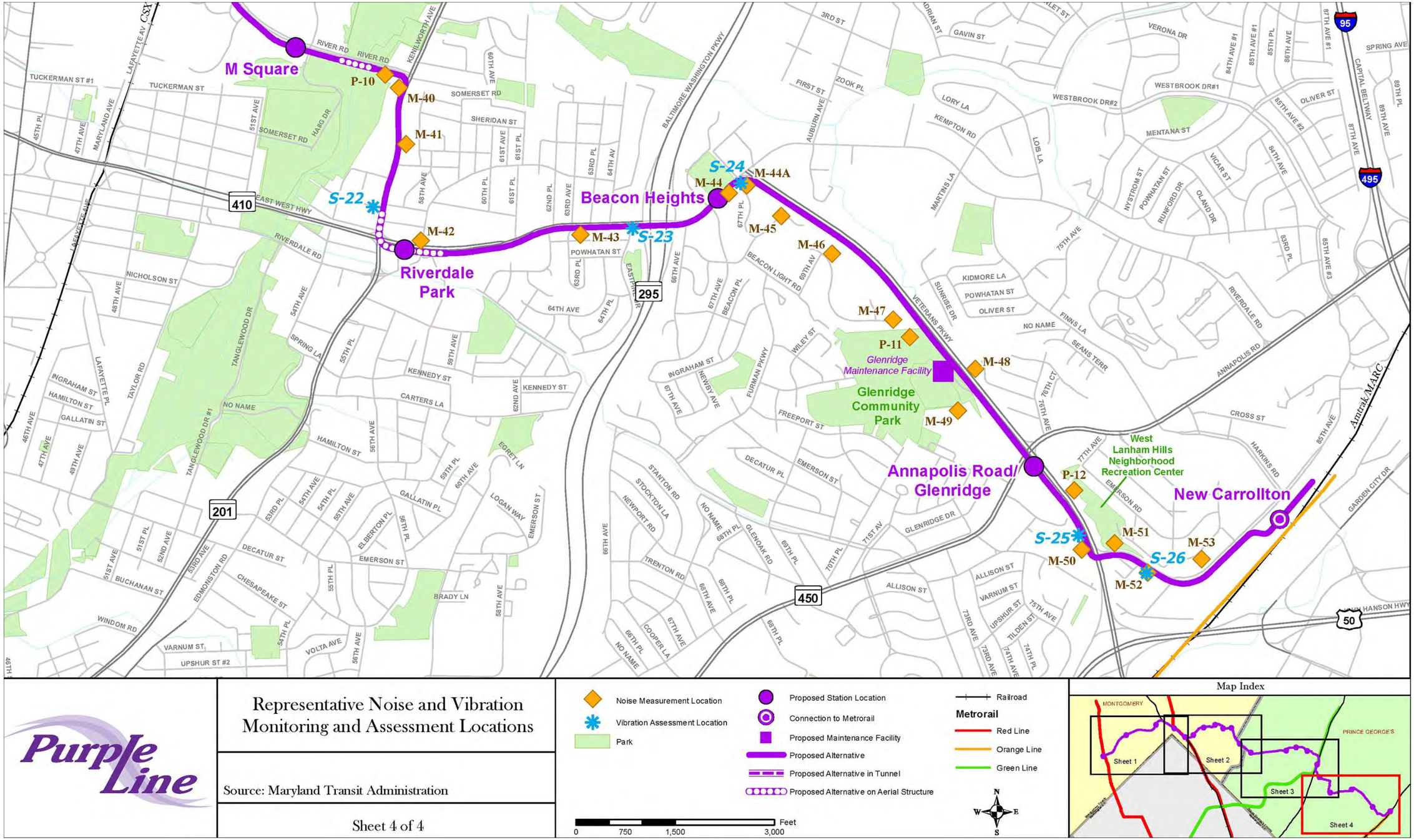


Figure 4-27. Representative Noise and Vibration Monitoring and Assessment Locations (continued)



Based on the field measurement findings, the high ambient noise conditions reported at some residential and other noise-sensitive monitoring locations reflect their close proximity to active roadways and existing freight rail corridors.

4.11.3 Preferred Alternative

Long-term Operational Effects

Noise Sources Related to LRT Vehicle Operations

Project-related sound levels were estimated for each of the 83 representative sites described in Section 4.11.2. FTA noise estimate calculation process considers distance to the transitway, type of track, train length, train speed, service operations (headways), and presence of at-grade crossovers (areas where the train and street traffic intersect). An onboard warning device or bell was included in the calculations for areas in the vicinity of stations and certain at-grade crossings, with the assumption that the device or bell would sound within approximately five seconds of approaching the station or grade crossing. MTA is currently developing a Bell and Horn Policy for the Purple Line which would indicate standard operating procedures for horn and bell use in different types of locations. This noise analysis assumed the most conservative use of horns and bells, without regard to differences in train operating conditions (for example: mixed traffic lanes versus exclusive lanes, residential areas versus non-residential). Actual operating policy for the Purple Line will likely reflect these differences.

The calculations also included noise associated with the yard and maintenance facility activities, as well as train movements into, out of, and within the yard and maintenance facilities. Receptors located within 1,000 feet of the Lyttonsville Yard included M-15, M-16, M-17, M-17A, and M-18; those nearest the Glenridge Maintenance Facility site are M-47, M-48, and M-49.

Most LRT projects incorporate various design elements to help reduce noise exposure during daily line operations. The predicted sound levels for the Preferred Alternative were calculated with the incorporation of the following measures in the project build design:

- Between Bethesda and Rock Creek Stream Valley Park, the Preferred Alignment transitway design would have a four-foot noise wall on the south side of the transitway. On the north side of the transitway, either the trail would be elevated more than four feet above the tracks, or a four-foot noise wall would be included between the Capital Crescent Trail and the adjacent community. The four-foot noise wall would provide a 4 dBA noise reduction from LRT vehicle movements.
- LRT vehicles will be constructed to include vehicle skirt panels to reduce the noise caused by the interaction of, and friction between, the wheels pressing down on the rails as the train travels along the transitway. This design feature would reduce the vehicle noise by 8 dBA along the entire length of the project corridor. For areas near the four-foot barrier/retaining walls, the combination of both measures would provide a total of 12 dBA noise reduction.

The predicted sound levels were compared to the existing sound levels at each location to identify sites that would result in future operational noise exposure constituting either an FTA-based moderate impact or severe impact condition. The analysis found that none of the studied representative sensitive receptors would experience project-related sound levels that would exceed the FTA Severe Impact threshold. Moderate impacts due to Purple Line operations are projected to occur at 11 residential properties comprising seven single-family residences represented by sites M-26, M-27A, and M-52, and four apartment buildings (containing a total of approximately 140 units) represented by sites M-23A, M-27A, M-28, and M-44. Five sites (M-23A, M-26, M-27A, M-28, and M-44) are representative of residential properties that are within 200 feet of a station. The sixth site, M-52, is located within 200 feet of a grade crossing. The noise exposure projected at all of these sites is due primarily to horn soundings which are required as the LRT approaches stations and grade crossings.

Noise exposure levels at all other receptor sites identified in Figure 4-27 are projected to remain below FTA Moderate Impact threshold. Table 4-29

summarizes the number of impacted sites by land use type.

Table 4-29. Predicted Project Noise Impacts

Type of Receptor	Number of Impacts	Locations
Residence (Ldn)	FTA Moderate Impact at 7 single-family residences and 4 apartment buildings containing approximately 140 units	M-23A, M-26, M-27A, M-28, M-44, M-52
Institution (Leq)	None	None
Park (Leq)	None	None
UMD	None	None

Other Noise Sources

In addition to LRT vehicle operations, other noise sources associated with the Preferred Alternative include the public address (PA) system at stations, wheel squeal, and the TPSS. Following is a qualitative description of each noise source:

- PA systems would be installed at stations to announce LRT arrivals and departures and provide other information to patrons.
- Wheel squeal can occur when steel-wheel LRT vehicles traverse tight radius curves. It is very difficult to predict when and where wheel squeal would occur. Generally, the potential for wheel squeal to occur is when the radius of track curvature is less than 600 feet. Within the Purple Line corridor, 20 tight radius (<600 feet) curve locations occur along the transitway alignment.
- The Preferred Alternative includes TPSS, installed at approximately one-mile intervals, to provide electrical power for light rail vehicles. The primary noise from the TPSS is the transformer hum.

With proper design and implementation of mitigation measures described below, these other noise sources would not cause additional noise impacts.

Avoidance and Minimization

As noted above, the LRT vehicles will be designed to include vehicle skirt panels to reduce the noise caused by LRT operations, and a combination of noise walls and retaining walls would be incorporated between Bethesda and Rock Creek Stream Valley Park to reduce operational noise for the adjacent communities.

MTA will minimize the noise from the Preferred Alternative operations as follows:

- The PA systems will have volume adjustment controls designed to maintain announcement volume at the specified noise levels, as appropriate. With proper use, short-term noise from the PA system announcements is not expected to be a noise annoyance to residential communities adjacent to stations.
- The TPSS will be designed in accordance with the MTA design criteria, which are intended to minimize the noise from the transformer hum.

Mitigation

MTA's analysis found that further minimization and mitigation of operational noise at impacted sites is not reasonable. Much of the noise impact is derived from use of transit warning horns at stations and crossings, and eliminating the transit horn is not possible due to safety concerns. Another common noise-reduction measure—the construction of noise walls—is not feasible for this project because these barriers would block driveway access and pedestrian walkways, as well as introducing visual impacts. Therefore, these additional measures are not proposed.

Short-term Construction Effects

Constructing the Purple Line would involve a range of activities, including excavating the rail right-of-way; tunnel construction; constructing grade crossing areas, bridges, and yard and maintenance facilities; laying track; and constructing stations and other system elements (see Chapter 5.0 for more information on the anticipated construction activities).

Noise levels during construction are difficult to predict, and they vary depending on the type and duration of construction activity and the number and type of equipment used during each stage of work. Specifically, the location of sensitive receptors in relation to the construction activity and the duration of construction activities affect the potential for noise impact. Track-related construction would move continuously along the corridor; therefore, the duration of exposure to

construction-related noise at any one property would be limited.

Some specialized construction work does have the potential to create noise impacts. This includes:

- Tunneling (Plymouth Street tunnel)
- Pile driving
- Heavy equipment use (Silver Spring Transit Center and associated structures, and sections along the transitway with extensive bridge and retaining wall work).

However, the noise impact for these activities would be realized only for sensitive receptors in close proximity to these specific locations and not along the entire length of the transitway.

Avoidance and Minimization

As part of the Purple Line contract specification documents, MTA would establish performance standards for construction equipment to reduce noise associated with the construction activities. MTA is committed to abiding by local noise ordinances, whenever feasible and reasonable, in accordance with its own performance standards, which will include, but not necessarily be limited to, the following:

- Conduct construction activities during the daytime whenever possible.
- Conduct truck loading, unloading, and hauling operations in a manner that minimizes noise.
- Route construction equipment and other vehicles carrying spoil, concrete, or other materials over routes that would cause the least disturbance to residents in the vicinity of the activity.
- Locate site stationary equipment away from residential areas to the extent reasonably feasible within the site/staging area.
- Employ the best available control technologies to limit excessive noise when working near residences
- Adequately notify the public of construction operations and schedules including methods such as construction-alert publications and a Noise Complaint Hotline to handle complaints quickly.

4.12 Vibration

This section describes the existing vibration environment, identifies project-related ground-borne vibration (GBV) and ground-borne noise (GBN) that would result from the operation of the Preferred Alternative and short-term construction activities, identifies areas that need further study as the project design advances, and discusses mitigation measures to be implemented as part of construction to minimize the identified impacts. More detail regarding the vibration analysis can be found in the *Purple Line Vibration Technical Report (2013)*.

4.12.1 Introduction

A vibration impact assessment was conducted in accordance with NEPA and the guidelines set forth by FTA. The details of the analysis methodology are outlined in FTA's guidance manual for assessing noise and vibration impacts of proposed mass transit projects, *Transit Noise and Vibration Impact Assessment* (FTA 2006).

The study area is based upon screening distances identified in the guidance manual, and varies in width depending upon FTA-defined land use categories. For residential land uses, the study area extends 150 feet on either side of the Preferred Alternative alignment. This corridor is reduced to 100 feet on either side for institutional uses and expanded to 450 feet on each side for special buildings, such as concert halls and recording studios, which may be particularly sensitive to vibration.

Methodology

The vibration analysis began with identification of representative vibration sensitive receptors within the study area that could be adversely affected by operation of the Preferred Alternative. Vibration sensitive receptors are buildings in which vibration resulting from the project could be perceived by occupants or equipment housed therein, and includes all three categories described above (residential, institutional and special buildings).

Existing ambient vibration conditions were measured at these representative vibration sensitive

receptors. The majority of the readings were taken on concrete slabs close to the affected property and on the side of the receptor closest to vibration sources, such as roadway or train traffic and nearby existing industrial land uses. As requested by UMD, the receptor location at Dorchester Hall was located within the basement.

Future vibration levels at each receptor were estimated using generalized ground-borne vibration curves provided in the FTA guidance manual. Impacts were then assessed by comparing the estimated vibration levels to applicable FTA impact thresholds to identify areas of impact. Possible refinements were then identified that would dampen project-related vibration. These refinements will be evaluated as the project design advances.

FTA Criteria

FTA vibration criteria set a threshold for the maximum ground vibration caused by a single typical LRT vehicle pass-by. Project vibration effects that fall under these levels are determined to have "No Impact." The vibration criteria, shown in Table 4-30, depend on three indoor land use categories and provide different impact thresholds based on the daily pass-by frequency. FTA "frequent events" criteria are applicable to the Preferred Alternative because the number of LRT vehicle pass-by events would exceed 70 per day.

FTA criteria pertain to both ground-borne vibration and ground-borne noise. Ground-borne vibration is the perceivable movement of the building floors, rattling of windows, and shaking of items on shelves. Ground-borne noise is the "rumble" that can radiate from the motion of surfaces within buildings due to ground-borne vibration. As airborne noise often masks ground-borne noise where transit systems run at grade or elevated, ground-borne noise criteria are primarily applied to below-grade rail operations, such as the proposed Plymouth Street tunnel.

The FTA vibration impact threshold for residential buildings is 72 VdB. In addition, FTA has vibration impact criteria for a specific category of buildings. These "special buildings," defined under Category 1 include buildings that contain uses such as concert halls, theaters, and recording studios which have a lower tolerance to vibration. For these "special buildings," a frequent events criterion of 65 VdB is used for the impact threshold. Additional FTA criteria would apply for properties located adjacent to the Preferred Alternative near the existing CSXT freight railroad. In accordance with FTA guidance, a proposed project would cause additional impact if existing vibration levels in heavily-used rail corridors exceed the general vibration impact criteria and if the proposed project would at least double the number of vibration events in a day.

Table 4-30. Ground-Borne Vibration and Ground-Borne Noise Impact Criteria for General Assessment

Land Use Category	Ground-Borne Vibration Impact Levels (VdB re: 1 micro-inch/sec)			Ground-Borne Noise Impact Levels (dB re: 20 micro Pascals/sec)		
	Frequent Events [1]	Occasional Events [2]	Infrequent Events [3]	Frequent Events [2]	Occasional Events [3]	Infrequent Events [4]
Category 1: Buildings where vibration would interfere with interior operations	65 VdB	65 VdB	65 VdB	N/A [4]	N/A [4]	N/A [4]
Category 2: Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB	35 dBA	38 dBA	43 dBA
Category 3: Institutional land uses with primary daytime use	75 VdB	78 VdB	83 VdB	40 dBA	43 dBA	48 dBA

[1] "Frequent Events" is defined as more than 70 vibration events per day.
[2] "Occasional Events" is defined as between 30 and 70 vibration events per day
[3] "Infrequent Events" is defined as less than 30 vibration events per day.
[4] N/A means "not applicable." Vibration-sensitive equipment is not sensitive to ground-borne noise

Source: FTA, Transit Noise and Vibration Impact Assessment, May 2006.

Criteria for Buildings with Extremely Sensitive Equipment

Several buildings within the UMD campus either contain equipment that is sensitive to vibration or utilize processes that are extremely vibration-sensitive. MTA and UMD have agreed to use the National Institute of Standards and Technology (NIST) criteria for nanotechnology, which has a limit of 42 VdB above 20 Hertz. Where the Preferred Alternative transitway centerline would be within 100 feet of existing or potential research laboratories, the transitway would be designed to meet the more restrictive of the ambient vibration levels or the NIST criterion of 42 VdB.

Construction Criteria

Although ground-borne vibration related to human annoyance (generally expressed in units of "VdB") is the primary concern during project operation, potential building damage is the concern during the construction phase.

Building damage can occur from construction-related vibration as a result of displacement (movement) of a building over time and therefore the structural damage criteria is expressed in particle velocity rather than the vibration decibel level. Consequently, construction vibration is expressed as Peak Particle Velocity (PPV) in units of inches per second. FTA's construction vibration damage criteria indicate that for non-engineered timber and masonry buildings, typical of structures located near the proposed transitway, the PPV should not exceed 0.2 inches per second.

4.12.2 Affected Environment

A review of aerial photography of the Preferred Alternative alignment, field visits, and adjacent land uses resulted in the identification of 23 representative vibration measurement sites consisting primarily of residential properties, with the closest building located 22 feet from the proposed transitway. Other sensitive uses include two schools and a recording studio. Figure 4-27, in Section 4.11, depicts the vibration monitoring and impact assessment locations. Vibration measurements were collected in December 2011.

Along most of the project corridor, existing vibration levels were found to be generally imperceptible to humans, and were typically the result of traffic movement on nearby roadways. The monitored vibration levels for sites near active roadways ranged between 44 VdB and 80 VdB. In some locations, extremely low levels of vibration, ranging between 35 VdB and 38 VdB, were recorded because the traffic volume in the vicinity of the receptor was extremely light.

In one area near the Barrington Apartments, existing CSXT freight trains are the dominant cause of vibration, and existing residences are located as close as 45 feet from the existing rail line. Measured vibration levels at this receptor site reached 80 VdB.

A few vibration-sensitive locations, such as the Falkland Chase Apartments, experience some level of vibration from existing Metrorail, MARC, and Amtrak train movements; however tracks at this section of the project corridor are in a cut slope condition, which tends to reduce the effect of vibration. Vibration levels measured at the Falkland Chase Apartments reached a peak of 50 VdB.

Measured vibration levels within the UMD campus were collected as part of a 2009 study completed at the request of the Maryland Department of Transportation at non-residential buildings within the UMD Campus. The resulting measurements and analysis are in the report *Purple Line Project—University of Maryland—Ambient Vibration Study* (August 2009). Vibration levels were measured within various laboratories and research facilities and along exterior portions of buildings in which vibration sensitive equipment has historically been housed, and continues to be used. In general, ambient vibration conditions at most measured campus locations were below the FTA vibration impact criterion of 42 VdB (125 micro-inches/second) for sensitive devices. Vibration velocity levels inside the basements of several building sites averaged between 7 and 58 micro-inches/second. When comparing average building vibration levels to exterior grounds, the buildings tended to vibrate less than the ground at low frequencies. At higher frequencies, the buildings vibrated more than the outside grounds, indicating that vibration sources within the buildings themselves were a dominant source of vibration.

4.12.3 Preferred Alternative

Long-term Operational Effects

Project-related vibration levels were estimated at each of the 23 monitoring sites plus three additional locations that were identified as examples of unique building usage that are not represented by the monitoring sites. Estimated vibration levels range from 55 to 71 VdB for receptors that are 50 feet or more away from the transitway alignment. For receptors closer than 50 feet, the levels range between 67 and 78 VdB.

In most areas, no vibration impact is projected; however, within 50 feet of the transitway alignment, three receptors (Sites S3, S4, and S9), representing four single-family residences and one multi-family apartment building (containing approximately 6 units), are predicted to experience project-related vibration levels at or above the 72 VdB impact threshold.

Sites S3 and S4, both located 45 feet from the centerline of the proposed transitway alignment, would experience vibration levels in the range of 73 VdB. Site S9, the Barrington Apartments, would see vibration levels above the FTA impact threshold because of a combination of high existing vibration levels reaching 80 VdB associated with 30 CSXT freight train movements, and Purple Line operations adding 70 more pass-by events per day. The vibration levels caused by Purple Line movements are expected to reach 72 VdB at this site. Table 4-31 summarizes the vibration impact findings.

The ground-borne noise generated from operating the Purple Line operations in the proposed Plymouth Street tunnel is predicted to be 28 dBA, which would be below the applicable FTA impact criteria.

Mitigation

MTA will perform site-specific assessments of those areas identified in the FEIS as having potential vibration impacts. MTA will develop appropriate mitigation measures.

MTA will analyze extremely vibration-sensitive buildings located within the UMD campus, as agreed upon by MTA and UMD. The study will establish criteria, and measure regarding mitigation for vibration will be specified in the MTA UMD agreement. MTA will develop appropriate mitigation measures.

Short-term Construction Effects

Constructing the Purple Line would involve a range of activities, including excavating the rail right-of-way; tunnel construction; constructing grade crossings, bridges, and the yard and maintenance facilities; laying track; constructing stations and other system elements, and the movement of heavy trucks and construction equipment (see Chapter 5.0 for more information on the anticipated construction activities). The potential for vibration impacts to occur is low for construction activities which utilize equipment such as air compressors, rubber wheeled vehicles, hydraulic loaders and other light equipment usage. However, some specialized construction work does have the potential to create vibration impacts: tunneling, pile driving, and heavy equipment use.

Table 4-31. Impacted Property Locations

Site #	Measurement Location	Distance to Transitway Centerline	Predicted Vibration Level (VdB)	Amount Over FTA Criteria Level (VdB)	Total Number of Affected Properties
S3	4230 East West Highway	32	73	1	2 residences
S4	4110 Edgevale Court	32	73	1	2 residences
S9	1946 Rosemary Hills Drive (The Barrington Apartments)[1]	22	72	n/a	1 apartment complex (approx. 6 units)

[1]At the Barrington Apartments, future vibration levels would exceed the FTA impact threshold due to high existing vibration levels caused by daily CSX freight train pass-bys, in combination with the Purple Line LRT train pass-bys.

The location of sensitive receptors in relation to the construction activity and the duration of construction activities affect the potential for vibration impact. MTA expects relatively small areas of the proposed project corridor to potentially experience vibration effects from construction activities at any given time. Track-related construction would move continuously along the corridor; therefore, the duration of exposure to construction-related vibration at any one property would be limited.

A potential does exist, however, for vibration-sensitive buildings to be impacted by non-track related types of construction. Examples include construction of the Silver Spring Transit Center, the Plymouth Street tunnel, and sections along the transitway where extensive bridge and retaining wall work would occur. However, the impact would be realized only for sensitive receptors in close proximity to these specific locations and not along the entire length of the transitway.

Construction of the Plymouth Street tunnel, which potentially would include blasting, is expected to be the longest sustained period of construction, and blasting typically would generate the most vibration. While overall construction of the tunnel would last approximately 30 months, the anticipated duration of the blasting operations, if any, would be substantially less.

Other locations where heavy construction would occur for extended periods of time are the Silver Spring Transit Center and associated structures and the Rock Creek and Lyttonsville Place bridges. Although heavy construction would occur at all three of these locations, no vibration sensitive receptors are present in close proximity to these proposed construction sites.

Certain construction activities, such as pile driving for new structures and retaining walls, would occur at numerous locations along the corridor and have the potential to create more vibration than other activities. The methods for driving the piles would include both impact and non-impact procedures. Preliminary engineering indicates that the following sensitive receptors would be in close proximity to pile driving: the Falkland Chase Apartments, Rosemary Hills Elementary School, and the Barrington Apartments.

Avoidance and Minimization

MTA will identify control measures to be implemented by the contractor during construction activities to minimize the potential for vibration impacts.

As the project design advances, MTA will consider requiring that the construction contractor employ the following control measures to minimize the potential for vibration impacts during construction:

- Notify the community of all blasting operations well before the activities commence
- Schedule blasting or pile driving activities during hours that would least impact residents at sensitive receptors
- Divert heavy truck and construction equipment movements away from sensitive receptors by utilizing roadways that contain a limited number of residential or sensitive structures
- Hire a Blasting Consultant with adequate experience in performing controlled blasting.
- Set vibration limits for blasting.
- Monitor the vibration of each blast.
- Conduct test blasts prior to full production blasts. These test blasts will allow the Contractor to determine if their proposed blasting methodology is appropriate and meets the vibration requirements prior to completing a full blast.
- Conduct pre-construction survey and post-construction survey in sensitive areas.

Mitigation

Vibration-related effects will be addressed in advance of, or in conjunction with, the construction of the Preferred Alternative. Mitigation is not anticipated to be required.

4.13 Habitat and Wildlife

This section describes the regulatory environment and the methodology used to determine project impacts on habitat and wildlife. It defines the types of habitat and wildlife found within the study area, including forests, specimen trees, terrestrial wildlife, aquatic habitat and biota, and rare, threatened, and endangered species. It also describes the effects of

the Preferred Alternative on these resources and discusses minimization strategies that MTA has taken to eliminate or reduce impacts, as well as mitigation measures MTA will undertake to offset adverse effects.

4.13.1 Regulatory Context and Methodology

The following statutes and regulations apply to forests and specimen trees:

- **Forest Conservation Act (FCA), Natural Resources Article Section 5-1609, COMAR 15.15.03.02**—protects forests, defined as biological communities dominated by trees and other woody species that extend at least 50 feet wide and comprise 10,000 square feet. When a grading or sediment control permit is required for areas equal to or greater than 40,000 square feet, the project is required to prepare a Forest Stand Delineation (FSD) and a Forest Conservation Plan (FCP). A FCP is a long-term protective document, defining areas for permanent protection of forest and related resources through legal means such as conservation easements, deed restrictions, covenants, or other legally binding agreements ensuring that areas retained, reforested, or afforested remain as undisturbed forest in perpetuity.

The following statutes and regulations apply to terrestrial wildlife:

- **COMAR 27.02.05.12**—protects Forest Interior Dwelling Species (FIDS) located within the Chesapeake Bay Critical Area (CBCA). FIDS depend upon large, contiguous forest stands to successfully breed and produce sustainable populations. Although the project is outside the CBCA, given the widespread public awareness of the need to protect forest interior habitat, the impact of the project to FIDS habitat has been considered. FIDS habitat is defined by the CBCA as riparian forests at least 50 acres in size with an average total width of 300 feet or forest patches at least 50 acres in size with at least 10 acres of forest interior (forest greater than 300 feet from the nearest forest edge). The MDNR is responsible for identifying FIDS habitat and encourages the conservation of these habitats during the project planning phases.
- **Migratory Bird Treaty Act**—makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such birds except under the terms of a valid permit issued pursuant to Federal regulations. The U.S. Fish and Wildlife Service (USFWS) is the lead agency for migratory birds.

The following statutes and regulations apply to aquatic biota and habitat:

- **COMAR 26.08.02.08: Stream Segment Designations (MDE 2007)**—regulates in-stream construction for the protection of aquatic habitat and fisheries resources during certain periods of the year, depending upon the Stream Use Classification of the stream segment.
- **The Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (MSRA)**—requires the National Marine Fisheries Service (NMFS) to integrate NEPA and the fisheries management process for environmental review and to regulate project effects to marine habitat and fisheries resources.
- **Section 404/401 of the Clean Water Act**—regulated by MDE and the U.S. Army Corps of Engineers (USACE) for impacts to streams and the aquatic biota and habitat within them. The associated regulation of wetlands is discussed in further detail in Section 4.14.

The following statutes and regulations apply to rare, threatened, and endangered species:

- **Endangered Species Act of 1973**—regulated by the USFWS and NMFS to protect federally-listed rare, endangered, and threatened species.
- **Nongame and Endangered Species Conservation Act (Annotated Code of Maryland 10-2A-01)**—The MDNR's Fisheries Service maintains a list of game and commercial fish species that are designated as threatened or endangered in Maryland (COMAR 08.02.12). The MDNR Wildlife and Heritage Service

(WHS) and Natural Heritage Program (NHP) track both the federal and state lists.

The study area assessed for terrestrial wildlife, aquatic biota and habitat, and rare, threatened, and endangered species is the Purple Line LOD, described in Section 4.1. The study area for forests extends an additional 50 feet to each side of the LOD, per MDNR forest regulations.

Following is a brief description of the data sources for each analysis:

- **Forests and Specimen Trees**—An FSD was previously conducted within all forested areas in the study area, as detailed in *The Forest Stand Delineation Report for the Purple Line Transit Connection* (2011). All forests within the study area were characterized, and all specimen trees (trees greater than 30 inch diameter at breast height or 75 percent of the State Champion[8]) were identified and shown on project mapping (see *Volume 2—Environmental Resource Mapping*). The FSD report was submitted to the MDNR Forestry Division for review on March 1, 2012 and was approved on June 13, 2012.
- **Terrestrial Wildlife**—Information regarding terrestrial wildlife was obtained from field observations and available data, both published and unpublished, obtained from outside sources. Specific data on breeding birds within Montgomery County were obtained from the Montgomery County Department of Environmental Protection (MCDEP) for the Lower Rock Creek and Sligo Creek portions of the study area. Additional breeding bird data were obtained and used with permission from the *Second Atlas of the Breeding Birds of Maryland and the District of Columbia* (2010). FIDS habitat, as defined above, was identified within a distance of 6,000 feet of the project area using aerial imagery.
- **Aquatic Biota and Habitat**—The NMFS was contacted in March 2007, during preparation of the AA/DEIS to determine the presence of marine fisheries resources in the study area. Follow-up letters were submitted to the NMFS and the MDNR Environmental Review Unit (ERU) in 2011 to obtain current fisheries information. Response letters were received from NMFS in October 5, 2011 and May 9, 2012. MDNR ERU responded in January 2011. Appendix G contains agency response letters. Data relating to aquatic biota were gathered from the MCDEP, the Prince George's County Department of Environmental Resources (PGDER), and the MDNR Maryland Biological Stream Survey (MBSS).
- **Rare, Threatened, and Endangered Species**—NMFS, USFWS, and MDNR- Wildlife and Heritage Service and ERU were contacted in 2007 during preparation of the AA/DEIS to determine the presence of rare, threatened, or endangered species in the study area. In August 2011, follow-up letters were submitted to these same agencies, and the USFWS on-line certification database was queried. Responses were received on October 26, 2011 from MDNR- Wildlife and Heritage Service, while the MDNR ERU response was received on January 9, 2012. The USFWS response letter was received on October 27, 2011. Appendix G contains agency response letters.

4.13.2 Affected Environment

Forests and Specimen Trees

The largest forest tracts within the study area, which was based on the Forest Stand Delineation, are found primarily within the stream valleys of Rock Creek, Sligo Creek, Northwest Branch, Paint Branch, Northeast Branch, and an unnamed tributary to Brier Ditch. A total of 301 specimen trees are found within the study area, representing 30 different species. The *Forest Stand Delineation Report for the Purple Line Rapid Transit Connection* (2011) provides details regarding location, species, and condition of the specimen trees at the time of the FSD.

Terrestrial Wildlife

The presence of terrestrial wildlife within the study area is a function of available habitats, as follows:

- Urban and suburban areas characterized by commonly occurring opportunistic and

[8] The State Champion is the largest tree of its species as identified by the MDNR Big Tree Program

suburban- dwelling species of small and mid-size mammals and birds
- Less developed, forested areas, such as the riparian corridors of larger stream valleys, characterized by native wildlife species
- Larger interior forested areas serving as habitat for FIDS that depend upon large, contiguous forest stands to successfully breed and produce sustainable populations

Aquatic Biota and Habitat

Surface area streams were monitored at various locations within each subwatershed and rated for fish and macroinvertebrate community health and physical habitat by MCDEP, PGDER, and MDNR MBSS. A scale of very poor to good was used for community health, and a scale of degraded to excellent was used for physical habitat. PGDER follows the MDNR MBSS methods of sampling and analysis; consequently, PGDER and MDNR data are directly comparable. However, MCDEP has different scoring criteria. Table 4-32 shows the range of the ratings by agency, and it is explained in more detail in *Purple Line Water Resources Technical Report (2013)*. The majority of the streams were rated near the very poor end of the community health scale. However, Northwest Branch exhibited a more diverse aquatic biota community than many study area streams, resulting in evaluation scores of fair to good. The physical habitat scores varied widely, ranging from severely degraded to excellent/good. The lowest parameter scores most often were related to bank stability, bank vegetation, and riparian vegetation, instream habitat for fish, embeddedness, and sedimentation.

In a letter dated May 9, 2012, the NMFS commented that Paint Branch, Northeast Branch, and Brier Ditch are documented as spawning grounds for anadromous fish, such as blueback herring, alewife, and hickory shad, which live in marine waters but migrate to fresh water to breed. They also serve as nursery grounds for catadromous fish, such as the American eel, which live in fresh water but migrate to marine waters to breed.

Historically, blockages within and downstream of the study area have prevented anadromous and catadromous fish from migrating. Specific blockages within Rock Creek and Northwest Branch were identified in 2004 and 2007. These blockages continue to be present downstream of the study area, which reduces the likelihood of finding anadromous and catadromous fish passing through or using the study area streams for breeding or early development. A blockage on Northeast Branch just south of River Road was modified to permit fish passage in 1991. Anadromous fish were observed just below this blockage point in 2007. However, the 1991 modification could allow for fish to move north of River Road into the study area.

Table 4-32. Fish and Macroinvertebrate Community and Physical Habitat Data in Study Area Watersheds

Subwatershed	Agency	Rating for Fish	Rating for Macroinvertebrates	Physical Habitat
Little Falls	MCDEP	Poor	Poor	Fair–Excellent/Good
Little Falls	MDNR	Very Poor	Poor	N/A
Rock Creek	MCDEP	Poor–Good	Poor–Fair	Fair/Good
Rock Creek	MDNR	Very Poor	Very Poor	Degraded
Sligo Creek	MCDEP	Poor–Fair	Poor	Fair–Good
Sligo Creek	MDNR	Very Poor	Very Poor	Degraded
Northwest Branch	MCDEP	Fair–Good	Poor	Fair–Excellent/Good
Northwest Branch	MDNR	Fair–Good	Very Poor–Fair	Partially Degraded
Northeast Branch	MDNR/PGDER	Very Poor–Good	Very Poor–Good	Severely Degraded—Minimally Degraded
Beaverdam Creek	PGDER	Poor–Fair	Very Poor–Fair	N/A

Source: MCDEP, PGDER, and MDNR MBSS rating data, reviewed 2012.

Rare, Threatened, and Endangered Species

In the October 27, 2011 letter from USFWS, the USFWS stated that there are no federally proposed or listed endangered or threatened species known to exist within the project are; therefore, no Biological Assessment or further Section 7 Consultation with the USFWS is required. In the October 5, 2011, letter from NMFS, it is stated that no federally listedor proposed threatened or endangered species and/or designated critical habitat for listed species under NMFS jurisdiction are known to exist in the vicinity of the proposed project; therefore, no further coordination with NMFS is needed. TheOctober 26, 2011, letter from MDNR WHS did not reference any state listed species occurring within the study area. However, in a letter dated October 26, 2011, MDNR indicated that there is a waterbird (heron) colony located within the forested floodplain of Coquelin Run, in close proximity to the study area. The letter states that heronries located outside the CBCA are a rare resource of particular interest that should be protected. Disturbance to nesting herons is a violation of the U.S. Migratory Bird Treaty Act. Disturbance is defined as cutting nest trees, cutting nearby trees, or nearby construction that causes abandonment of chicks by the adults. Appendix G contains these agency letters.

4.13.3 Preferred Alternative

Long-term Operational Effects

Forests and Specimen Trees

The impact of the Preferred Alternative on forest and specimen trees would primarily take the form of partial property acquisitions at the edges of forested habitat, affecting a total of 48 acres of forested habitat and 194 specimen trees. Table 4-33 presents these impacts by project element.

Terrestrial Wildlife

Wildlife using terrestrial resources affected by the Preferred Alternative would be displaced (mobile species) or eliminated (non-mobile species) by the project. Mobile species may find suitable habitat outside the LOD. Existing wildlife corridors within the stream valley parks crossed by the transitway would be maintained. Project-related impacts to the forest resources described above would affect FIDS by slightly reducing the overall size of FIDS habitat within the project area.

The Preferred Alternative would follow an existing trail or existing roadways through riparian forested areas that are considered FIDS habitat, primarily along the major stream valleys of Rock Creek, Northwest Branch, Paint Branch, Northeast Branch, and Beaverdam Creek. The largest FIDS habitat impact of 23.4 acres would occur where the corridor crosses Rock Creek within the Georgetown Branch right-of-way. The right-of-way maintains a closed canopy along the riparian corridor of Rock Creek, maintaining contiguous FIDS habitat upstream and downstream of the crossing. However, the transitway will result in a break in the canopy, effectively splitting the FIDS habitat into two sections. The downstream section would only be 20.4 acres in size, and would not meet the minimum definition of FIDS habitat. As shown in Table 4-34, the impact to FIDS habitat is two percent of the total FIDS habitat within close proximity (up to 6,000 feet from the edge of the LOD) to the Preferred Alternative.

Aquatic Biota and Habitat

Impacts to aquatic habitats and species include loss of habitat from construction of infrastructure elements and the degradation of water quality resulting from construction and operation activities.

Table 4-33. Forest Impacts of the Preferred Alternative

Project Element	Transitway and Stations	Lyttonsville Yard	Glenridge Maintenance Facility	Traction Power Substations	Total
Acres of Forested Habitat	38.3	6.0	3.3	0.3	48
Number of Specimen Trees	169	24	1	0	194

Table 4-34. Summary of FIDS Habitat Impacts of the Preferred Alternative

Watersheds	Existing FIDS Habitat Within Close Proximity to the Preferred Alternative (Acres)*	FIDS Habitat Impact (Acres)	Remaining FIDS Habitat (Acres)
Rock Creek	416.2	23.4	392.8
Northwest Branch	385.9	0.59	385.3
[1]Northeast Branch	588	0.14	587.9
Total	1390.1	24.1	1366

*Represents only FIDS habitat within the LOD and up to 6,000 feet from the edge of the LOD. FIDS habitat within the entire watershed is not represented.
[1] Includes FIDS habitat within Paint Branch, Indian Creek, and Brier Ditch subwatersheds.

The installation of proposed infrastructure elements, such as culvert extensions and closed drainage systems, would result in the permanent loss of approximately 5,152 linear feet of stream habitat (discussed further in Section 4.14). While some of these proposed improvements are being undertaken to address local drainage and flooding problems, the proposed activities could lead to direct loss of fish and other aquatic biota within the construction zone and would permanently alter the localized habitat. Benthic organisms, such as macroinvertebrates, would be impacted by in-stream construction more so than fish, as they are relatively stationary. Northeast Branch would be affected when the in-stream piers of an existing bridge would be replaced with larger piers.

However, the species expected to be impacted are acclimated to disturbed settings and would be likely to recolonize temporarily disturbed areas, though the communities are unlikely to be identical to those present prior to construction.

Rare, Threatened, and Endangered Species

No long-term project-related impacts to federal or state listed rare, threatened, and endangered species are anticipated.

The project also would not result in long-term impacts to the heron colony located within Coquelin Run because the colony is located outside the LOD approximately one-quarter mile from the proposed transitway alignment and is buffered by an intervening roadway and residences. No direct or long-term impacts, such as tree clearing, to the Coquelin Run stream valley and its interior are anticipated. MTA provided detailed drawings of the proposed transitway to the MDNR on April 27, 2012.

Avoidance and Minimization

MTA will minimize the amount of new impervious surface associated with the transitway, yard, and maintenance facility to avoid long-term water quality and quantity impacts to aquatic biota. Where practicable, MTA has aligned the transitway and located associated facilities in areas of existing pavement and impervious surfaces, such as the Lyttonsville Yard site.

Project-related riparian impacts to a tributary to Paint Branch along Paint Branch Parkway, impacts to migratory fish species using the Paint Branch tributary, and stormwater discharge to Paint Branch were cited as concerns by the NMFS during the agency field review of the project on May 8th and 9th, 2012. In response to these concerns, MTA shifted this portion of the transitway south to minimize impacts to the riparian zone. In addition, the project has been designed so that stormwater associated with the transitway would not be discharged directly into the tributary of Paint Branch.

As part of project-wide avoidance and minimization efforts, the footprint of the Glenridge Maintenance Facility was shifted east to minimize impacts to a tributary of Brier Ditch.

MTA will continue to coordinate with the NMFS and other regulatory agencies as project design advances to identify measures to avoid or minimize:

- Creation of in-stream barriers that block migratory fish from upstream spawning ground
- Alterations of stream configuration, characteristics and hydrology
- Incremental changes to in-stream water quality from deforestation of the riparian zone

MTA will design proposed culverts and bridges to MDE standards to avoid or minimize secondary and cumulative impacts to migratory fish and to avoid alteration of habitat.

MTA will prepare a FCP, or similar, as the project design advances and will detail additional impact avoidance and minimization techniques to be applied during construction.

Mitigation

Where forest impacts occur, MTA will comply with MDNR requirements for the final forest planting obligation. MTA will follow MDNR direction in offsetting those impacts by reforestation, which is planting trees in cleared areas, or afforestation, which is planting trees in areas not previously forested. Based on MDNR mitigation requirements, MTA has preliminarily identified reforestation sites and forest mitigation banks with available credits that could be used to satisfy the requirements.

The final forest planting obligation for the project will be negotiated between MTA and MDNR prior to construction. MDNR requires that forest mitigation sites be chosen either as reforestation or afforestation on site, which is preferred, or in close proximity to the project area, which is allowed with approval from MDNR, provided the sites are within the same watershed as the impacted area. If these options are not possible, MDNR may approve the use of forest conservation banks.

Short-term Construction Effects

Forests and Specimen Trees

Construction activities associated with utility relocations, implementation of sediment and erosion control practices, and clearing of staging areas would cause the removal of trees. Tree decline and/or mortality could occur due to significant critical root zone (CRZ) disturbance, tree limb damage, changes in soil moisture, and soil compaction as a result of grading operations and other construction related activities occurring near or adjacent to individual trees. Chapter 5.0 provides more information on the anticipated construction activities.

Terrestrial Wildlife

Temporarily displaced, mobile, disturbance-tolerant species would be expected to return to their typical edge habitats once construction is complete and the corridor edge conditions have been reestablished.

Aquatic Biota and Habitat

Short-term impacts to aquatic biota and habitat resulting from project construction include physical disturbances or alterations to habitat, accidental spills either directly into water resources or indirectly through surface runoff, and sediment releases that could affect aquatic life. Earth-moving activities would expose soils that, if left in an unstable condition, could enter waterways during storms.

Rare, Threatened, and Endangered Species

No short-term project-related impacts to federal or state listed rare, threatened, and endangered species are anticipated. The project also would not result in short-term impacts to the heron colony.

Avoidance and Minimization

The CRZ of specimen trees to be retained will be protected during construction through the installation of tree protection strategies as detailed in the FCP that will be prepared for the project.

MTA will provide a spill management plan and water quality and quantity controls for work area containment and the use and storage of fuels and other contaminants based on current regulations and project permit conditions.

MTA will not undertake in-stream construction during state-mandated stream closure periods.

MTA will coordinate with the MDNR as project design advances to ensure that its concerns are addressed relative to the heron colony located within Coquelin Run.

Mitigation

MTA will restore and stabilize temporarily disturbed aquatic habitat at the end of construction according to a restoration plan developed in coordination with the USACE and MDE. The permits related to these activities, as well as the required MDE Waterway Construction permit, are intended to protect aquatic biota and water quality and ensure that the Preferred Alternative complies with federally-mandated water quality standards.

4.14 Water Resources

This section summarizes current regulations regarding Waters of the U.S. (WUS) and wetlands, surface waters, floodplains, groundwater, and hydrogeology. It defines the existing conditions of these resources within the study area and describes the effects of the Preferred Alternative on these resources. It also discusses minimization strategies that MTA has taken to eliminate or reduce impacts and mitigation measures MTA will undertake to offset adverse effects. Further details are included in *Purple Line Water Resources Technical Report (2013)*.

4.14.1 Regulatory Context and Methodology

The federal Clean Water Act (CWA) establishes the structure for regulating discharges of pollutants into the WUS and regulating water quality standards for surface waters. WUS include unvegetated ponds, seasonal pools, and perennial, intermittent, and ephemeral stream channels. Wetlands are a subset of WUS and support a prevalence of vegetation typically adapted for life in saturated soil conditions (USACE 2012).

Requirements relating to water resources also can be found in the following statutes, regulations, and Executive Order:

- Section 404 of the CWA, which governs project activities that result in the potential discharge of dredged or fill material into WUS, including wetlands).
- Executive Order 11990, Protection of Wetlands, and USDOT Order 5660.1A, Preservation of the Nation's Wetlands
- 33 CFR Part 325 (permitting process for Section 404 permits)
- 33 CFR Part 322 (mitigation requirements for Section 404 permitting decisions)
- 40 CFR Part 230 (guidelines for Section 404 permitting decisions)
- Section 401 of the Clean Water Act–Water Quality Certificate
- Maryland Nontidal Wetlands Protection Act
- Waterway and 100-year Floodplain Construction Regulations

Under the CWA, the EPA has implemented pollution control programs and set water quality standards for all contaminants in surface waters. The CWA mandates that the State establish total maximum daily loads (TMDL) in order to bring existing water quality up to minimum established water quality standards in streams that have been categorized as "impaired." A TMDL is an estimate of the maximum amount of a pollutant that a given waterbody can absorb without violating environmental water quality standards (MDE 2011). The State of Maryland has established water quality standards for the protection of public health or welfare, simultaneously providing enhancement of water quality and protection of aquatic resources. Additional regulations apply to streams that are designated as scenic or wild, either through the federal or state designation, or are navigable. The following regulations and standards apply to streams and water quality:

- Section 303 (d) of the Clean Water Act
- MDE Water Quality Standards
- Maryland Scenic and Wild Rivers Act of 1968
- Federal Wild and Scenic River Act
- Section 10 of the Rivers and Harbors Appropriation Act (RHA) of 1899

Floodplains are regulated to minimize flooding impacts on upstream and downstream properties, and to avoid or minimize impacts to floodplains. The following regulations apply to floodplains:

- USDOT Order 5650.2, Floodplain Management and Protection
- Executive Order 11988, Floodplain Management
- MDE 100-Year Floodplain Construction Regulations

The study area assessed for water resources is the Purple Line project's LOD, as described in Section 4.1. For consideration of surface water quality, the nearest sampling sites, located upstream or downstream from the study area, were used.

WUS and Wetlands

WUS and wetlands data were gathered from published sources including the USFWS National Wetlands Inventory (NWI) maps and Natural Resources Conservation Service (NRCS) Soil

Surveys for Montgomery and Prince George's Counties. The study area was field investigated for potential WUS and wetlands. Wetland delineations were conducted between December 2011 and April 2012 to verify and supplement data sources in accordance with the *Regional Supplements to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region Version 2.0* (USACE 2010) and *Eastern Mountains and Piedmont Region* (USACE 2010). Wetland functions and values were assessed using the New England Method (USACE 1991) for all wetlands greater than one-half acre in size. For smaller wetlands, a formal analysis of functions and values was not conducted; however, observed functions and values were noted based on the professional experience of the wetland scientists performing the delineations.

To gain agency concurrence on field-identified WUS and wetland boundaries, USACE and MDE agency field reviews were conducted on May 8 and 9, 2012. Based on subsequent coordination with the USACE, MTA anticipates the USACE will provide an Approved Jurisdictional Determination[9] for WUS and wetlands within the study area. This would be obtained following completion of the NEPA process.

Surface Waters

Data for the chemical characteristics of existing water resources within project-area watersheds were gathered from the MDNR, the MCDEP, the MBSS, and the PGDER. Existing data were based on studies completed over many years; however, only data collected since 2000 were considered current. The MDE has established standards regarding water quality, with parameters based on designated Stream Use Classification. These standards are listed in the COMAR 26.08.02.01-.03–Water. The State has developed and the EPA has approved TMDLs for the overall Chesapeake Bay watershed including the Purple Line study area. The study area streams that are classified as impaired were identified in *Maryland's Integrated Report of Surface Water Quality* (MDE 2010).

Floodplains

Regulated floodplains within the study area were identified based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) used in conjunction with GIS mapping.

Groundwater and Hydrogeology

Information regarding groundwater resources and existing hydrology within the study area was gathered from available published data sources, including the United States Geological Survey (USGS), Maryland Geological Survey (MGS), and MDE.

4.14.2 Affected Environment

Waters of the U.S. and Wetlands

Field investigations identified 48 WUS and wetlands (33 streams and 15 wetlands), shown in Figure 4-28. Most stream systems located within developed areas have been relocated, ditched, or channelized to accommodate runoff from adjacent roadways and the Georgetown Branch Interim Trail. The larger streams are channelized near roadway bridge crossings but remain stable and without channelization upstream and downstream of the transitway alignment.

Most wetlands in the study area have been degraded by road encroachments and vegetation removal. Despite the high degree of disturbance, these wetland areas continue to provide some limited functions including groundwater discharge/recharge, sediment/toxicant retention, nutrient removal, and wildlife habitat. The least affected and highest functioning wetlands in the study area are vegetated systems located in the forested floodplain of Rock Creek (Wetland GB-8).

Surface Waters

The study area is in the Chesapeake Bay watershed and contains three MDNR third order watersheds[10]—Potomac River Montgomery County, Rock

[9] Approved Jurisdictional Determinations (JDs) are used by the USACE to help implement Section 404 of the CWA and Sections and 10 of the RHA. An approved JD is an official USACE determination that jurisdictional "waters of the United States," or "navigable waters of the United States," or both, are either present or absent on a particular site. An approved JD precisely identifies the limits of those waters on the project site determined to be jurisdictional under the CWA/RHA. (See 33 C.F.R. 331.2.)

[10] Using the Strahler stream order, stream size is defined based on a hierarchy of tributaries. When two first-order streams (those with no tributaries) come together, they form a second-order stream.

Creek, and Anacostia River. Within these watersheds are six perennial streams, as identified in Figure 4-28, each with their own subwatersheds. The majority of the subwatersheds are highly developed with little or no vegetated buffer remaining along streams, especially the more urbanized watersheds of Little Falls, Sligo Creek, and Lower Beaverdam Creek.

With the exception of a portion of Northwest Branch, all streams within the study area are classified as Water Quality Use I: Water Contact Recreation and Protection of Non-tidal Warm Water Aquatic Life, which means that these streams support water contact sports, leisure activities involving direct contact with surface water, growth and propagation of fish other than trout and other aquatic life and wildlife, and agricultural and industrial water supply. Northwest Branch, north of East West Highway, is designated as Use IV: Recreational Trout Waters. This designation means waters from this portion of Northwest Branch are capable of supporting adult trout for a put and take fishery, in addition to the uses supported by Use I streams. None of these rivers is classified as a navigable waterway.

Water Quality

Water quality data collected in the six subwatersheds in the study area generally demonstrate that typical chemical concentration levels meet state water quality standards, except for a small percentage of the samples that were below the state standards for either dissolved oxygen levels or pH levels.

Total Maximum Daily Loads

The project area is within the Chesapeake Bay TMDL. The Bay TMDL was developed by the EPA and approved in 2010 to restore clean water in the Bay. The Bay TMDL is a key part of an accountability framework to ensure that all pollution control measures needed to fully restore the Bay and its tidal rivers are in place by 2025, with practices in place by 2017 to meet 60 percent of the necessary pollution reductions.

When two second-order streams come together, they form a third-order stream. The U.S. NRCS redefined the third order watersheds creating the HUA14 file.

Impaired stream segments within the Chesapeake Bay TMDL, also known as water quality limited (WQL) segments, are required by MDE to have a TMDL developed for each segment. These WQL can be considered "impaired" by analyzing a wide variety of water quality monitoring data. Several WQL segments have been identified by MDE within the project area, and the status and results of the TMDL process are summarized as follows:

- **Little Falls subwatershed**—TMDLs for sediment and nutrient impairments; submitted to the EPA for review in 2011.
- **Rock Creek subwatershed**—TMDLs approved for bacteria and sediment impairments.
- **Sligo Creek, Northwest Branch, Northeast Branch, and Lower Beaverdam Creek subwatersheds**—TMDLs approved for bacteria, sediment impairments, nutrients, trash, and polychlorinated biphenyls (PCBs).

Maryland Scenic and Wild Rivers

Portions of the Potomac River in Montgomery County and its tributaries and the Anacostia River and its tributaries are designated as Scenic Rivers by the state of Maryland. Within the study area, the tributaries designated as Scenic Rivers are Little Falls, Sligo Creek, Northwest Branch, Northeast Branch, and Lower Beaverdam Creek. Although Rock Creek is a tributary of the Potomac River, it joins the Potomac downstream of the limits of the Scenic River designation and is not considered a Scenic River.

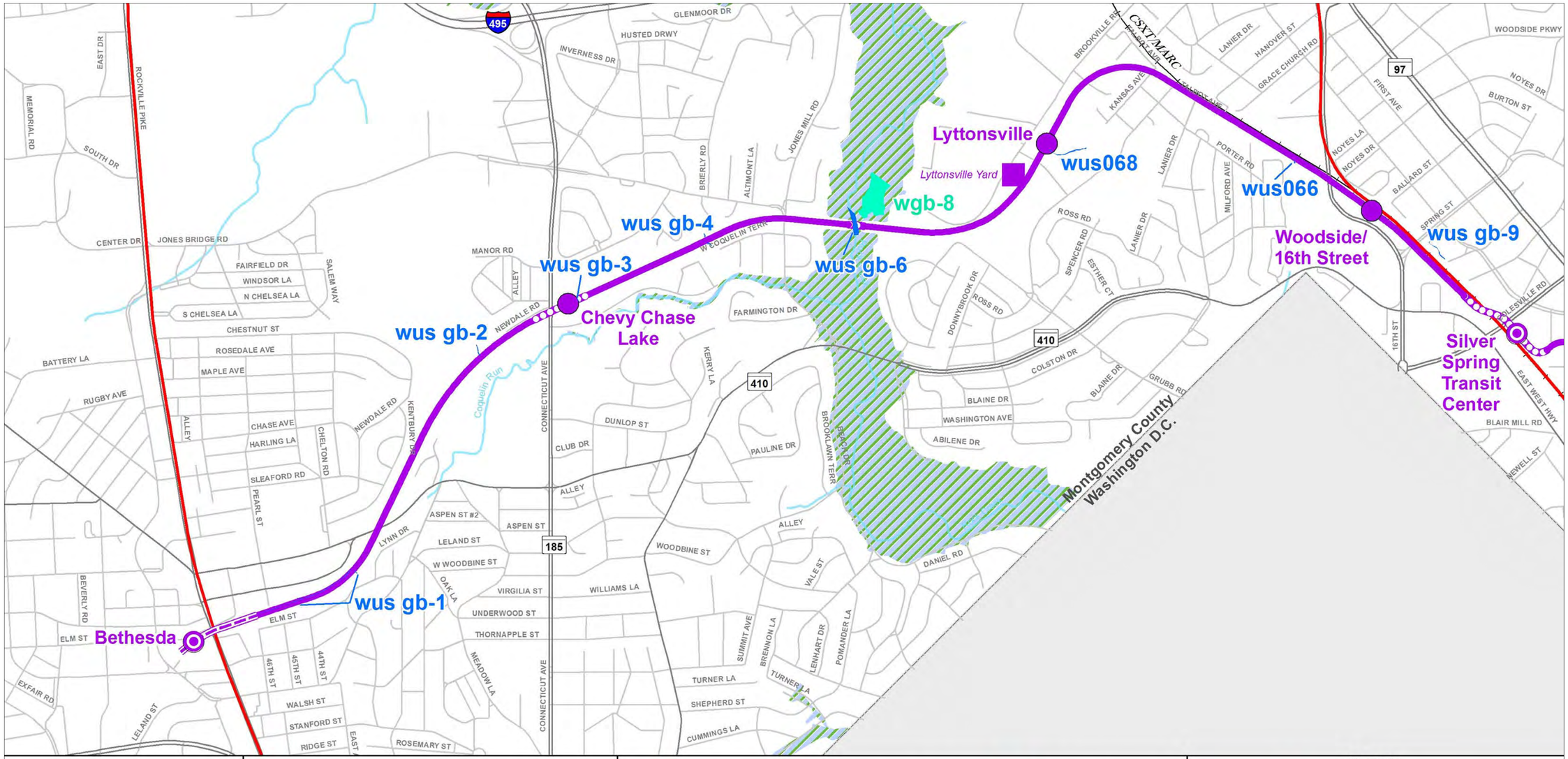
Federal Wild and Scenic Rivers

There are no federally-designated Wild and Scenic Rivers within the study area.

Floodplains

The 100-year floodplains within the study area are associated with the larger perennial streams. Most of these floodplains are wooded because they occur in stream valley parks, where current or future development is regulated, if not prohibited. However, substantial encroachment already has occurred from private development and the construction of public infrastructure, including streets, sewer lines, and water mains that cross or parallel the floodplains. Despite these encroachments, the 100-year floodplains along study area

Figure 4-28. Wetlands, Waterways, and Floodplains



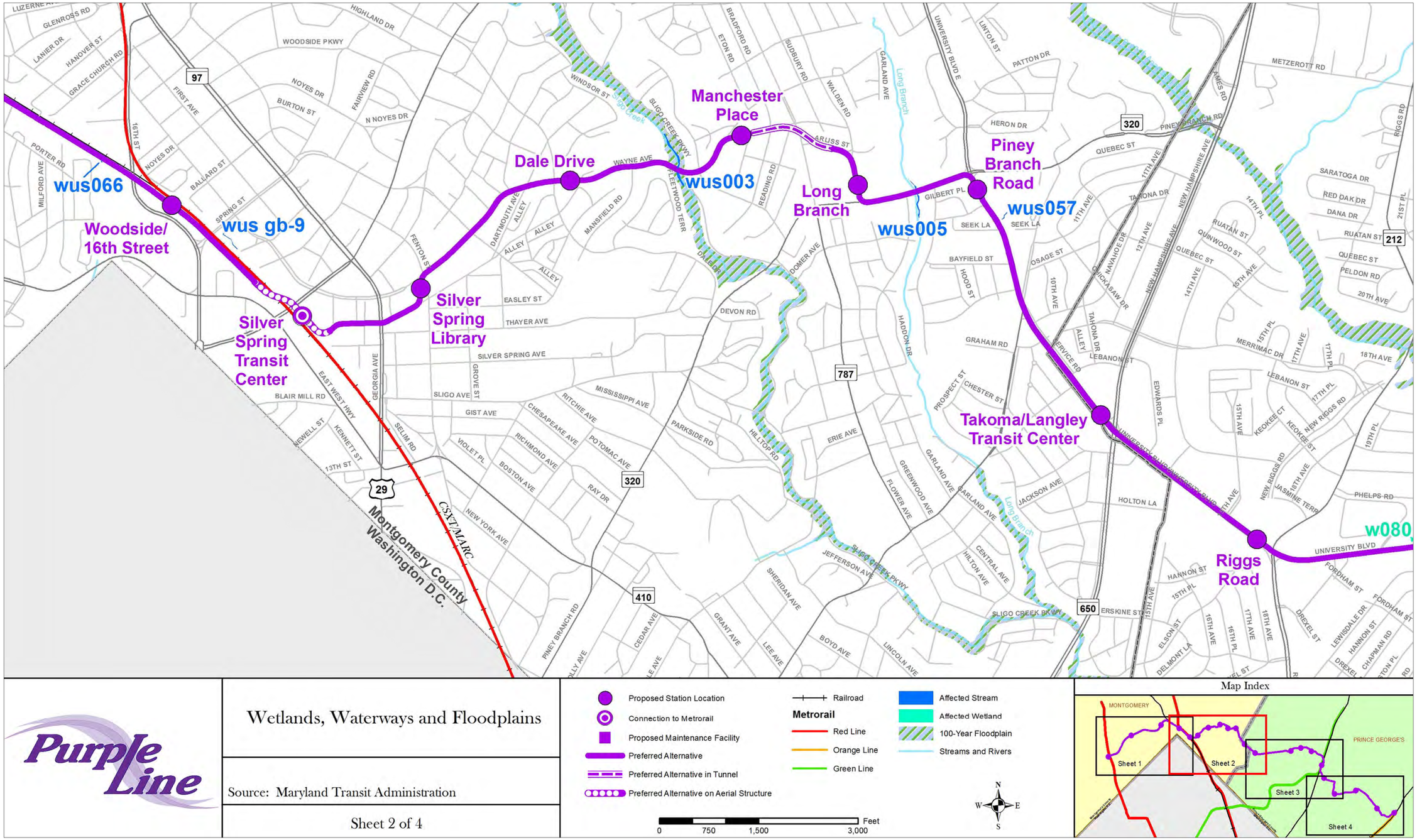
Purple Line

Wetlands, Waterways and Floodplains

Source: Maryland Transit Administration

Sheet 1 of 4

Figure 4-28. Wetlands, Waterways, and Floodplains (continued)



Purple Line

Wetlands, Waterways and Floodplains

Source: Maryland Transit Administration

Sheet 2 of 4

Figure 4-28. Wetlands, Waterways, and Floodplains (continued)

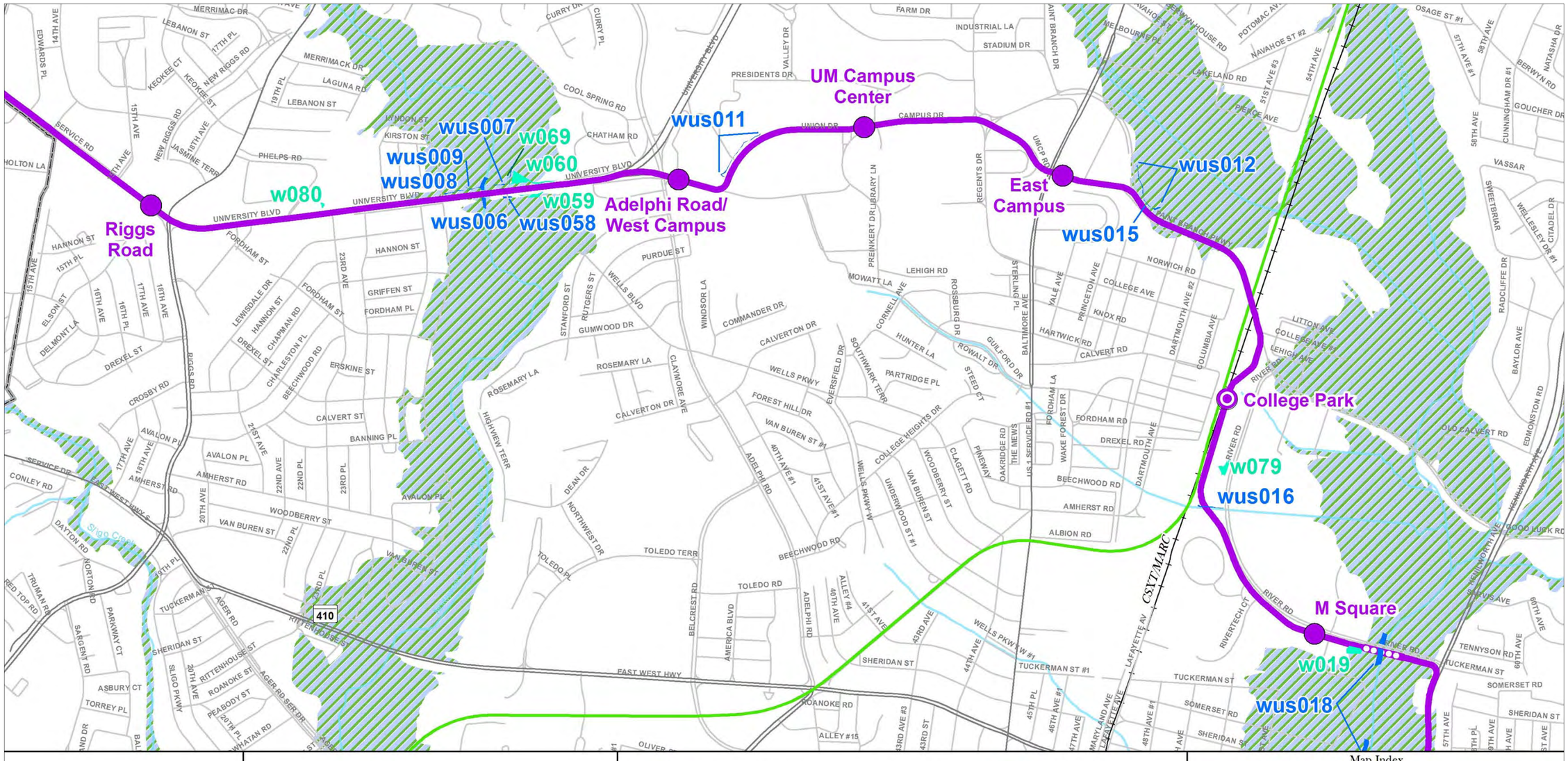
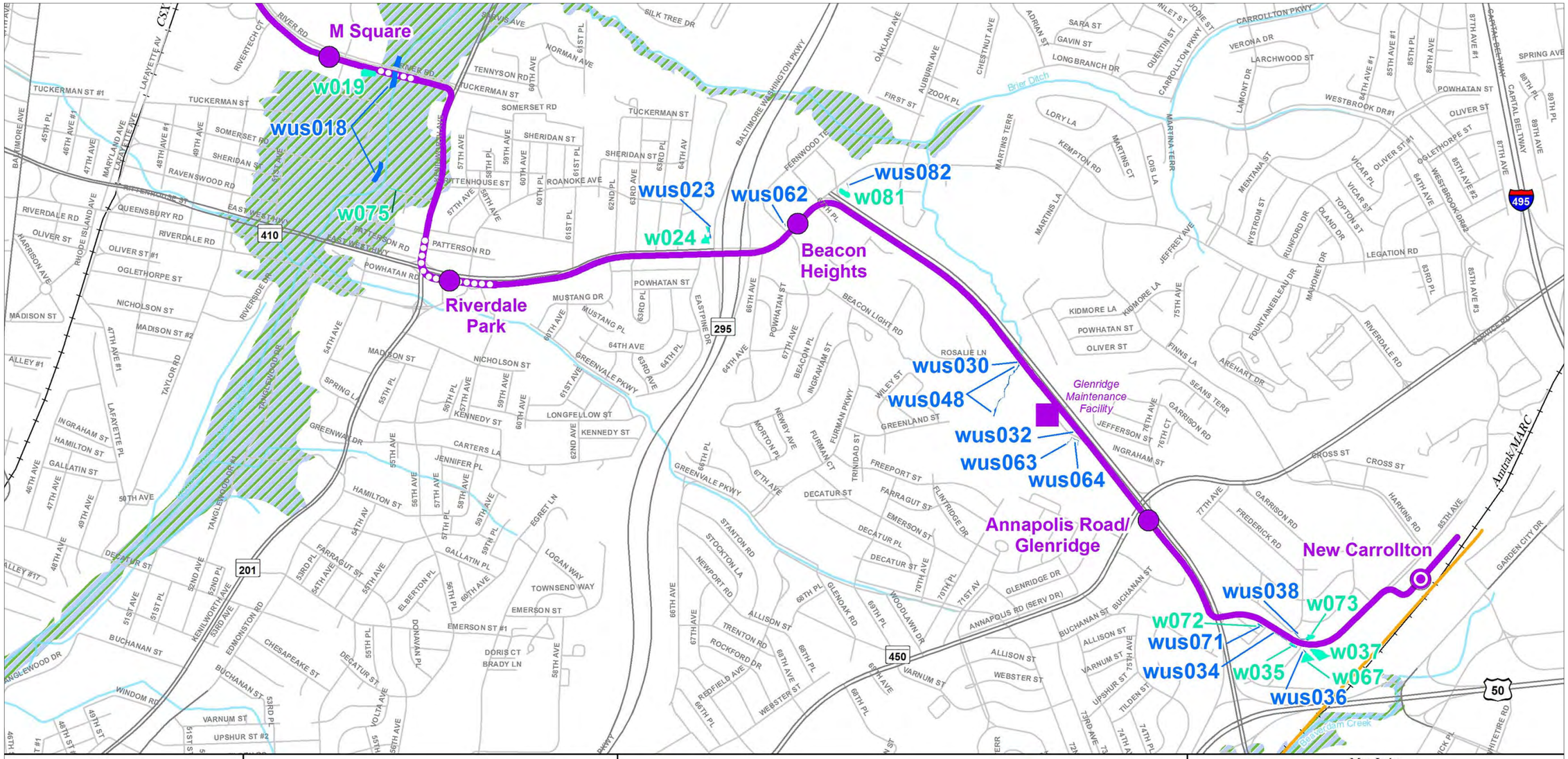


Figure 4-28. Wetlands, Waterways, and Floodplains (continued)



streams continue to serve important floodplain functions including, but not limited to, floodflow attenuation, water quality improvement, and wildlife habitat.

Groundwater and Hydrogeology

The study area overlies the Piedmont and Blue Ridge Crystalline Rock and the Northern Atlantic Coastal Plain aquifers. The former extends from west of the study area to Riggs Road, while the latter extends eastward from Riggs Road to beyond the study area. Water from groundwater wells located in both aquifers is generally suitable for drinking. Neither aquifer is classified as an EPA sole source aquifer.

4.14.3 Preferred Alternative

Long-term Operational Effects

Waters of the U.S. and Wetlands

- Impacts would occur where streams are crossed or where streams run parallel to the Preferred Alternative, within the LOD, as described below and summarized in Table 4-35.
- Approximately 0.75 acres of wetlands would be affected by widening existing roadways to accommodate the proposed transitway and TPSS, with the largest impact occurring at a vegetated wetland south of Ellin Road.
- Approximately 0.08 acres of palustrine open water and 0.02 acre of a palustrine emergent wetland that serves as an existing stormwater management basin (W019) east of the M Square station would be impacted by a proposed retaining wall along the transitway.
- Approximately 0.03 acres of two large palustrine open water systems (small, shallow, unvegetated ponds) located south of Ellin Road would be affected by the extension of a triple box culvert.
- Approximately 5,152 linear feet of intermittent or perennial stream channels would be affected by drainage improvements involving new, replaced, or extended drainage pipes, or by culverts, or bridges. The majority of these impacts would be within the Georgetown Branch right-of-way, along Ellin Road, and at the Glenridge Maintenance Facility where stream systems would be placed in closed drainage systems or relocated into culverts for most of their length within the LOD.
- Approximately 355 linear feet of ephemeral channels would be affected by road widening and drainage improvements, with a majority of these impacts occurring along the south side of University Boulevard.

Surface Water

Water Quality

While MTA has strived to avoid or minimize the water quality impacts, the project would increase impervious surfaces in the study area, which could increase the amount of surface runoff and potentially increase the level of contaminants such as heavy metals, salt, organic molecules, and nutrients in the surface runoff (Trombulak 1999).

MTA is considering using green track, as described in Chapter 2.0, along the Georgetown Branch right-of-way and the CSXT right-of-way. Green track allows for some water absorption within the medium, thereby reducing the movement of contaminants to surface water bodies, reduces stormwater runoff, and increases local air humidity.

Most of the transitway east of Silver Spring would be located within currently paved areas along existing roadways, although some roadway expansions would be required to accommodate the transitway. Redevelopment of the Lyttonsville Yard site would almost completely overlie existing

Table 4-35. Summary of Impacts to Waters of the U.S. and Wetlands

Alternative and other Project Elements	Vegetated Wetlands (acres)	Palustrine Open Water (acres)	R2/R4[1] (linear feet)	Ephemeral (linear feet)
Transitway and Stations	0.73	0.11	4,616	355
Lyttonsville Yard	0	0	14	0
Glenridge Maintenance Facility	0	0	522	0
TPSS	0.04	0	0	0
Project Total	0.77	0.11	5,152	355

[1]R2 = Riverine Lower Perennial, R4 = Riverine Intermittent

impervious areas, but the Glenridge Maintenance Facility and some stations and power substations would add new impervious surfaces.

Total Maximum Daily Loads

Since the study area is already developed and the Preferred Alternative includes proposed infrastructure to effectively manage stormwater runoff generated by the project, increases in nutrient and sediment levels from the project are unlikely to affect overall TMDL management. Current water quality impairment issues primarily result from bacteria in animal waste, leaking septic and sewer systems, stormwater outfalls, and sanitary sewer overflows. It is unlikely that the Preferred Alternative would affect or contribute substantially to bacteria levels within the subwatersheds. To the extent that TMDL thresholds pertain to typical contaminants from impervious surfaces and transportation operations, the project stormwater BMPs designed in coordination with the MDE would minimize adverse effects.

Scenic and Wild Rivers

The Preferred Alternative would affect tributaries of the Montgomery County portion of the Potomac River and the Anacostia River, which would result from culvert and pipe replacement and extension and from bridge crossings. The relocation of a section of Sligo Creek north of Wayne Avenue would result in the greatest impact.

Floodplains

The Preferred Alternative would affect approximately 23.2 acres of existing 100-year floodplains, as quantified in Table 4-36. These quantities were determined by the estimated footprints of cut and fill required by project construction. Longitudinal crossings of floodplains, which create longer crossings along the length of the floodplain, have been avoided because they would result in more floodplain fill and a reduction in water conveyance and floodplain storage capacity.

Groundwater and Hydrogeology

The majority of the Preferred Alternative, including the yard, maintenance facility, and substations, would be constructed at-grade, and only minor changes to the movements of the shallow groundwater table likely would occur during site grading and construction. Any surface runoff would be directed to suitable outfalls through approved stormwater management facilities or treated through infiltration into the local groundwater through the use of approved environmental site design (ESD) stormwater techniques.

The proposed tunnel would intercept groundwater within the underlying aquifer. With an expected maximum depth of 50 feet below existing grade, the tunnel could cause permanent, but localized, changes to groundwater flow patterns. The proposed tunnel likely would affect only local water movements and not the quantity or quality of groundwater. Impacts to recharge are not anticipated as recharge is highly variable within the aquifer because it is determined by local precipitation and runoff.

Avoidance and Minimization

Waters of the U.S. and Wetlands

MTA has strived to avoid impacts to WUS and wetlands wherever possible through design solutions, including shifting the transitway alignment, adjusting construction work areas, and using retaining walls and ballast curbs to minimize the area of disturbance. The following measures currently are included in the design:

- Retaining walls along Veterans Parkway to minimize impacts to wetlands located north and south of the roadway, and along the proposed Rock Creek trail connection to avoid direct impacts to Wetland GB-8
- Shifting the transitway alignment to the south side of Veterans Parkway to avoid the extensive tributary and wetland system associated with Brier Ditch

Table 4-36. 100-Year Floodplain Impacts per Stream System (Acres)

Project Elements	Rock Creek	Sligo Creek	Northwest Branch	Paint Branch	Northeast Branch	Total
Transitway and Stations	0.8	1.4	6.4	4.5	10.0	23.1
TPSS	0	0	0	0	0.1	0.1
Project Total	0.8	1.4	6.4	4.5	10.1	23.2

- Use of ballast curb, effectively creating a retaining wall condition, where the proposed transitway and the widened existing roadways would parallel stream and ditch edges to reduce horizontal encroachment into existing streams or ditches and minimize the overall LOD.

Floodplains

Several measures designed to minimize, restore, and preserve natural and beneficial floodplain values will be considered as the project design advances, including minimizing fill within the floodplain, returning disturbed areas to natural contours, using minimum grading requirements, reducing compaction, and minimizing vegetation removal.

Groundwater and Hydrogeology

Impacts to groundwater have been minimized, as much of the Preferred Alternative would occupy existing transportation rights-of-way and other paved surfaces. Stormwater runoff from these surfaces will be managed in accordance with MDE guidelines.

Mitigation

MTA will mitigate project impacts to WUS, including wetlands, by complying with the Federal Compensatory Mitigation Rule (33 CFR Part 332), as well as stipulations from federal and state resource agencies.

MTA will coordinate with the regulatory agencies to develop a project-wide compensatory mitigation strategy to offset impacts to wetlands and aquatic resources.

Short-term Construction Effects

Chapter 5.0 provides a summary of the anticipated construction activities for the Preferred Alternative. The following sections describe short-term construction effects to various water resources.

Waters of the U.S. and Wetlands

The following short-term effects have been preliminarily identified:

- An intermittent stream (WUS GB-2) located within the Columbia Country Club would be crossed during construction of the transitway.
- Approximately 101 linear feet of in-stream construction would occur within Rock Creek (WUS GB-6) to deconstruct, remove, and replace the existing bridge and bridge pier.
- Approximately 370 linear feet of stream diversions would result within the larger perennial streams, such as Northwest Branch (WUS 006) and Northeast Branch (WUS 018), to replace in-stream piers to widen existing bridges.
- Reconstruction of a vegetated stormwater management basin east of the intersection of East West Highway and Veterans Parkway would affect 0.26 acres of a palustrine emergent wetland (W081) and 83 linear feet of an intermittent stream (WUS 082).
- Reconstruction of a vegetated stormwater management basin north of East West Highway and west of Baltimore Washington Parkway would affect 0.09 acre of palustrine emergent wetland (W024) and 0.13 acre of palustrine forested wetland (W024), as well as 83 linear feet of an intermittent stream (WUS023).
- An impact of approximately 109 linear feet of an intermittent stream (WUS 038) would result north of Ellin Road to facilitate cleaning of existing culverts under Ellin Road and facilitate positive flow through the triple box culvert under the transitway south of Ellin Road.

Surface Water—Water Quality and Total Maximum Daily Loads

Short-term effects to surface waters would include physical disturbances or alterations to the ground surface over which water flows, accidental spills of construction materials, and sediment releases into the surface water that could affect aquatic life.

Scenic and Wild Rivers

Short-term effects on designated scenic or wild streams would occur during construction when equipment is placed near stream banks or in-stream diversions are implemented during pier removal.

Floodplains

Short-term effects to the 100-year floodplains would occur during culvert and bridge construction, especially during the deconstruction, removal, and replacement of the existing Rock Creek Bridge.

Groundwater and Hydrogeology

Construction of the Plymouth Street tunnel would have a short-term impact to localized groundwater resources as de-watering activities would be required to maintain a dry work zone.

Avoidance and Minimization

MTA will minimize the area of disturbance to Maryland-designated wild and scenic rivers by clearly marking and fencing the work area and prohibiting activity outside the work area. During construction, runoff will be directed to surface waters through stormwater management or treated as it is being infiltrated into the local groundwater through ESD stormwater facilities.

Mitigation

MTA will restore Sligo Creek approximately 180 feet upstream and 180 feet downstream of the project bridge to provide long-term benefits and enhance its inherent characteristics.

MTA will submit project plans to the MDNR for evaluation in compliance with the Maryland Scenic and Wild Rivers Act. MTA would provide mitigation if MDNR determines that the project would jeopardize the scenic value of the designated rivers.

MTA will perform hydraulic and hydrologic studies. If these studies find that the flood elevation would change, floodplain storage mitigation will be implemented, if required.

MTA will submit project plans to MDE for approval of structural evaluations, fill volumes, proposed grading elevations, structural flood-proofing, and flood protection measures in compliance with FEMA requirements, USDOT Order 5650.2, "Floodplain Management and Protection," and Executive Order 11988.

MTA will obtain applicable environmental permits for water resources.

MTA will develop an Erosion and Sediment Control Plan, in accordance with the Stormwater Management Act of 2007, which will specify proper slope and soil stabilization techniques, erosion and sediment controls, and stormwater management facilities.

4.15 Topography, Geology, and Soils

This section presents an inventory of topography, geology, and soils in the study area and identifies the extent of impacts that would result from the Preferred Alternative. This section also describes the measures taken to avoid or minimize these impacts and the mitigation measures MTA would undertake to offset impacts to these resources.

4.15.1 Regulatory Context and Methodology

Topography, geology, and soils have been identified to support the design and construction of the Preferred Alternative, which would depend upon factors such as depth to bedrock, slope, and soil types. Specifically, MDE's *Maryland Stormwater Design Manual, Volumes I & II* (2009) and the *Maryland Standards and Specifications for Soil Erosion and Sediment Control* (2011) specify that slope and stabilization techniques may be necessary in certain areas, contingent upon the extent of changes required to the topography, geology, and soils.

The only regulation of these resources is the preservation of farmland soils, under the Farmland Protection Policy Act, which requires that federal agencies consider the extent to which their programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses (7 CFR Part 658). Since the U.S. Census Bureau has designated the study area as urbanized, consideration of farmland soils is not required.

Hydric soils and highly erodible soils (HES) also have been identified to ensure that they are considered for design and construction, in accordance with MDE guidance. Implementation of appropriate sediment and erosion control techniques and stormwater management facilities would minimize impact to these soils during construction.

The study area considered for the topography, geology, and soils analysis is the LOD for the Preferred Alternative, as described in Section 4.1.

Information regarding the existing topography and geologic structure was obtained from USGS maps,

Maryland Geological Survey, and contour line data from M-NCPPC. Soil composition data, including the identification of hydric soils, HES, and farmland soils, were obtained from the NRCS. These data were compared to preliminary engineering drawings, grading plans, and tunnel studies to determine the impacts.

4.15.2 Affected Environment

Topography and Geology

The study area spans a broadly undulating landscape that defines the transitional zone between the Piedmont Plateau Physiographic Province in the western part of the corridor and the Atlantic Coastal Plain Physiographic Province in the east.

The Piedmont Plateau comprises gentle slopes cut by steep stream valleys, reaching elevations of approximately 335 feet above mean sea level near Bethesda. The underlying geology, which includes the Pelitic Schist, Kensington Diorite, and Boulder Gneiss formations, consists of primarily hard crystalline igneous and metamorphic rocks with a soil and decomposed rock residuum overlying the bedrock.

The Atlantic Coastal Plain is characterized by level to moderately rolling upland, bounded by flat lowlands and estuaries such as the Northwest Branch and adjacent tributaries of the Anacostia River. The geologic structure is made up of unconsolidated gravel, clay, sand, and silt sediments definitive of the Potomac Group and Lowland Deposits.

Soils

Soils vary by type throughout the corridor. Most of the soils within the LOD have been previously altered by excavation, covered by fill material, or paved with asphalt and other impervious surfaces. Table 4-37 lists the naturally occurring soil types (not converted to urban land) and the characteristics of each.

Table 4-37. Characteristics of the Naturally Occurring Soils within the Study Area

Soil Name (Symbol)	Depth to Bedrock (feet bgs)	Depth to Water Table (inches bgs)	Slope (%)	Soil Drainage	Shrink Swell Potential
Piedmont Plateau Province					
Gaila silt loam (1B, 1C)*†	5+	Seasonal	0 to 55	Good	N/A
Glenelg silt loam (2B, 2C)*†	6 to 10+	Seasonal	0 to 55	Good	N/A
Brinklow silt loam (16D)*†	2.5 to 5	Seasonal	0 to 45	Good	N/A
Blocktown silt loam (16D)*†	1 to 3	Seasonal	0 to 60	Good	N/A
Codorus silt loam (53A)*	6+	Seasonal	0 to 3	Moderate	N/A
Atlantic Coastal Plain Province					
Codorus silt loam (CF)*	6+	Seasonal	0 to 3	Moderate	N/A
Hatboro silt loam (CF)*	5 to 10+	Seasonal	0 to 3	Poor	N/A
Christiana (CcD, CcE, CcF)*†	5+	20 to 40	0 to 40	Moderate	Moderate
Downer (CcD, CcE, CcF)*†	6+	72+	0 to 30	Good	Low
Elsinboro sandy loam (EsA, EsB)	6 to 20+	Seasonal	0 to 15	Good	N/A

*Hydric Soil or contains hydric inclusions: Undrained hydric soil, in combination with hydrophytic vegetation and hydrology, is one of three attributes of wetlands, which are federally recognized environmentally sensitive areas and are further discussed in Section 4.14 (33 USC 1344).
†Highly erodible soil: Severely susceptible to the erosive forces of wind and water, possessing the potential to result in channel destabilization, increased flooding, and loss of aquatic habitat.
bgs = Below Ground Surface N/A = information not available from NRCS Official Soil Series Descriptions database

Source: Natural Resource Conservation Service, United States Department of Agriculture.

4.15.3 Preferred Alternative

Long-term Operational Effects

Topography and Geology

Construction of the Preferred Alternative would affect the existing topography and geology, as the study area is characterized by sloping terrain with a range of steepness that would require alterations to accommodate the proposed transitway, tunnel, and associated facilities. Elements requiring excavation and earth movement would include the Connecticut Avenue overpass, the track section underneath Jones Mill Road, the Rock Creek Bridge, installation of the piers leading to the Silver Spring Transit Center, the Plymouth Street tunnel, the approach to Adelphi Road, and the construction of the Lyttonsville Yard and the Glenridge Maintenance Facility. In the context of the urbanized corridor, these changes are anticipated to be relatively minor, as the study area has historically been heavily manipulated for the construction of streets and buildings.

Impacts to geology would be limited primarily to the tunnel below the steep grades at Plymouth Street. The amount of rock likely to be encountered during the construction could vary from almost a full face (entire tunnel height) of rock to very little, confined to the tunnel invert (bottom part of the tunnel), or possibly no bedrock at all in some locations. No long-term changes would be expected to the geologic structures underlying the remainder of the project corridor, as the only expected changes would result from the excavation and disturbance of surface and near-surface rock associated with the construction of the Preferred Alternative.

Soils

As a result of previous development, most of the soils in the study area already have been disturbed or covered. Given the relatively shallow excavation required along most of the transitway and the previous disturbance of most of the underlying soils, changes to naturally occurring soils and substantial alterations of existing soil conditions are not expected.

Avoidance and Minimization

The Preferred Alternative has been designed to follow existing roadways in order to avoid to the extent possible any additional disturbance to naturally occurring soils within the study corridor. Retaining walls, slope stabilization, and other best management practices have been incorporated into the project design to avoid soil erosion and minimize effects to topography, geology, and soils.

Mitigation

No mitigation is warranted.

Short-term Construction Effects

As discussed in Chapter 5.0, effects from construction of the Preferred Alternative would include excavation of slopes, resulting in short-term redirecting of runoff and small drainage patterns; soil erosion and instability; drilling and blasting of very thick boulder and rock substrate; dust hazards; vibrations from the excavation process; and noise impacts. Noise, vibration, water, and air quality impacts are discussed in other sections of this FEIS.

Work within areas known to contain hydric soils and HES would be addressed by conventional engineering practices and would not likely result in any technical construction challenges.

Avoidance and Minimization

Where excavation and earth movement is required, retaining walls, supports, and slopes will be built in accordance with applicable local, state, and federal design codes and construction standards. MTA will develop an Erosion and Sediment Control Plan, in accordance with state requirements, which will specify proper slope and soil stabilization techniques, erosion and sediment controls, and stormwater management facilities such as diversion dikes, mulching, and netting. Following construction, much of the removed earthen material will be carefully backfilled and the existing grades re-established.

Recent advances in technology related to rock removal will be assessed and implemented as reasonably feasible to minimize short-term effects, such as excessive vibration, flyrock, and damage to remaining rock.

MTA also will prepare a blasting plan to minimize the effects of blasting on the surrounding communities and environment. The specific volume of bedrock and residual soils that would be removed during the tunneling process will be determined as the project design advances.

Mitigation

No mitigation is warranted.

4.16 Hazardous Materials

This section describes recognized environmental conditions (REC) identified in the study area and summarizes recommendations for additional assessment and testing when hazardous or contaminated materials are encountered during construction or through real-estate transactions. It also discusses minimization strategies MTA has taken to eliminate or reduce impacts associated with contaminated materials and mitigation measures MTA will undertake to offset adverse effects. For additional information regarding data collection, site reconnaissance, and specific property information see *Purple Line Hazardous Materials Technical* Report *(2013)*.

4.16.1 Regulatory Context and Methodology

The following regulations apply to storage and handling of hazardous materials and wastes, inactive water wells, and underground storage tanks (UST):

- **Resource Conservation and Recovery Act (RCRA)**—regulation of hazardous waste from "cradle-to-grave." Applies to the safe generation, transportation, treatment, storage, and disposal of hazardous wastes.
- **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**—provides a Federal "Superfund" to clean up uncontrolled or abandoned hazardous waste sites, as well as accidents, spills, and emergency releases of pollutants and contaminants into the environment.
- **Federal Occupational Safety and Health Act (OSHA)**—provides workers with a place of employment free from recognized hazards to safety and health.
- **Toxic Substances Control Act (TSCA)**—includes restrictions relating to chemical substances and mixtures, as well as requirements for reporting, record keeping, and testing.
- **COMAR 26.04.04.11: Regulation of Water Supply, Sewage Disposal, and Solid Waste**—applies to inactive water wells so that they do not provide a conduit for possible contamination of groundwater.
- **COMAR 26.10—Oil Pollution and Tank Management**—requires confirmatory soil sampling of abandoned UST to be conducted, as warranted, to determine if petroleum has been released.

An assessment of the Purple Line corridor was conducted to identify, to the extent reasonably feasible, areas of hazardous waste concern or known RECs on properties that would be impacted or encroached upon by the Preferred Alternative. RECs are defined as "the presence or likely presence of any hazardous substance or petroleum product on a property with conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property" (ASTM 2005).

The Environmental Site Assessment (ESA) study area is the Preferred Alternative's LOD including all parcels within, or overlapping it. The ESA study area was identified through a search of Maryland State Department of Assessments and Taxation (SDAT) records.

Non-intrusive inspections were performed at 573 sites identified within the ESA study area. Each site was classified for its potential for concern based upon the land uses[11] and observed site conditions. Properties assigned a ranking of 1 were deemed to have a relatively high potential for RECs, contamination, hazardous waste, or materials that could affect human health. Some properties that are

[11] Land uses that might indicate a higher potential for concern include businesses that manufacture, use, transport, or store petroleum products, solvents, paints, or electrical equipment that may have used PCBs, explosives, and glues.

listed on environmental regulatory databases, but could not be otherwise classified due to insufficient data, were given a ranking of 2 and are conservatively presumed to warrant further inquiry and investigation. Properties ranked 3 or 4 are considered to have a moderate potential for concern, and properties ranked 5 or 6 are considered to have a relatively low potential for concern.

There are two steps in the assessment methodology: the Phase I ESA that has been completed, and the Phase II ESA activities that would be performed as the project design advances.

- Phase I ESA was performed on sites within the study area to identify RECs in accordance with the American Society for Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process, Designation: E 1527-05*. Phase I ESA data collection included a review of regulatory agency records and historical source information, as well as site reconnaissance. Site reconnaissance observed previously documented properties and identified observable evidence of contamination. General characteristics of each site were identified through an analysis of the existing topography, surface water, geology, soils, wetlands, and floodplains, and the site's potential for storage and migration of contaminants. The Phase I ESA recommends sampling and data collection activities at 153 sites.
- Phase II ESA would be performed on properties with a high potential for concern (rank 1 or 2), in accordance with ASTM *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process, Designation: E 1903-11* and MDE guidance, unless the property could be accurately classified by other means or methods. A Phase II ESA would include laboratory analysis of soil, groundwater, surface water, and sediment samples collected at, or in the vicinity of, a potentially contaminated site. Geophysical studies also potentially would be required.

4.16.2 Affected Environment

Residual contaminants potentially exist along portions of the study area in the underlying soils resulting from former industrial sites, existing and former gasoline service stations, and railroad yards.

Of the 573 sites identified, 71 were ranked 1 or 2 with a relatively high potential for concern, and 158 sites were ranked 3 or 4 with a medium potential for concern. Most of the parcels (344) were ranked 6, indicating that the sites are of low concern. Table 4-38 summarizes site features that typically would be associated with each ranking and the number of sites within the study area assigned each ranking. Figure 4-29 shows the sites with high to medium/high potential (ranking of 1 to 3); these sites are shown because they are of the most concern. For property information for sites ranked 4 to 6, see *Purple Line Hazardous Materials Technical Report (2013)*.

4.16.3 Preferred Alternative

Long-term Operational Effects

Although there are several contaminants of concern within various environmental media, the installation of new pavement, new ballast, and new cast-in-place structures during the construction of the Purple Line would help to prevent exposures to the potentially contaminated soils and groundwater along the alignment following construction.

Numerous stormwater management facilities have been proposed. Typical stormwater facilities would be constructed to depths of three to six feet where significant interaction with potentially contaminated groundwater is not anticipated. Any stormwater facilities requiring more extensive excavation and grading potentially would be affected by both surface and sub-surface residual contamination (defined as remaining after the conclusion of regulatory actions).

In addition to impacts resulting from pre-existing contamination in the study area, the operation and maintenance of the Purple Line could be associated with petroleum releases from the equipment and materials stored at the Lyttonsville Yard and Glenridge Maintenance Facility.

Table 4-38. Potential for Concern—Ranking Criteria and Number of Sites within Study Area

Potential for Concern/Ranking	Typical Site Observations or Conditions	Number of Sites
High (1)	▪ Industrial facilities ▪ Gasoline stations ▪ Automobile repair and vehicle fleet maintenance facilities ▪ Paint manufacturing facilities ▪ Aboveground storage tanks (AST) with a large amount of staining ▪ USTs containing gasoline, jet fuel, kerosene fuel, waste oil, or solvents ▪ Landfills ▪ Remediation systems in place ▪ Pits and lagoons ▪ Dry cleaners ▪ PCB transformers with major stains ▪ Surface dumps with drums or other hazardous materials	49
Listed Sites (2)	Regulatory database listed sites that could not be otherwise classified, due to insufficient data or MDE regulatory information	22
Medium/High (3)	▪ USTs containing materials other than listed above ▪ Surface dump with empty drums or other materials of concern ▪ Mounds ▪ ASTs with several medium stains ▪ Suspected PCB containing transformers with minor stains	25
Medium (4)	▪ Small amounts of surface staining ▪ Slightly discolored surface water ▪ Suspected PCB-containing transformers with no staining ▪ Distressed vegetation ▪ Unmarked transformers ▪ Large surface dumps containing household waste ▪ ASTs with a few small stains or no staining, but questionable integrity ▪ Hazardous material storage sites	133
Medium/Low (5)	Regulatory database identified facilities outside the ESA study area that are not expected to result in impacts to the study area	0
Low (6)	▪ Small surface dumps containing household wastes ▪ ASTs (relatively new) with no staining or evidence of poor structural integrity ▪ Septic systems ▪ Automobile repair/vehicle maintenance facilities on non-adjacent sites that are not expected to result in impacts to the ESA study area	344
Total		573

Source: Coordination between Chesapeake Environmental Management, Inc. and Maryland State Highway Administration, 2003, and site inspections by Chesapeake Environmental Management, Inc., 2011-2012.

Avoidance and Minimization

As noted above, although there are several contaminants of concern within various environmental media along the transitway, the installation of new pavement, new ballast, and new cast-in-place structures would minimize exposure.

Mitigation

MTA will establish procedures and staff training for proper storage and maintenance of equipment and hazardous materials.

If groundwater contamination is encountered that results in contaminated groundwater inflow after the completion of construction, MTA will obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges from project sump and underdrain systems, if required.

Short-term Effects

General Construction Activities

Construction through contaminated areas would be subject to regulatory requirements for the management and disposal of contaminated materials to protect workers and the public.

The greatest potential effects are expected in areas of deep excavation, such as the tunnel section, where dewatering [12] would be required, and greater volumes of contaminated soil may be encountered. Deep excavations may also be involved in utility relocation work, including construction of stormwater management structures.

Construction-related effects, as discussed in Chapter 5.0, also are expected during shallow utility excavation and surface construction dewatering. These activities would not encounter contamination similar to deep excavation activities since the soils would not be in direct contact with groundwater. However, near-surface construction potentially would encounter residual petroleum, metal, and solvent contamination, which are expected to occur within five feet of ground surface in some areas.

Excavated materials that contain contaminant concentrations exceeding the applicable MDE regulatory level would be considered as regulated waste materials for the purpose of disposal.

Tunneling

Tunneling activities potentially would encounter contamination within the excavated soils or tunnel muck[13] because of the presence of residual soil contamination and contaminated groundwater. During the excavation, the muck would be stockpiled for loading and disposal. Dewatering of the muck would be performed as part of the separation process, and affected water generated would be handled in the same manner as described below. Depending on the contaminant levels present in the muck, disposal may include re-use as borrow material or disposal at an approved landfill.

Groundwater/Dewatering

Dewatering activities near contaminated zones may result in the collection and discharge of contaminated groundwater. Where this occurs, treatment of the dewatering effluent may be necessary before discharge. In most cases, the contamination would likely consist of petroleum hydrocarbons, and treatment with an oil/water separator and carbon filtration system would reduce the petroleum concentrations sufficient for discharge to the stormwater system. Dewatering treatment would be performed under MDE's General NPDES permit for the discharge of treated groundwater from oil-contaminated groundwater sources.

Structures

Where existing buildings would be acquired for right-of-way purposes, pre-demolition surveys, including laboratory analysis of a sample of the waste, would be required to determine the appropriate demolition and debris disposal methods.

Avoidance and Minimization

To assist with construction plans and preparations, additional testing and research will be conducted to provide information on hazardous materials that may be encountered during construction.

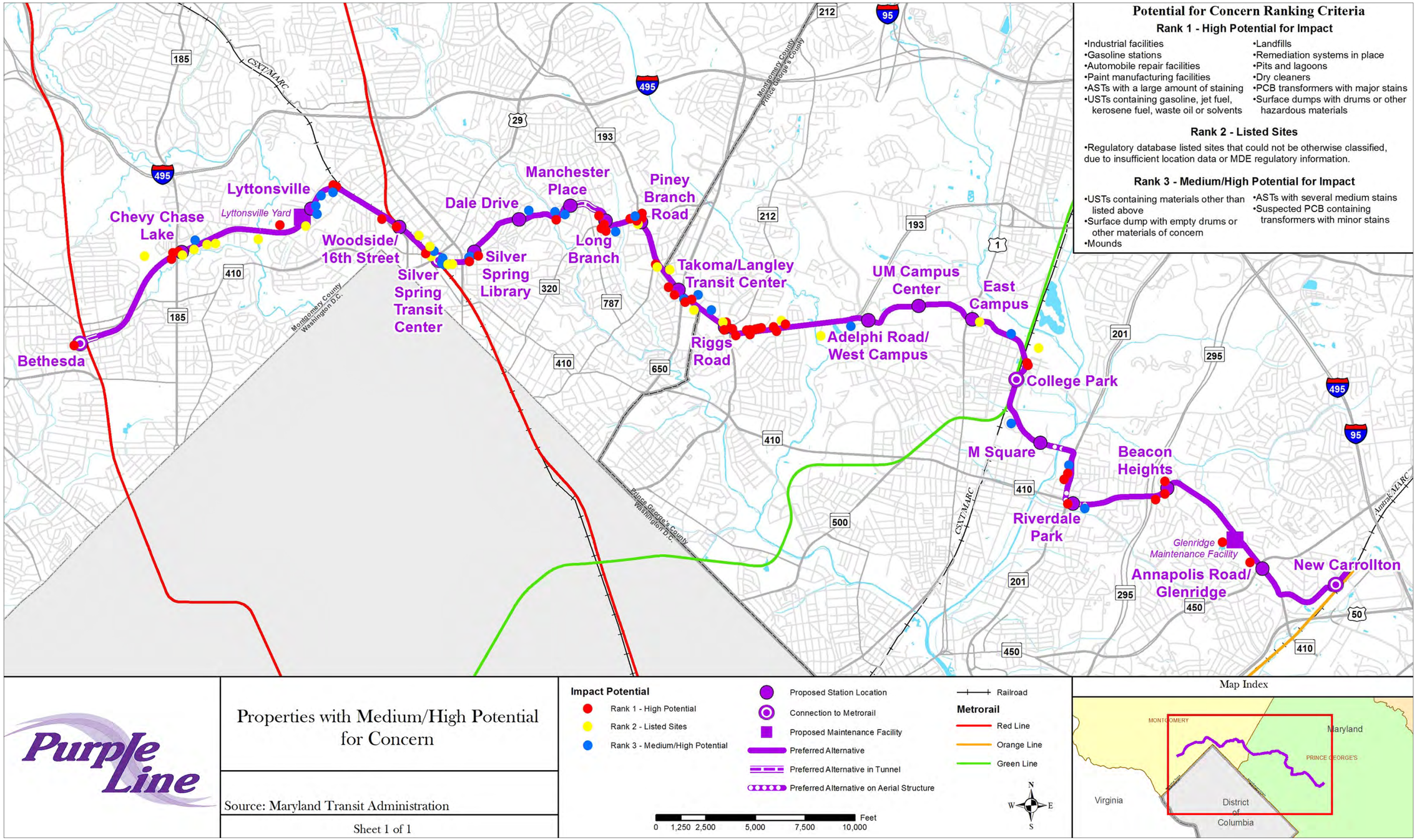
Recommendation for Phase II ESA

MTA will perform a Phase II ESA prior to acquisition of any property with a high potential for concern (sites ranked 1 or 2 in the Phase I ESA) unless the property can be classified accurately by other means or methods. MTA also will perform further records research on sites with a ranking of 4 to determine the potential presence of PCBs.

[12] Dewatering lowers the water table so that subsurface work can proceed.

[13] Muck is described as a combination of excavated soil, rock, groundwater, and any conditioning additives that were required for the excavation and/or muck removal process.

Figure 4-29. Properties with Medium/High Potential for Concern



The Phase I ESA rankings of the 64 properties proposed for full or partial acquisition are shown in Table 4-39.

Table 4-39. Summary of Potential Concerns Associated with Property Acquisition

Ranking	Number of Sites	
1	Sites with a High Potential for Concern	11
2	Listed Sites	1
3	Sites with a Medium/High Potential for Concern	1
4	Sites with a Medium Potential for Concern	17
5	Sites with a Medium/Low Potential for Concern	0
6	Sites with a Low Potential for Concern	34
Total		64

Based on the Phase I ESA findings, sampling and data collection activities are recommended at 153 sites, including the 64 that would be either fully or partially acquired. Depending on the type of concerns identified and the type of suspected contamination present, the sampling and data collection activities would differ at each site. Table 4-40 summarizes the number of sites requiring each sampling activity or data collection.

Table 4-40. Summary of Additional Sampling and Data Collection Activities

Type of Additional Sampling or Data Collection Required	Number of Sites
Surficial Soil Sampling	40
Subsurface Soil Sampling	61
Groundwater Sampling	39
Confirmatory Soil Sampling	6
Confirmatory Groundwater Sampling	7
Ground Penetrating Radar Survey	3
Additional Site Inspection	8
Additional Regulatory Research	27
Additional Utility Research (PCBs)	58

Note: Numbers are not additive; some sites would require more than one sampling or data collection activity.

The properties will undergo the Phase II ESA as the project design advances to account for cleanup activities, contamination removal, or remediation including the following:

- Closure of inactive water wells
- Soil sampling of abandoned USTs to determine if petroleum had been released. The UST would either be removed or an oil/water separator would be installed, as required
- Pre-construction surveys of buildings identified for demolition or renovation to address site specific concerns, such as asbestos and lead-based paint
- Construction specifications to address soil and/or groundwater contamination
- Construction of a ventilation plant to be used in the event of an unexpected encounter with a volatile material

Construction Procedures

MTA will identify remediation actions to be implemented as needed if unexpected soil or groundwater contamination is encountered.

MTA will develop a site-specific health and safety plan that will include the following:

- Equipment and procedures to protect the workers and general public
- Procedures for monitoring of contaminant exposures
- Identification of the contractor's chain of command for health and safety.

Mitigation

If contaminated soils are identified or encountered during construction, MTA will evaluate off-site remediation, chemical stabilization, or other treatments and disposal options, in cooperation with MDE.

MTA will coordinate with MDE to determine the mitigation response and reporting required should a release of hazardous materials occur during operations.

4.17 Utilities

This section describes the existing utilities within the study area and identifies the potential impacts to utilities resulting from the construction of the Preferred Alternative. It also discusses the strategies that MTA will employ to avoid, minimize or mitigate these impacts.

4.17.1 Regulatory Context and Methodology

As a federal transit project, the Purple Line would require integration with existing utility infrastructure subject to FTA's *Project and Construction Management Guidelines*—Appendix C: Utility Agreements (2003). Policies and procedures addressing utility adjustment or relocation are based on 23 CFR Part 645, Subparts A and B. As defined in 23 CFR Part 645.207, utilities are considered to furnish essential public and private services, which include electricity, gas, water, steam, and other similar commodities. Utility services are distributed overhead and underground, through electrical transmission lines, high pressure gas lines, treated water and sanitary sewer mains, steam tunnels, buried fiber optic cables, underground and overhead telephone lines, and communication systems.

The study area for utilities is the LOD for the Preferred Alternative, as described in Section 4.1. Existing utilities were identified through a review of utility record drawings, base maps obtained from a variety of utility service providers, and subsequent field surveys and verifications.

MTA has facilitated extensive coordination through a variety of meetings with respective utility service providers to determine and verify the location of existing facilities within the study area.

4.17.2 Affected Environment

The study area traverses a complex utility infrastructure that connects residences and businesses to essential services. Service providers include Potomac Electric Power Company (PEPCO), Washington Gas (WGL), Washington Suburban Sanitary Commission (WSSC), the University of Maryland (MEDCO), Verizon, MCI Network Services, AT&T, Fiberlight, Zayo Group, Century Link, Level 3 Communications, RCN Communications, Time Warner Communications, Cable TV Montgomery, XO Communications, and Comcast.

Although common throughout the study area, utility facilities are highly concentrated above or beneath the roadway rights-of-way, especially Wayne Avenue, University Boulevard, and Paint Branch Parkway.

Major utilities within the project study area have been identified based on their size and complexity to relocate. Such utilities include high voltage electric transmission lines, 12-inch or greater gas mains, water mains of 16 inches or more, sanitary sewer lines of 15 inches or more, steam mains, and fiber optic lines.

4.17.3 Preferred Alternative

Long-term Operational Effects

Due to the complex utility infrastructure supporting the urban environment in which the Preferred Alternative would be constructed, the relocation, reinforcement, protection, maintaining-in-place, or removal of several utilities would be required. Utilities in direct conflict with the proposed transitway, structural supporting elements, or grading and filling required during construction would be relocated in accordance with the utility owner's specifications and those set forth in MTA's *Red/Purple Light Rail Design Criteria and Standards* (April 2012).

Reinforcement and protection would involve fortifying the utility in place by adding a concrete encasement or other covering capable of withstanding loads imposed by the transitway. Casements would be required for pipelines carrying oil, gas, petroleum or other flammables, steam, water, and all other pressurized lines. Utilities that are maintained-in-place would be avoided during the construction process and allowed to remain in their existing condition. Although rare in occurrence, removal also could take place where utilities are outdated or no longer needed. Older vulnerable utilities may need to be updated with more modern materials or replaced in a safer location. The specific treatment of each utility conflict would be addressed on an individual basis, dependent upon

the underground or overhead clearance and type of each utility.

Major utility relocations could include gas, fiber-optic, telephone, electric, water, and steam facilities. Due to the complexity of the utility infrastructure throughout the study area, the identification of utility conflicts is ongoing, and coordination with utility service providers continues. Additional impacts may be discovered during further design development, following completion of the NEPA process. Although changes to the existing utility facilities may result from the implementation of the Preferred Alternative, the ability and capacity of the utility infrastructure to deliver service would not be impacted.

Avoidance and Minimization

To minimize costs and limit impacts, utilities would be protected and reinforced wherever possible rather than relocated.

Mitigation

Utility-related effects will be addressed in advance of, or in conjunction with, the construction of the proposed Preferred Alternative. Mitigation is not anticipated to be required.

Short-term Construction Effects

Impacts to existing utilities resulting from the construction of the Preferred Alternative could include temporary service interruptions when an existing utility must be disconnected and a temporary or replacement service is installed. The duration of down time would depend on the utility type and complexity of construction. Chapter 5.0 provides more information on the anticipated construction activities.

Avoidance and Minimization

Ongoing meetings and discussions with the respective utility service providers would continue as the project design progresses to identify additional impacts and minimize service interruptions. MTA would plan and schedule construction activities well in advance of temporary utility service disruptions, in coordination with respective utility service providers and appropriate local agencies. Affected utility customers would be notified in advance of any planned outages.

To the extent possible, utilities affected by construction would be reinforced and protected in place, in accordance with the utility company's standards, rather than relocated. Supporting and protecting utilities helps reduce outages and construction delays.

Relocation, reinforcement, and protection would be constructed based on design criteria established in MTA's *Red/Purple Line Light Rail Design Criteria and Standards* and in accordance with the specifications set forth by each respective utility owner. Some private utility owners would handle the design and construction of their required utility relocations. MTA would maintain continued correspondence with each utility owner to coordinate the design and construction of utility relocation work to avoid conflicts with other proposed utility relocation construction and the Purple Line construction schedule.

Mitigation

Mitigation is not warranted.

4.18 Energy Use

This section describes the current trend in energy consumption and assesses the potential long-term operating and short-term effects of the Preferred Alternative on energy consumption, including discussion of the minimization strategies MTA will use to reduce energy usage within the corridor.

4.18.1 Regulatory Context and Methodology

Under the regulations for implementing NEPA, the Council on Environmental Quality (CEQ) requires that the energy requirements for each alternative be analyzed and the energy conservation and mitigation measures be identified (40 CFR 1502.16(e)).

Energy consumption was calculated based on projected travel forecasts for the Washington DC metropolitan area found in Section 3.2. Estimates for direct (during operations) and indirect[14] (during construction) energy consumption for the Preferred

[14] Indirect, in relation to the energy analysis, refers to the energy used during construction. This term is used differently in this analysis than it is in the Indirect and Cumulative Effects analysis in Chapter 7.0 of the FEIS.

Alternative were based on the analysis in the *Energy and Transportation Systems* manual (Hatano et al. 1983) and the methodologies described in *Urban Transportation and Energy: The Potential Savings of Different Modes* (Congressional Budget Office, 1977). Updated consumption calculation factors for project construction and operation were obtained from the DOE *Transportation Energy Data Book, 30th Edition* (Davis et al. 2011), *National Household Travel Survey* (Santos et al. 2011), *Assessment of the Energy Impacts of Improving Highway-Infrastructure Materials* (Stammer and Stodolsky, 1995), the USDOT's *National Transportation Statistics* (Duych, R. et al. 2012), and the American Public Transportation Association's (APTA) *Public Transportation Fact Book* (Neff and Dickens, 2012).

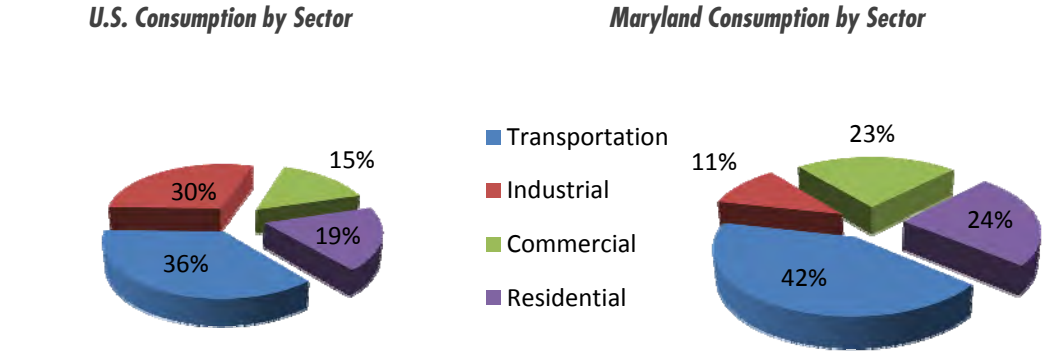
Calculating indirect energy consumption during construction considered the number of proposed track miles, including shared and exclusive lanes as well as surface, tunnel, and elevated track. These figures were multiplied by construction energy factors, which estimate the amount of energy necessary to extract raw materials, manufacture and fabricate construction materials, transport materials to the work site, and complete construction.

Calculating transportation energy consumption during operation considered the imputation of daily VMT for automobiles, diesel trucks, bus transit, and light rail transit throughout the study area.

4.18.2 Affected Environment

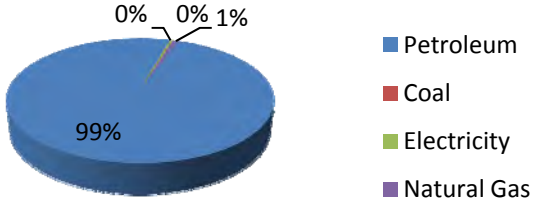
Figure 4-30 shows consumption of energy by sector, for the United States and the State of Maryland. The transportation sector is the largest consumer of energy, accounting for over one third of the consumption, and petroleum is the predominant source of transportation energy consumption in Maryland, as shown in Figure 4-31.

Figure 4-30. Consumption of Total Energy by Sector, 2009, U.S. and Maryland



Source: U.S. Energy Information Administration, June 2011

Figure 4-31. Maryland Transportation Energy Consumption Estimates, 2009



Source: U.S. Energy Information Administration, June 2011

4.18.3 Preferred Alternative

Long-term Operational Effects

As shown in Table 4-41, implementation of the Preferred Alternative would reduce total energy consumption in the corridor by 0.043 percent, compared to the No Build Alternative in 2040. As a result of the anticipated reduction in roadway VMT by only 0.064 percent (36 million miles annually based on the FTA annualization factor), the overall change in energy consumption from Preferred Alternative to the No Build Alternative is expected to be very small but beneficial. Energy consumption quantities are given in British thermal units (Btu), the measure of the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit.

Table 4-41. Direct Transportation Energy Consumption, 2040

	No Build Alternative	Preferred Alternative
Roadway		
Daily Project Study Area VMT	195,866,009	195,761,256
Annual Roadway Fuel Consumed (million gallons)[1]	2,612	2,611
Annual Roadway Energy Consumption (million Btu)	327,651,524	327,483,438
Light Rail Transit (LRT)		
Daily Vehicle Miles Traveled	Not Applicable	4,775
Annual LRT Electricity Use (kWh)[3]	Not Applicable	8,402,952
Annual LRT Energy Consumption (million Btu)	Not Applicable	28,671
Totals		
Total Energy Consumption (million Btu)	327,651,524	327,512,109
Percent Change from No Build Alternative	—	-0.043%

Note: Transportation includes automobile, diesel, bus transit, and LRT modes. Assumed 4,576 Btu/vehicle mile for automobiles; 16,333 Btu/vehicle mile for diesel trucks (with 1 operator); 22,779 Btu/vehicle mile for bus (Davis et al. 2012); and 20,217 Btu/vehicle mile for LRT (Dickens and Neff 2012).
[1]Davis, S.C., Diegel, S.W., and Boundy, R.G. 2012. *Transportation energy data book: Edition 31*. Oak Ridge National Laboratory, Oak Ridge, TN.
[2]Assumes 5.93 kWh/vehicle-mile in 2040. Projected from Table A. 15: Transit Rail Fuel Use (Davis et al. 2012) and light rail vehicle mile data obtained from Table 80 (Dickens and Neff 2012).

Although the overall change in total direct transportation energy consumption would be minor, the per passenger transportation energy use would be considerably less for the Preferred Alternative when compared to the petroleum consumption of transit buses and private automobiles. Assuming average vehicle occupancies derived from FHWA and APTA data, Table 4-42 demonstrates the single person energy benefits of light rail transit (FHWA 2011; Dickens and Neff 2012). Light rail would require approximately 1,885 Btu less energy per passenger mile than automobiles and 2,474 Btu less than buses.

Table 4-42. Indirect Energy Consumption

	Length (miles)	Energy Consumed (millions Btu)
Track		
At-grade Track[1]	36.8	230,197
Above-grade Track	1.6	28,572
Below-grade Track[2]	1.4	230,158
Track Work Subtotal	39.8	488,927
Miscellaneous Materials[3]		48,893
Placement Energy[3]		146,678
Total Indirect Energy Consumption		684,498

[1]Assumed energy consumption for excavation and grading of green track to be similar to roadway resurfacing (Stammer and Stodolsky 1995).
[2]Assumed energy for construction to be similar to that of major bridge rehabilitation (Stammer and Stodolsky 1995).
[3]Miscellaneous and placement energy 10% and 30% of subtotal, respectively (Hatano et al. 1983).

Short-term Construction Effects

In addition to the direct propulsion requirements, one-time, non-recoverable indirect energy expenditures would result from construction. Table 4-42 summarizes the energy consumed by type of track and reveals that 684,498 million Btu would be consumed during the construction of the Preferred Alternative. Chapter 5.0 provides a summary of the anticipated construction activities.

Avoidance and Minimization

No avoidance or minimization is anticipated.

Mitigation

There is no mitigation required.

4.19 Environmental Justice

This section documents coordination efforts with Environmental Justice (EJ) communities and presents the EJ effects that would result from implementing the Preferred Alternative. Also discussed are avoidance and minimization strategies MTA has taken to eliminate or reduce impacts, and mitigation measures MTA will undertake to offset adverse effects.

4.19.1 Introduction and Regulatory Overview

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was signed by President Clinton on April 11, 1994. This Executive Order directs federal agencies to take appropriate and necessary steps to identify and address disproportionately high and adverse environmental effects of federal agency actions (including transportation projects) on minority and low-income populations. Following is a summary of other guidance and procedures that are used in the EJ analysis:

- **Environmental Justice Guidance under the National Environmental Policy Act (CEQ 1997)**—established guidance to assist federal agencies in effectively integrating the issue of EJ into their project development procedures.
- **Updated Final Order on Environmental Justice, 5610.2(a) (USDOT May 2012)**—provides detailed procedures for identifying EJ populations and for determining disproportionately high and adverse effects to the targeted populations. It sets forth steps to prevent disproportionately high and adverse effects to minority or low-income populations through Title VI analyses and environmental justice analyses conducted as part of federal transportation planning and NEPA provisions. It also describes the specific measures to be taken to address instances of disproportionately high and adverse effects.
- **FTA Circular 4703.1 Environmental Justice Policy Guidance for Federal Transit Administration Recipients (FTA August 2012)**—provides guidance for incorporating EJ principles into plans, projects, and activities receiving funding from FTA.

4.19.2 Methodology

The strategies developed under **FTA Circular 4703.1** are intended to ensure that communities are provided the opportunity to provide input on the planning and design of a federal action, as well as effects and mitigation measures; and that disproportionately high and adverse effects on minority or low-income populations are appropriately addressed. The general methodology for addressing EO 12898 involves:

- Identifying the EJ populations within the study area
- Providing information on the efforts that MTA has made to involve minority, low-income, and limited English proficient populations in the study area
- Assessing whether the project alternatives would result in disproportionately high and adverse effects on EJ populations, taking into consideration mitigation and enhancement measures and project benefits, as appropriate.

Study Area

The study area for the EJ analysis includes the census tracts that fall within 500 feet of the alignment or within a half-mile radius of a proposed station.

The assessment of the potential for disproportionate high and adverse effects is based upon the environmental impact information developed for the FEIS. Using the results of the technical studies conducted for this project, the physical locations of adverse impacts were identified, and a map analysis was conducted to determine whether patterns or concentrations of adverse effects occurred in areas with EJ populations.

Data Sources

The data sources used for the identification of low income populations was the American Community Survey five-year average data for 2006-2010 and for minority populations, the U.S. Census of 2010.

Other data sources that were used to confirm the location of minority and low-income populations

included information and data from the National Center for Educational Statistics, government assisted housing programs, historical references, City and County officials, field visits, community meetings and interviews and a review of revitalization efforts within the project study corridor.

Identifying Minority and Low-Income Populations

The USDOT Order on Environmental Justice (5610.2a) provides definitions of the minority populations addressed by EO 12898. These populations are as follows:

- **Minority Populations**—Any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who would be similarly affected by a proposed FTA program, policy, or activity. Minority includes persons who are American Indian or Alaskan Native, Asian American, Native Hawaiian or Other Pacific Islander, Black (not of Hispanic Origin), and Hispanic or Latino.
- **Low-Income Population**—Any readily identifiable group of low-income persons whose household income is at or below the US Department of Health and Human Services poverty guidelines, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who would be similarly affected by a proposed DOT program, policy, or activity.

As established by the U.S. Department of Health and Human Services (DHHS), the poverty guidelines in 2010 are shown in Table 4-43.

In addition to the use of census data, MTA spoke with city and county agency staff, local elected officials, and community leaders to identify the location of EJ populations that might not be reflected in census data.

Table 4-43. DHHS Poverty Guidelines

Persons in Family/Household	Income Threshold
1	$10,830
2	$14,570
3	$18,310
4	$22,050
5	$25,790
6	$29,530
7	$33,270
8	$37,010

Source: U.S. Department of Health and Human Services

The use of thresholds for identifying EJ areas was based on the CEQ guidance document, Environmental Justice Guidance under the National Environmental Policy Act (NEPA) (CEQ 1997). This approach was used in the AA/DEIS, which identified EJ and non-EJ areas based on the criteria described above. On August 15, 2012, FTA issued Circular 4703.1, which does not adopt the CEQ's approach and instead calls for EJ analyses to include "reasonable efforts to identify the presence of distinct minority and/or low-income communities residing both within, and in close proximity to, the proposed project, or activity."

For consistency with the approach used in the AA/DEIS, this FEIS continues to identify EJ areas based on a threshold approach. In accordance with Circular 4703.1, this FEIS also considers the potential for EJ populations outside areas identified as EJ areas. Some low income EJ communities were found in Bethesda, north of the station area, and in Silver Spring, a population of Ethiopian immigrants. MTA was able to team with Impact Silver Spring for Amharic language outreach to the Ethiopian community. This group also helped organize community meetings in some low-income apartment complexes in Silver Spring.

4.19.3 Environmental Justice Populations in the Study Area

As a tool for evaluating the proportionality of impacts and benefits, this analysis identifies "EJ areas" and "non-EJ areas" within the project study corridor. An "EJ area" was defined to include any census tract in which the minority or low-income population meets either of the following thresholds:

a) the minority or low-income population in the census tract exceeds 50 percent
b) the percentage of a minority population in the affected area is meaningfully greater than the lowest percentage in the either county, the state or study area

c) the percentage of a low-income population in the affected area is meaningfully greater than the lowest percentage in the either county, the state or study area.

As noted above, the CEQ guidance recommends identifying areas that are "meaningfully greater" than the average in the surrounding jurisdiction. The CEQ guidance does not define the specific percentage that should be used for determining if the minority or low-income population is "meaningfully greater" than the average in the surrounding jurisdiction. However, it is consistent with the CEQ guidance to set a threshold that is higher than (not the same as) the average of the low-income or minority population in the surrounding jurisdictions. For this FEIS, FTA has determined that the minority or low-income population is "meaningfully greater" than the average in the surrounding jurisdictions if it is 10 percentage points higher than the jurisdiction with the lowest percentage of that EJ population.

Minority and low-income population data at the state, county, and study area levels were compiled to provide a basis for identifying areas with high levels of EJ populations. Geographic information system (GIS) maps were developed to illustrate the minority and income characteristics of the population in the study area.

The lowest percentage of minority population is 42 percent of the total population in Montgomery County (Table 4-44). The addition of 10 percentage points creates a higher threshold than 50 percent, so any census tract block group over 50 percent minority is identified as an EJ area.

The lowest percentage of low income population is 6 percent of the total population in Montgomery County (Table 4-45). The addition of 10 percentage points creates a threshold of 16 percent, so any census tract block group over 16 percent low income is identified as an EJ area.

The study area includes 155 census block groups, which were analyzed to identify affected populations and EJ-related issues that would not be apparent at a larger geographic scale. Based on the minority and low-income criteria, 93 block groups of the 155 block groups within the study area are identified as representing EJ populations (see Table 4-46). The population in the 93 block groups totals 158,261, or about 68 percent of the total study area population. Of the 93 EJ block groups, 22 block groups exceed both the minority and low-income EJ criteria. Figure 4-32 presents the results of the demographic and income analysis for the corridor.

For more information on the EJ analysis see the *Purple Line Social Effects and Land Use Planning Technical Report* (2013).

Table 4-44. Race and Ethnicity in Region

Geographic Area	White only	African-American or Black only	American Indian/ Native Alaskan only	Asian only	Native Hawaiian/ Pacific Islander only	Other Race	Two or More Races	Hispanic Ethnicity	Minority
Maryland	58%	29%	0%	6%	0%	4%	3%	8%	42%
DC	38%	51%		4%	0%	4%	3%	9%	62%
Montgomery County	57%	17%	0%	14%	0%	7%	4%	17%	43%
Prince George's County	19%	65%	1%	4%	0%	9%	3%	15%	81%
Study Area	45%	28%	1%	6%	0%	16%	4%	27%	55%

[1] The U.S. Census records Hispanic ethnicity as distinguished from race, and therefore, the percentages given for Hispanic population include those who are White, Black, or other races.

Source: U.S. Census Bureau 2010

Table 4-45: Low Income Percentages in the Region

Geographic Area	Households Below the Poverty Level
Maryland	8%
DC	16%
Montgomery County	6%
Prince George's County	7%
Study Area	10%

Source: U.S. Census Bureau 2006-2010 American Community Survey 5-Year Average

Table 4-46: Minority and Poverty Characteristics by Census Tract and Block Group

Geographic Area	Census Tract	Block Group	Percent of population considered minority	Percent of households below poverty level	EJ Block Group
Bethesda	704700	1	8.4%	0.0	N
		2	13.7	0.0	N
		3	7.6	4.2	N
		4	6.4	0.0	N
	704803	1	20.7	2.1	N
		2	22.5	6.6	N
		3	32.2	0.0	N
	704804	1	16.7	2.0	N
	704805	1	27.5	**16.7**	**Y**
		2	30.2	**27.5**	**Y**
	704806	1	22.8	6.4	N
		2	23.9	7.6	N
	705502	1	11.1	4.6	N
		2	5.5	0.0	N
		3	11.5	1.6	N
Bethesda Totals			17.4	6.1	N
Chevy Chase	705000	1	11.4	3.8	N
		2	8.5	7.3	N
		3	13.5	4.5	N
		4	18.8	2.9	N
	705100	1	19.8	0.4	N
		2	14.5	2.8	N
		3	6.8	0.0	N
		4	7.4	3.7	N
	705200	1	17.2	0.0	N
		2	7.2	0.0	N
		3	8.7	0.0	N
	705400	1	9.5	0.0	N
		2	6.6	2.4	N
Chevy Chase Totals			12.1	2.1	N
Rock Creek/ Lyttonsville/ Rosemary Hills	7052700	1	61.5	2.0	Y
		2	40.7	11.5	N
		3	13.6	3.8	N
		4	57.3	13.2	Y
Rock Creek/Lyttonsville/Rosemary Hills Total			49.8	7.4	N

Table 4-46: Minority and Poverty Characteristics by Census Tract and Block Group (continued)

Geographic Area	Census Tract	Block Group	Percent of population considered minority	Percent of households below poverty level	EJ Block Group
Woodside	702800	1	33.1	8.0	N
		2	**58.0**	9.1	**Y**
		3	24.2	4.9	N
		4	30.7	0.0	N
Woodside Totals			37.3	6.5	N
Silver Spring	001600	1	**77.4**	0.0	**Y**
		2	**71.4**	11.0	**Y**
		3	**76.2**	5.6	**Y**
		4	**73.7**	1.3	**Y**
	702402	1	**56.6**	**25.0**	**Y**
		2	45.1	7.5	N
		3	**58.7**	11.0	**Y**
	702500	1	**69.1**	7.0	**Y**
		2	**52.5**	4.6	**Y**
		3	**63.7**	**23.5**	**Y**
		4	**55.9**	6.1	**Y**
	702601	1	**61.1**	10.5	**Y**
		2	46.2	10.8	N
		3	49.5	5.4	N
		4	46.2	12.3	N
	702602	1	32.8	13.9	N
		2	**58.7**	**18.7**	**Y**
	702900	1	15.2	7.0	N
		2	25.5	2.4	N
		3	31.1	0.0	N
		4	40.5	0.0	N
		5	15.0	0.0	N
Silver Spring Totals			52.0	9.4	Y
East Silver Spring	702101	1	**76.9**	**20.7**	**Y**
		2	**76.9**	10.3	**Y**
		3	**66.9**	4.1	**Y**
		4	**77.5**	6.5	**Y**
	702200	1	**53.0**	3.6	**Y**
		2	16.5	14.5	N
		3	23.1	3.0	N
		4	21.6	0.0	N
	702302	1	**61.1**	8.2	**Y**
		2	18.4	0.0	N
		3	**55.8**	4.9	**Y**
East Silver Spring Totals			54.7	7.4	Y
Long Branch	702301	1	**62.3**	8.6	**Y**
		2	**70.6**	6.5	**Y**
	702401	1	26.2	6.5	N
		2	36.8	2.6	N
Long Branch Totals			52.7	6.3	Y

Table 4-46: Minority and Poverty Characteristics by Census Tract and Block Group (continued)

Geographic Area	Census Tract	Block Group	Percent of population considered minority	Percent of households below poverty level	EJ Block Group
Takoma Park	701702	1	**67.6**	15.0	**Y**
	701703	1	**68.3**	0.0	**Y**
		2	30.7	2.6	N
		3	**79.0**	4.7	**Y**
	701800	1	**69.8**	**25.9**	**Y**
		2	**79.2**	15.5	Y
		3	23.0	2.8	N
		4	14.0	0.0	N
	701900	1	**64.4**	**17.6**	**Y**
		2	41.7	0.3	N
		3	41.8	14.2	N
	702000	1	**74.0**	**17.7**	**Y**
		2	**77.8**	**31.9**	**Y**
		3	**65.2**	13.3	**Y**
	805500	1	**74.8**	8.4	**Y**
		2	**77.3**	5.6	**Y**
Takoma Park Totals			63.6	11.9	Y
Langley Park	805601	1	**74.5**	**19.3**	**Y**
		2	**77.5**	**17.5**	**Y**
		3	**73.9**	**35.0**	**Y**
	805602	1	**68.5**	**24.7**	**Y**
		2	**79.8**	**23.4**	**Y**
	805700	1	**80.2**	6.9	**Y**
		2	**75.3**	2.4	**Y**
		3	**71.3**	**22.1**	**Y**
Langley Park Totals			74.1	19.7	Y
Lewisdale	805801	1	**80.1**	6.5	**Y**
		2	**86.4**	**18.5**	**Y**
	805802	1	**79.7**	14.4	**Y**
		2	**77.7**	13.5	**Y**
Lewisdale Totals			80.8	12.8	Y
Adelphi	805904	1	**66.1**	12.1	**Y**
		2	**76.1**	**29.1**	**Y**
	805909	1	**55.1**	**17.6**	**Y**
		2	**88.1**	9.7	**Y**
Adelphi Totals			73.1	15.2	Y

Table 4-46: Minority and Poverty Characteristics by Census Tract and Block Group (continued)

Geographic Area	Census Tract	Block Group	Percent of population considered minority	Percent of households below poverty level	EJ Block Group
College Park	806400	1	28.5	0.0	N
		2	21.4	7.9	N
		3	23.0	3.0	N
	806800	1	46.1	3.7	N
		2	41.8	3.2	N
		3	37.3	0.0	N
	807000	1	37.9	2.3	N
		2	40.7	13.9	N
		3	45.6	**33.5**	**Y**
		4	42.3	**41.4**	**Y**
	807200	1	17.0	**59.5**	**Y**
		2	32.2	0.0	N
		3	32.1	**89.2**	**Y**
		4	38.9	**30.1**	**Y**
College Park Totals			33.0	23.6	Y
Riverdale	803900	1	**77.4**	0.0	**Y**
		2	**76.1**	15.9	**Y**
		3	**77.0**	7.8	**Y**
	803401	1	**95.1**	**22.8**	**Y**
		2	**92.2**	10.0	**Y**
		3	**93.1**	8.9	**Y**
	806501	1	**51.0**	0.0	**Y**
		2	**62.3**	0.0	**Y**
		3	**77.8**	7.9	**Y**
	806601	1	**71.9**	4.2	**Y**
		2	**87.7**	13.2	**Y**
		3	**68.6**	15.4	**Y**
	806602	1	**82.7**	**17.7**	**Y**
		2	**69.6**	0.0	**Y**
		3	**67.6**	1.4	**Y**
	807102	1	18.6	7.0	N
		2	**57.1**	7.4	**Y**
Riverdale Totals			74.5	9.3	Y
Glenridge/Beacon Heights	803613	1	**83.5**	3.1	**Y**
		2	**90.6**	6.3	**Y**
		3	**94.8**	0.0	**Y**
	803801	1	**73.2**	9.9	**Y**
	803803	1	**83.5**	6.0	**Y**
		2	**82.7**	14.3	**Y**
		3	**83.5**	3.7	**Y**
Glenridge/Beacon Heights Totals			83.7	6.5	Y
New Carrollton	803605	1	**74.8**	**30.5**	**Y**
		2	**79.3**	3.6	**Y**
		3	**78.9**	9.8	**Y**
		4	**80.1**	1.8	**Y**
	803610	1	**81.5**	1.2	**Y**
		2	**88.1**	**16.8**	**Y**
New Carrollton Totals			80.4	7.9	Y

Table 4-46: Minority and Poverty Characteristics by Census Tract and Block Group (continued)

Geographic Area	Census Tract	Block Group	Percent of population considered minority	Percent of households below poverty level	EJ Block Group
West Lanham Hills	803602	1	**95.3**	10.0	**Y**
		2	**96.6**	8.1	**Y**
	803612	1	**83.1**	**30.5**	**Y**
		2	**95.9**	3.6	**Y**
	803700	1	**75.0**	14.4	**Y**
		2	**75.9**	6.0	**Y**
West Lanham Hills Totals			86.4	11.0	Y

Source: U.S. Census Bureau 2006-2010 American Community Survey 5-Year Average and U.S. Census Bureau, Census 2010.

Minority Populations

In 2010, 55 percent of the population in the study area block groups was minority, and 86 block groups exceed the 50 percent minority criteria (see Table 4-46).

Low Income Populations

According to data from the U.S. Census Bureau American Community Survey 2006-2010 Five-Year Average, 10 percent of the study area households are below the poverty level. Twenty-nine census block groups meet or exceed the 16 percent low-income criteria.

4.19.4 Public Involvement

MTA has implemented a robust outreach program, with an emphasis on meaningful exchange with minority and low-income populations. The engagement of local residents, business owners, and other stakeholders began with scoping in 2003 and continues to this day.

Table 4-47 presents the range of outreach activities that has occurred. MTA developed a public outreach strategy that created meaningful opportunities for public engagement for all members of the community, including members of the EJ population. MTA also monitored its public outreach effectiveness in EJ communities and made additional efforts in EJ communities when it was not achieving comparable engagement of EJ populations. Participation of low income and minority populations in the Purple Line decision-making process began as early as 2005 and has been advanced through:

- Expanded outreach to environmental justice communities to encourage attendance at, and participation in project meetings and open houses.
- Translation of outreach materials into Spanish
- Flyers hand delivered to homes in EJ neighborhoods for community meetings with low attendance.
- Direct mailing inviting residents in EJ neighborhoods to Community Focus Groups where neighborhoods were not being represented (Community Focus groups were typically composed of representatives of community associations, but where there was low participation, MTA reached out to invite local residents directly).
- Invitations to Community Focus Groups sent to leaders of local houses of worship in EJ neighborhoods.
- Meetings with city and county agency staff, local elected officials, and community leaders to identify leaders of local communities, particularly those traditionally under-represented in the civic process. The groups identified included Action Langley Park, Impact Silver Spring, Puente Inc., and CASA de Maryland.
- Other community representatives identified and invited to participate in the Community Focus Group meetings were:
  - Prince George's County Latino Affairs Liaison
  - Montgomery County Department of Housing & Community Affairs
  - Montgomery County Business Development Specialist

Figure 4-22 Environmental Justice Populations within Study Area by Block Group

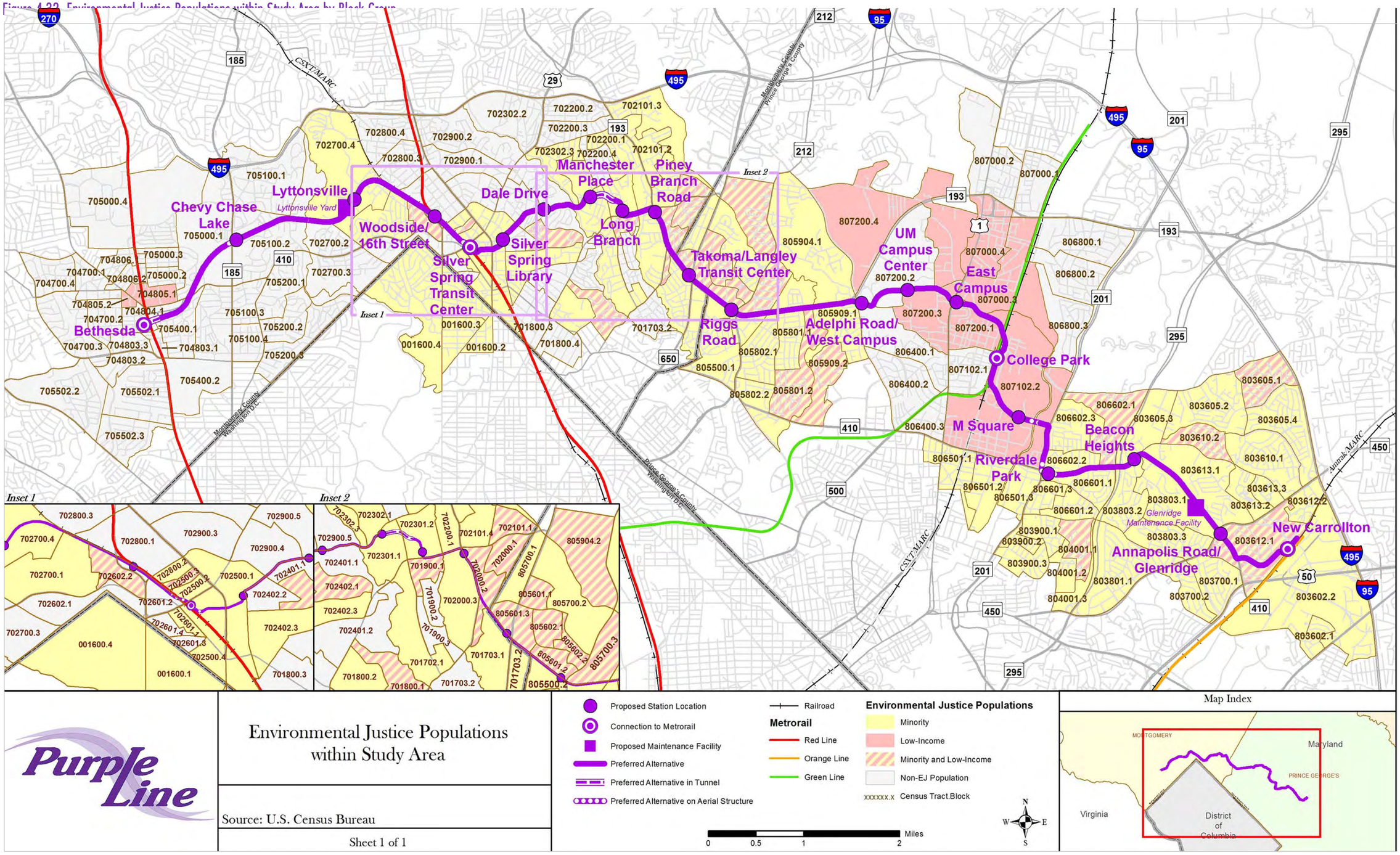


Table 4-47: Community Outreach Techniques and Objectives

Outreach Techniques	Time Frame	Objectives
MTA held 7 rounds of corridor-wide open houses for a total of 32. The format of these was a self-paced review of project information, with project staff available to discuss the plans and answer questions.	2003-2013	These meetings covered the entire project corridor and provided the public the opportunity to discuss proposed plans and provide input on issue they cared about. Comments were collected. The early meetings were general discussions about the purpose and need for the project, and supported the identification of appropriate project definition and markets.
Community Focus Groups—these meetings covered areas about 2 miles long and were generally focused on a comparison of the alternatives. Thirty-five of these meetings were held.	2005-2008	The goal of these meetings was to meet with representatives of local communities to learn about local conditions, transportation needs, community concerns and thoughts about the alternatives, and comparison of the alternatives under consideration. This was during the alternatives development phase of the project and these meetings were influential in shaping the development of the alternatives, and occasionally resulted in the proposal of new alternatives.
Neighborhood Work Groups—MTA held 32 of these meetings with local communities. These meeting were focused on station areas and issues of local concern.	2011-2013	These small group meetings were held after the identification of the Locally Preferred Alternative and were used for finer grained discussion of neighborhood level issues. Community members met with project planners and engineers to discuss what was proposed or what they desired in their neighborhood. Station access was the focus of many of these meetings.
MTA attended over 113 meetings with local community and civic associations.	2003-2013	These meetings were generally at the invitation of the local community, although on occasion MTA initiated the meetings. They were generally discussions of topics of local concern. In some cases these meetings precipitated design modifications to address community concerns. In Lyttonsville the relocation of the Yard and the reprogramming of the two yard and maintenance facilities was the result of community meetings where local residents expressed dissatisfaction with the proposed plans. Some of these meetings were with community advocacy groups to expand project outreach to traditionally underrepresented groups such as recent immigrants and renters.
MTA has met with local business groups, chambers of commerce, CDCs and other business advocacy groups in the corridor 51 times.	2003-2013	These meetings will support the future Business Impact Mitigation Plan by developing relationships with local business groups, engaging them in the project, and listening to business concerns.
MTA has met with special interest and project advocacy groups 64 times since 2003.	2003-2013	MTA provided project briefings, and updates.
In 2010 MTA began a General Information program, hosting a booth at events such as community fairs and farmers markets, etc.). Over 80 events have been attended.	2010-2013	The goal of this effort was to provide general information about the project, invite people to sign up for the mailing list, and solicit comments on the project. One of the challenges of a transportation project is reaching people who have not been engaged. These events, which have been focused in EJ communities, are part of MTA's on-going efforts to engage EJ communities.
In 2012 MTA began focused door-to-door outreach to local businesses. Over 1050 businesses have been spoken to about the project.	2012-2013	This effort is the first formal step in the business impact mitigation effort. MTA has begun a discussion with the local businesses about potential impacts and benefits for the project. These contacts will be further developed as MTA prepares the Business Impact Mitigation Plan.
MTA has met with principals and PTSA representatives of local public schools in the corridor 10 times.	2003-2013	The proposed Purple Line would operate near a number of schools in the corridor. MTA has worked closely with the schools in proximity to the alignment to discuss the plans and issues of concern such as safety. In a number of locations plans have been modified in response to input from the local schools.
After publication of the AA/DEIS in 2008 MTA held public hearings and a 90-day public comment period.	2008-2009	Stakeholders submitted over 3,300 comments to MTA on the project. For a summary of the comments, and MTA's responses see Appendix A. Decision-makers and MTA gained an understanding of the issues important to stakeholders.
Throughout project planning and engineering MTA has communicated project information though number of channels ▪ Twelve issues of the project newsletter have been published and sent to a mailing list of 66,000 people and businesses. ▪ Project website ▪ MTA has launched both Facebook and Twitter to further broaden the outreach efforts of the project. ▪ Project literature—brochures and fact sheets (translated into Spanish) ▪ MTA has two dedicated phone numbers for the public, one in English and another in Spanish.	2003-2013	The project newsletter (also in Spanish) is intended to educate the public about the project and upcoming public involvement opportunities. MTA has used to project website (fully translated into Spanish) to engage and inform stakeholders. Members of the public regularly submit questions and comments to the website which are all answered personally. The project phone lines are generally used by the public to ask questions about the project.
Correspondence with the public	2003-2013	MTA has responded to over 500 letters about the project with personalized letters.

The Purple Line corridor contains a large Spanish-speaking population. MTA was concerned that this community of non-English speakers would not be engaged in the public participation process, and early outreach efforts validated this concern. For that reason, MTA engaged two full-time Spanish-speaking outreach staff and collaborated with advocacy groups in the area such as CASA de Maryland and Impact Silver Spring. The project website, newsletters, and flyers are fully translated into Spanish, and MTA maintains a dedicated telephone line for Spanish-language calls.

To engage those who reside in apartments, MTA has worked with Impact Silver Spring to participate in targeted meetings with residents of large apartment complexes. Impact Silver Spring had also helped with outreach to other, smaller groups, such as Ethiopian and Vietnamese immigrants, for example, Impact Silver Spring hosted community meetings on the Purple Line and provided translation services. Many of the general outreach efforts, such as attendance at community fairs and festivals, have been aimed at engaging these communities.

Another major outreach initiative to engage and solicit information and concerns of the minority community is the multi-phase Purple Line business outreach program. Throughout the project's development, Purple Line project team members have met with over 1000 business owners in the project corridor, including independent, minority-owned businesses in EJ areas. The Purple Line's business outreach staff includes Spanish-speaking individuals to establish effective communications with those business owners, managers, and workers who do not speak English or have limited English proficiency.

This first phase of the business outreach program was aimed at educating the owners of businesses located within the Purple Line corridor about the project, with the intent to engage the owners in the project's planning and design process. In addition, a database has been created of contact information of the business owners and managers for use in future outreach efforts. The businesses were asked to fill out a short questionnaire. A report on this effort is included in the *Purple Line Social Effects and Land Use Planning Technical Report (2013)*. Subsequent phases of the program will focus on small business group meetings to address potential construction stage effects; development of a forum to promote available local, state, and federal business assistance programs; and the creation of a mitigation plan to address local business disruptions during construction.

Many community members and business owners have expressed concern that existing businesses would be disrupted during construction of the Purple Line, particularly small, independent, minority-owned businesses, and that the project would lead to redevelopment and rising land values. The Purple Line team will continue to work collaboratively with business owners to address their concerns. Concerns and issues raised by community members throughout this outreach program have been considered carefully in the development of the Preferred Alternative and potential mitigation strategies. Public outreach activities are described in detail in Chapter 8.0.

Table 4-48 summarizes some of the major concerns in the EJ communities and the actions that MTA has taken to address them and documents the coordination with local communities.

4.19.5 Preferred Alternative

The Preferred Alternative is expected to be constructed and in service by 2020. This section identifies long-term operational effects of the Preferred Alternative.

The Preferred Alternative was developed over a long period of time in conjunction with an extensive public involvement program. From the earliest conceptual design phase of the project, the alignments under study were shaped by MTA discussions with the public and incorporated efforts to avoid or minimize impacts.

Table 4-48: EJ Community Concerns and MTA Actions and Responses

EJ Community	Major Issues/Concerns	MTA Actions and Responses
Lyttonsville	▪ Proximity of residential community to maintenance facility ▪ Expansion of facility ▪ Commercial displacements ▪ Concerns about potential adverse impacts of maintenance facility (noise, visual)	▪ Multiple community meetings including a community "walk-through" ▪ MTA's proposed resolution accepted by the community in March 2012 ▪ Relocation of yard west of Lyttonsville Place (maintains most of the commercial properties, and is moved farther from residential areas) ▪ Reduction in size of facility ▪ Reprogramming of yard sites to make Lyttonsville a storage and light maintenance facility, and Glenridge a heavy maintenance facility. This action reduced the size of the facility so that it could fit west of the Lyttonsville Bridge as the community desired. Community members preferred the storage facility to the heavy maintenance facility.
Bonifant Street	▪ Impacts to small businesses – construction – loss of on-street parking – loss of loading zones – conversion of two-lane roadway to one-lane	▪ Multiple community meetings with local businesses and county, ongoing ▪ Community input on which way to make the street one-way ▪ Coordination with county to identify opportunities for additional local short-term parting ▪ Added loading zones
Woodside Station area	▪ Displacement of shopping center — owner is not minority, but some business owners (the center's tenants) are minority	▪ Multiple community meetings ▪ Coordination with property owner ▪ Outreach to commercial tenants to explain relocation process ▪ Located station to maximize redevelopment potential of site
University Boulevard–Takoma/Langley	▪ Business–construction impacts ▪ Business displacements ▪ Property value increases (rents) ▪ Potential reduction in availability of affordable housing	▪ Multiple community meetings with local residents, business groups (Langley Park Businesses, CASA de Maryland's Fair Development Coalition, Takoma Langley Crossroads Development Authority) ▪ Targeted outreach to business and Hispanic community ▪ Business Impact (construction) Mitigation Plan ▪ Engagement with local elected officials and agencies to encourage development of affordable housing policies ▪ Coordinated with SHA and the County to reduce the width of University Boulevard to minimize impacts and reduce displacements
Kenilworth Avenue — Town of Riverdale Park	▪ Business displacements due to proposed widening of Kenilworth Avenue ▪ Residential and commercial access changes due to alignment location ▪ Design of aerial structure ▪ Residential displacements	▪ Multiple community meetings in 2011 (CKAR — Central Kenilworth Avenue Revitalization and the Riverdale Park Business Association) ▪ Targeted outreach to impacted residents and businesses ▪ Coordination with the Town of Riverdale Park ▪ Coordination with SHA and Prince George's County to minimize future roadway widening and shift alignment to median. These changes reduce displacements and minimized access changes. ▪ New plans addressing community concerns accepted by the community in April 2012

An example of this is the decision to operate the Preferred Alternative in mixed traffic lanes on Wayne Avenue. The neighborhoods on the south side of Wayne Avenue are EJ areas. Earlier plans for dedicated lanes would have required extensive widening of the roadway into the front yards of local residents. After hearing community opposition to the roadway widening, MTA considered how best to minimize impacts to the community. MTA conducted a traffic analysis that demonstrated that the delays on Wayne Avenue are caused by vehicles waiting to make left turns. By adding left turn lanes at the signalized intersections, the traffic conditions on Wayne Avenue in 2040 would actually improve, even with the mixed-use Purple Line operations. MTA met with local residents many times as these plans were being developed, in 2008 alone, MTA met with local community members more than 20 times.

These types of design decisions have been made by MTA throughout the project, so that often the avoidance and minimization of impacts is integrated into the Preferred Alternative. Most of these design decisions occurred in EJ communities.

On University Boulevard the proposed addition of two transit lanes to the existing six-lane roadway would have resulted in a number of impacts to the adjacent EJ community; including business impacts from displacements and loss of parking, as well as degradation of the pedestrian environment from the standpoints of safety, walkability, and aesthetics. In response to community concerns, MTA worked with the counties and the State Highway Administration to agree on replacing two of the traffic lanes with the transitway, reducing the required widening, allowing room for pedestrian and streetscape enhancements and minimizing business displacements, access issues, and parking loss.

The shift in the alignment on Kenilworth Avenue, described in detail in Section 2.2.2, from the side to the center of the roadway, and the modification of the alignment on Kenilworth Avenue was the direct result of outreach with this EJ community and a commitment by MTA to minimize impacts in the community.

Long-term Effects

The Preferred Alternative would bring benefits to the communities it serves, most of which are EJ areas. EJ populations within the study area would also experience some adverse effects from implementation of the Preferred Alternative. However, if the Preferred Alternative were moved outside of the EJ areas to avoid the adverse impacts, those communities would be deprived of the benefits. The extent of the adverse impacts must therefore be weighed against the benefits. MTA has endeavored to avoid and minimize adverse impacts wherever possible. When further avoidance and minimization are not reasonably feasible, MTA is committed to applying mitigation measures equally through the corridor. The sections below discuss impacts by resource type. Also in each section is a discussion of avoidance, minimization and mitigation measures that have been included in the project.

Both the Lyttonsville Yard and the Glenridge Maintenance Facility would be located in EJ areas. Multiple sites were evaluated during the alternatives analysis process to determine the most suitable locations. These sites were analyzed based on size, availability, existing land use, lack of constraints to development, and distance from existing residences. All potential yard and maintenance facility sites were located in EJ neighborhoods because the only non-EJ neighborhood in the corridor did not contain large, contiguous parcels of suitable land adjacent to the transitway. The cost of the necessary infrastructure (rails, overhead wires, traction power substations) dictates that the maintenance facility be built adjacent to the alignment.

Sites in the Lyttonsville and Beacon Heights/ Glenridge neighborhoods were selected for yard and maintenance facilities as these alternatives met the site criteria described above, without substantial impacts on residential communities or environmental resources. Other potential yard and maintenance facility sites were eliminated from consideration due to parcel size; challenging terrain such as steep grades, forested lands, streams and wetlands; and proximity to historic properties (See *Supporting Documentation for Alternatives Development 2013* for the Lyttonsville Yard sites

analysis and Chapter 6.0 for a discussion of the Prince George's county sites considered). Both the Lyttonsville Yard and the Glenridge Maintenance Facility have been planned and designed in close coordination with neighborhood stakeholders and county officials to address community concerns and minimize adverse effects on residents. See Section 2.2.2 and Section 6.4.1 Glenridge Community Park for further discussion of coordination with local stakeholders.

Public Transportation

Residents in the corridor are heavily reliant on transit; the Preferred Alternative would provide a new east-west LRT service between Bethesda and New Carrollton, with more reliable, more frequent, and higher capacity service for transit riders. It would travel in dedicated or exclusive transit lanes for 13.9 miles of its 16.2-mile length, allowing the Purple Line to operate more reliably than the No Build Alternative bus services. In 2040, the end-to-end travel time for the Preferred Alternative would be 63 minutes, while the bus travel time for No Build Alternative would be 108 minutes, demonstrating that the Preferred Alternative would provide faster transit service.

In addition to the travel time-savings, improved transit service in the corridor would provide improved access to employment, educational, recreational, shopping, and cultural opportunities; and, due to improved access, a larger customer market for businesses near station areas. The Preferred Alternative would connect communities to the Red, Green, and Orange lines of the Metrorail system, all three MARC commuter rail lines and Amtrak's Northeast Corridor at the New Carrollton Station. These connections would improve transit access between corridor neighborhoods and other parts of the region.

While all populations within the project's service area would realize these benefits to the same extent, they would accrue to a higher degree to minority and low-income populations due to their higher reliance on transit. Having a station in one's neighborhood provides access and mobility improvements; and 18 of the 21 proposed Purple Line stations are in EJ areas. Ridership analysis of the Preferred Alternative (Table 4-49) indicates that the largest percentage increase in transit ridership would come from EJ areas (e.g., Takoma/Langley, College Park, Riverdale, and New Carrollton); the proposed transit services would thus accommodate minority and low-income populations, and those populations that are reliant on transit. For a more detailed discussion of the transit effects of the Preferred Alternative, see Chapter 3.0.

Roadways

The Preferred Alternative is expected to divert some traffic from the arterial roadways on which the Preferred Alternative would operate onto local streets, and alter property access and circulation. Access to some properties and from some sides streets would be converted to right in, right out only where the Preferred Alternative is operating in dedicated lanes in the median of the roadway, in EJ areas this occurs on Piney Branch Road, University Boulevard, and Kenilworth Avenue. On Piney Branch Road provision for U-turns will be made at appropriate locations for traffic needing to make left turns. On Kenilworth Avenue, Quesada Road will be realigned to connect to a full signalized

Table 4-49. Ridership Projections

Measure	Area						
	Bethesda	Connecticut Ave/ Lyttonsville	Silver Spring	Takoma/ Langley	College Park	Riverdale	New Carrollton
Produced Transit Trips (percent increase under the Preferred Alternative compared to the No-Build in 2040)	16%	33%	35%	48%	51%	93%	69%

Note: The seven areas indicated above are based on MWCOG Traffic Analysis Zones. They do not correspond exactly to the Purple Line neighborhoods as defined in this FEIS, but rather to larger segments of the Purple Line corridor.

Source: Purple Line Travel Forecasts Results Report (2013).

intersection at Rittenhouse Street for traffic coming to or from the neighborhoods on the west side of Kenilworth Avenue. Where the Preferred Alternative is on the side of a roadway, access to some parcels in EJ areas will be eliminated from that roadways (Riverdale Road, Arliss Street) and new entrances will be provided by MTA. On Kenilworth Avenue and Riverdale Road impacts to the roadway network will be minimized by a number of traffic improvements consisting of the addition of some new left turn lanes and traffic signals, as well as the adjustment of traffic signal phases and timing. Roadway and intersection improvements would be made throughout the corridor as part of the Preferred Alternative. These include re-aligning intersections, and adding or lengthening turn lanes. The roadway changes would result in localized improvements to vehicular traffic operations. Improvements in EJ areas include the following:

- The addition of left turn lanes along Wayne Avenue at Cedar Street, and Manchester Road. The addition of dedicated left turn lanes at these key intersections and a left turn phase as part of the signal would improve traffic operations and further promote safety along the corridor.
- The re-alignment of Mustang Drive to connect to Riverdale Road directly across from 62nd Place. Eliminating the current "split" signal would improve traffic operations and facilitate safer pedestrian crossings.
- The addition of a dedicated left turn lane on westbound Riverdale Road at 67th Avenue. This would provide full-time, protected access to the Beacon Heights community.

Level of Service

Where a new transit system runs on or intersects at grade with existing roads, traffic impacts can occur. The positive effects of the Preferred Alternative on roadway and intersection traffic level of service would be the result of adding through and turning lanes, possibly adding traffic signals to control traffic flow, and adjusting traffic signal phases and timing to optimize intersection operations. (See Chapter 3.0 for a more detailed discussion of the level of service effects of the Preferred Alternative.)

Analysis of the long-term traffic effects on intersections where traffic would interact with the Purple Line for the year 2040 Preferred Alternative forecasted that the number of failing intersections would be reduced from 18 under the No Build to 15 under the Preferred Alternative. Conditions would be improved at thirteen intersections in, or bordering, EJ communities. The roadways with the greatest improvements over the No Build conditions are seen in the following EJ areas:

- University Boulevard
- Paint Branch Parkway
- River Road

Pedestrian and Bicycle Facilities

Light rail transit is typically compatible with pedestrian environments and is often used in areas of heavy pedestrian activity. This is due to the fact that light rail is powered by an overhead wire system rather than an electrified third rail and that the tracks can be embedded in a street or paving so that they can be easily crossed. Where light rail operates in roadways it adheres to existing traffic signals and speed limits.

Overall, there would be an improvement in pedestrian and bicycle connections and access. Throughout the corridor the Preferred Alternative includes the following:

- Additional sidewalks or crosswalks in station areas, where needed to support safe station access
- Sidewalks along both sides of new and reconstructed roadways
- Bicycle racks at stations, where space allows

The Preferred Alternative includes the following location-specific changes to bicycle and pedestrian facilities in EJ areas:

- Accommodates extension of the Montgomery County Green Trail along Wayne Avenue. The Green Trail is not part of the Purple Line and would be funded separately by Montgomery County, but likely would be built with the Purple Line.
- New signalized pedestrian crosswalks across 16th Street, Wayne Avenue, Arliss Street, Piney Branch Road, University Boulevard, Campus Drive, and River Road

- Wider outside roadway travel lanes to accommodate bicycles on Piney Branch Road, University Boulevard, and Kenilworth Avenue, and a 5-foot wide bicycle lane on the eastbound side of Veterans Parkway, separated from the traffic lane by striping
- Wider sidewalks and crosswalks, pedestrian plazas, and refuges along University Boulevard where needed and where reasonably feasible,
- Construction of a new bikeway across the UMD campus
- Portions of the Capital Crescent Trail are in EJ communities. The eastern 4.3 miles of the Capital Crescent Trail from Bethesda to Silver Spring would be constructed and paved, replacing the existing Georgetown Branch Interim Trail between Bethesda and Stewart Avenue, providing a permanent trail, separate from the roadways, from Stewart Avenue into downtown Silver Spring.[15] See Section 2.3.2 for more detail.

Parking Facilities

The effects of the Preferred Alternative on parking are described below. See Chapter 3.0 for a more detailed discussion of the effects of the Preferred Alternative on parking.

- **On-Street Parking—**On-street parking impacts would primarily be in EJ areas. Most impacts would occur on University Boulevard in the Takoma/Langley area and in Lewisdale. Other areas experiencing on-street parking impacts would be Bonifant Street in Silver Spring, Arliss Street in Long Branch, and on the University of Maryland campus.
- **Non-Residential Parking Lots—**The majority of permanent impacts to non-residential parking lots in the Purple Line corridor would occur on the University of Maryland campus and in EJ areas at shopping centers with parking lots adjacent to the roadways planned for widening as part of the Preferred Alternative. Apart from the university campus, most impacts to non-residential parking would occur to businesses located along University Boulevard in Langley Park and Takoma Park. In Langley Park, 124 spaces would be removed, and in Takoma Park, approximately 107 spaces would be removed.
- **Residential Parking Lots—**All residential parking lot impacts of the Preferred Alternative would occur in EJ areas. The most spaces would be removed at the Falkland Chase apartments in Silver Spring (43 spaces). Other residential parking impacts would involve minor impacts to apartment complex parking areas.

The loss of parking is largely the result of the location of the transitway in existing roadways. The loss of parking has been accepted as a tradeoff because replacing the parking would have required further widening of the roadways and would have resulted in greater impacts to private property, including residential and commercial displacements.

MTA continues to work with specific communities and business areas to address parking impact concerns. While it is anticipated that most ridership will be "walk-up" or by transfer from bus or Metrorail, if parking problems result from a specific station location, MTA will work with the community and county to identify the appropriate measure to address the issue. Both counties include provisions to implement residential parking permit programs. Potential measures can include time restrictions, which would allow local parking for businesses but eliminate all-day commuter parking. Mitigation of permanent parking loss is not proposed in lots where the current parking is underutilized and remaining parking capacity exceeds parking utilization. See Section 3.4 for a detailed description of the parking impacts.

Neighborhood Quality and Cohesion

As discussed in Section 4.3, community cohesion refers to the quantity and quality of interactions among people in a community. Linear transportation facilities can sometimes act as barriers, affecting the ease with which neighbors socialize,

[15] The Preferred Alternative assumes that the permanent Capital Crescent Trail between Talbot Avenue and Silver Spring would be located in CSXT right-of-way in accordance with the County's land use plan. The completion of the trail in the CSXT corridor is contingent on agreement between the County and CSXT on the use of its property on the north side of the CSXT tracks for the trail. If agreement is not reached by the time the Purple Line construction occurs, MTA would construct the trail from Bethesda to Talbot Avenue. From Talbot Avenue to Silver Spring, an interim signed bike route on local streets would be used.

recreate, and shop. However, light rail is very compatible with pedestrian environments, precisely because it does not act as a barrier. Where roadways currently create a barrier, if they are wide or traffic operates at high speeds the addition of light rail will not cause a change. University Boulevard is such a road, being both wide and heavily used, often at high speeds, while at the same time being an area of high pedestrian activity. Original plans for the Preferred Alternative required widening of the roadway to preserve the existing six lanes for road traffic, while also providing two lanes for the transitway; this design would have exacerbated the barrier effect of this roadway. MTA worked with the counties and the State Highway Administration to agree on replacing two of the traffic lanes with the transitway. As a result MTA will reduce the proposed roadway to four lanes and transitway and provide room for pedestrian enhancements and landscaping. This has minimized the impact of the project, and provided enhancement to the neighborhoods on either side of University Boulevard.

The Preferred Alternative would not have an adverse impact on neighborhood or community cohesion. The Preferred Alternative would not result in a major change in community cohesion or neighborhood quality as it would operate in or adjacent to existing roadways along most of its alignment. As today, pedestrians would cross at pedestrian cross walks. It would improve transit accessibility and mobility, which would in turn encourage more pedestrian and bicycle travel. The Preferred Alternative would further encourage pedestrian and bicycle connectivity with its improvements to intersections, crosswalks, and other bicycle and pedestrian facilities.

As part of the Preferred Alternative, stations have been planned to encourage redevelopment around station areas in an effort to create a sense of place in local neighborhoods. No effects to EJ areas are anticipated. For a more detailed discussion of the effects of the Preferred Alternative on neighborhoods, see Section 4.3.

Neighborhoods and Community Facilities

Human Health

The Preferred Alternative would provide the opportunity to improve the overall health of the users of the Purple Line corridor in the following ways:

- Improvements and extensions of the trail system, leading to increased physical activity and the use of active transportation modes for some trips.
- The safety (crash reduction) improvements resulting from the general upgrade of pedestrian and bicycle facilities that would be implemented in conjunction with the Purple Line.

While these benefits are not easily measureable on an individual level, expanded opportunities for recreation and alternate modes for users of the Purple Line, and upgraded safety measures all provide the opportunity for a healthier lifestyle. Considered in the context of the proposed higher-density, pedestrian-oriented development planned for several station areas and the improved transit system, the opportunities for additional pedestrian and bicycle trips, as well as better access to employment, healthcare, and community facilities, all point to an overall improvement in human health. These benefits would accrue to communities throughout the corridor, including EJ areas.

Community Facilities

As discussed in Section 4.3, modifications to existing access to community facilities would be necessary, which would result in minimal increases in travel time for patrons of the facilities. The addition of the transitway would affect nine facilities. One facility would be displaced, one would have its driveway rebuilt, and partial acquisitions of property would be required at seven facilities. Six of the nine, or 67 percent of the permanent effects to community facilities and services would occur in EJ areas (see Table 4-50). This is commensurate with the percentage of block groups identified as EJ areas (69 percent). The effects are expected to be minimal and would be

mitigated (see Section 4.3 for details of the minimization and mitigation).

Mitigation measures determined for specific community facilities in EJ areas are listed below:

- **Chillum-Adelphi Fire Company #34**—The Purple Line Fire Life/Safety & Security Committee would continue to meet to identify and resolve issues arising from construction and operation.
- **First Korean Presbyterian Church**—MTA will work to negotiate just compensation or mitigation for property impacts.
- **Rosemary Hills Elementary School, and Silver Spring International Middle School**—Coordination to minimize disruptions by phasing construction in summer when school is not in session, to the extent reasonably feasible.

Property Acquisition and Displacements

As shown in Table 4-51, there would be 53 residential displacements as a result of the Preferred Alternative. Forty-one of these displacements (77 percent) would be in EJ areas. The residents along Riverdale Road associated with 22 of the displacements supported the shift in the alignment which resulted in full rather than partial property acquisition. See Sections 2.2.2 and 4.4.3 for documentation of the coordination conducted in neighborhoods along Riverdale Road.

There would be 60 commercial business displacements as a result of the Preferred Alternative, 35 of which (58 percent) would occur in EJ areas. This is not disproportionate as 69 percent of the block groups in the Purple Line corridor are EJ areas. As described in Section 4.4, all activities related to property acquisition and displacements will be conducted in conformance to the Uniform Relocation and Real Property Acquisitions Polices Act of 1970 and the Real Property Article of the Annotated Code of Maryland.

MTA has initiated relocation interviews with potentially displaced residents and businesses. Displaced persons and businesses within the area needed for the project may be eligible for benefits under MTA's Relocation Assistance Program. Benefits could include advisory services, moving and reestablishment costs, and other payments and services as provided by law.

Economic Activity

The Preferred Alternative would be expected to have long-term positive effects to the economy within the station areas by creating area jobs, increasing available area housing, and improving mobility and accessibility for commuters. These benefits would apply to all area residents, including environmental justice populations.

Surrounding communities would likely see an increase in employment opportunities due to a greater number of commercial and residential businesses that are planned along the corridor. This should result in positive economic gains in the form of increased wages and spending (see Section 4.5). The additional transportation capacity would create competitive advantages for both existing and future businesses located in the corridor (see Chapter 7.0).

Prince George's County is currently completing the Purple Line TOD Study which identifies development concepts and implementation strategies to maximize the TOD potential and accessibility of five planned Purple Line stations:

- Beacon Heights (Riverdale Road)
- Riverdale Park
- M Square (River Road)
- College Park-UMD
- Adelphi Road/West Campus (University Hills)

These five stations are all in EJ areas.

Many of the commercial areas of the corridor are in EJ areas, and these areas will benefit from the Preferred Alternative.

The Preferred Alternative would improve access for study area residents to jobs and educational opportunities. This benefit is particularly important for the transit-dependent populations.

Table 4-50. Distribution of Community Facility Impacts

Neighborhood	Census Tract	Block Group	Community Facility	Long-term Effects (2040)	EJ Block Group
Silver Spring	702601	2	Silver Spring Post Office	The facility would be displaced.	No
	702900	5	Silver Spring International Middle School	Partial acquisition of property would be required due to the widening of Wayne Avenue. The driveway would be shifted approximately 400 feet east on Wayne Avenue to accommodate the Dale Drive station, and the parking lot would be reconfigured.	No
Long Branch	702301	2	Long Branch Library	Partial acquisition of property would be required in order to reconfigure the roadway in front of this library. Additionally, since a dedicated left-turn lane is not feasible, the driveway would be converted to right-in/right-out only. The pedestrian entrance on Walden Avenue would also be modified.	Yes
College Park	806400	1	University Baptist Church	The driveway entrance to the church would be moved to a new signal at Presidential Drive.	No
Riverdale	807102	2	Niels Bohr Library	Partial acquisition of property would be required. Sidewalk access directly to River Road would be removed. Access from River Road to Physics Ellipse Drive would be shifted approximately 1,000 feet west.	Yes
			First Korean Presbyterian Church	Partial acquisition of property would be required, removing approximately 10 parking spaces and the building's vestibule.	Yes
	806601	1	St. Bernard School	Partial acquisition of property would be required. Due to changes in grade, the secondary access to the school would require permanent modifications. Pedestrian access would also be affected.	Yes
			St. Bernard Church	Partial acquisition of property would be required. Due to changes in grade, pedestrian access would be affected.	Yes
			Refreshing Spring Church of God in Christ	Partial acquisition of undeveloped property (no impact on existing religious facility) would be required.	Yes

Sources: M-NCPPC Montgomery County Planning Department, Montgomery County GIS, and M-NCPPC Prince George's County Planning Department Information Management Division.

Table 4-51. Distribution of Residential and Commercial Displacements

Neighborhood	Census Tract	Block Group	Number of Residential Unit Displacements	Number of Commercial Business Displacements	EJ Block Group
Bethesda	704804	1	0	3	No
Rock Creek/Lyttonsville/ Rosemary Hills	702700	1	1	0	Yes
		4	0	1	Yes
Silver Spring	702500	4	0	17	Yes
	702601	2	12	22	No
Long Branch	702301	1	12	0	Yes
		2	1	1	Yes
Takoma Park	702000	2	0	5	Yes
		3	4	0	Yes
Langley Park	805700	3	0	3	Yes
Riverdale	806601	1	22	2	Yes
	807102	2	0	3	Yes
Glenridge/Beacon Heights	803803	1	1	0	Yes
		2	0	2	Yes
West Lanham Hills	803612	1	0	1	Yes

Visual Resources

Section 4.9 identified 10 VAUs within the corridor, based on cohesiveness of land use and development patterns. The visual effects to these units were evaluated. Three of the VAUs were identified as experiencing high visual effects. Of these, two include EJ populations:

- **VAU 4: Wayne Avenue to Western Plymouth Street Tunnel portal**—This VAU was identified as having moderate to high visual effects.
- **VAU 9: Kenilworth Avenue and Riverdale Park**—This area would have a range of low to high effects.

The only VAU with a uniform high effect was not in an EJ community. See Section 4.9 for a more detailed discussion of the visual effects of the Preferred Alternative.

For visual impacts, continued coordination with EJ populations and assessment of design and aesthetic treatments, including the aerial structure at Kenilworth Avenue/East West Highway, will be performed during further design development to address adverse visual impacts throughout the corridor. In addition, MTA is committed to providing design treatments to reduce visual impacts at affected locations, where possible, including those in areas with EJ populations. Those treatments would be analyzed further during further design development.

MTA will use the Art-In-Transit program to enhance key elements of the project as appropriate.

Air Quality

The air quality analysis was completed to conform to the requirements of the Clean Air Act of 1990 and the Federal Transportation Conformity Rule, along with various MDE standards. VOC and NO_x were evaluated at the regional level; CO, O_3, PM_{10} and $PM_{2.5}$, and MSATs were analyzed at the regional and local level. Implementation of the Preferred Alternative would slightly decrease emission of criteria pollutants for which the region is designated as non-attainment or maintenance. No long-term effects to air quality in EJ areas are anticipated. The project would comply with the conformity requirements.

Noise

The operational impacts of the Preferred Alternative were evaluated using the guidelines set forth by FTA's *Transit Noise and Vibration Assessment* and the Federal Highway Administration's (FHWA) *Noise Abatement Criteria*.

Noise impacts from the Preferred Alternative were predicted for six locations in the Purple Line corridor. Five of these are in EJ areas. As shown in Table 4-52, moderate noise impacts were predicted for seven single-family residences at three locations and four apartment buildings, including a total of approximately 140 units, at four locations. The impacts would be associated with LRT vehicles sounding their horns as they approach stations and grade crossings; for safety reasons, use of these horns could not be eliminated.

Vibration

As shown in Table 4-53, four single-family residences and one apartment building, including approximately six units, would experience vibration effects as a result of the Preferred Alternative. One of the five identified locations is in an EJ area at the Barrington apartments.

MTA will mitigate operational vibration impacts associated with the Preferred Alternative by evaluating and implementing specific materials and construction methods in the construction of the transitway, including using resilient fasteners, ballast mats, resiliently supported ties, or other vibration damping measures as deemed necessary.

Short-term Construction Effects

Construction of the Preferred Alternative would generate a variety of temporary environmental, transportation, and community impacts within the study area. Construction activities typically generate discernible levels of dust, noise, vibration, and vehicle emissions. Associated effects include temporary adjustments to vehicular and pedestrian traffic patterns and access, temporary loss or relocation of parking, temporary interruptions in utility services, and temporary visual impacts related to construction activities and stockpiling of materials and equipment. Proposed construction staging areas would be required at specific points

Table 4-52. Potential Noise Impacts of the Preferred Alternative

Neighborhood	Census Tract	Block Group	General Location	Type/Number of properties affected	EJ Block Group
Silver Spring	702500	1	Wayne Avenue at Silver Spring Library Station	Apartment building	Yes
Long Branch	702401	1	Wayne Avenue at Dale Drive Station	Single family residences	No
	702301	1	Wayne Avenue at Manchester Place Station	95 East Wayne Avenue, Apartment complex and single family residence	Yes
	702301	2	Arliss Street at Long Branch Station	Flower Branch apartment complex	Yes
Glenridge/Beacon Heights	803803	2	67th Place at Beacon Heights Station	East Pines apartment complex	Yes
West Lanham Hills	803612	1	Hanson Oaks Drive	Single family residences	Yes

Source: Purple Line Noise and Vibration Technical Reports (2013)

Table 4-53. Potential Vibration Impacts of the Preferred Alternative

Neighborhood	Census Tract	Block Group	Location	Type/Number of properties affected	EJ Block Group
Bethesda	704804	1	4230 East West Highway	2 single-family residences	No
Chevy Chase	705000	1	4110 Edgevale Court	2 single-family residences	No
Silver Spring	702602	2	1946 Rosemary Hills Drive	The Barrington apartments	Yes

Source: Purple Line Noise and Vibration Technical Reports (2013)

along the corridor, and access points would be designated for construction access.

Construction stage mitigation will include a host of best management practices to reduce socioeconomic, natural resource, air, noise, and vibration effects. A special focus of construction stage mitigation measures will be to limit disruption to businesses along the corridor. Business outreach coordinators familiar with the unique needs of the EJ communities will continue to work with neighborhood businesses to establish an effective communication program. Pre-construction planning with local communities and businesses will be completed in the form of a mitigation plan to address and reduce impacts associated with temporary road closures, detours, access restrictions, and other operational issues affecting businesses during construction. Special signing, including foreign language signs where appropriate, will be implemented throughout construction to alert citizens to upcoming activities and to inform and promote access to businesses during construction. The implementation of typical construction-stage mitigation measures would reduce the overall impact of construction on local communities. See Chapter 5.0 for a detailed description of construction activities and short-term impacts.

Additionally, non-EJ areas would experience similar short-term construction stage impacts as EJ areas, such as travel and access restrictions, dust, noise and vibration, emissions, and increased truck traffic along access and haul routes.

Public Transportation

During construction, existing bus transit routes and stop locations would be temporarily affected due to roadway lane closures, designation of alternative access routes, and other construction-related restrictions to transit operations. A Transportation Management Plan (TMP) will be developed, in concert with transit and emergency service providers, to minimize interruptions in transit service and ensure adequate emergency response during project construction. The TMP will include defined operational changes to ensure reliable transit service and a public outreach plan to inform and educate transit riders of both project progress and proposed activities that would affect access and transit operations. Impacts on transit service would be experienced throughout the corridor.

Roadways

Construction of the Preferred Alternative would result in temporary short-term impacts to local and regional transportation operations including lane closures, temporary lane and shoulder closures, detours, and disruption of traffic during peak and nonpeak times. These impacts would result throughout the study area. See Chapters 3.0 and 5.0 for a detailed description of construction activities and potential short-term impacts.

Parking Facilities

Some parking in EJ areas would be temporarily unavailable during construction of the Preferred Alternative. Several residential and non-residential parking lots would be temporarily affected during construction. Most of the temporary parking loss would be due to the need for construction staging areas. Below are the larger parking lots in EJ areas where spaces would be removed temporarily during construction. For a detailed description of the parking impacts of the Preferred Alternative, see Section 3.4.

- **Lyttonsville Yard—**This area would include the parking at the County Maintenance Lot during construction of the Lyttonsville Yard. MTA will coordinate with Montgomery County to find a temporary site during construction.
- **Silver Spring International Middle School—**The parking lot would be reconfigured resulting in temporary loss of parking during construction.
- **Wayne Manchester Towers and Kenwood House Condominiums—**Parking lots would be temporarily removed during the construction of the Plymouth Tunnel.

Neighborhoods and Community Facilities

Construction of the Preferred Alternative would temporarily affect neighborhood quality for a period of up to five years. The time to construct each project element would differ based on the type of element, site characteristics, weather, and structural design. The construction of a few elements, such as the Silver Spring Transit Center, would require the entire 5-year duration; however, other areas would require a substantially shorter time to complete. Impacts from construction would be experienced in all neighborhoods.

Property Acquisition and Displacements

Properties affected through a temporary easement would be restored to an acceptable pre-construction condition following construction activities, dependent upon individual easement agreements. If access to a facility is temporarily removed, alternate access would be provided.

Economic Activity

As described in Section 4.5 and Chapter 5.0, in selected areas of the corridor, temporary construction easements, lanes or road closures, or other property restrictions would have negative impacts to some businesses located in EJ areas, which would affect the economy within the study area. Losses of parking and difficulty accessing businesses during construction would deter customers and disrupt deliveries. Small businesses in particular would have difficulty withstanding the resulting loss of commerce.

MTA will provide appropriate mitigation to all businesses affected by the project, including businesses located in EJ communities. MTA has begun door-to-door outreach to businesses which would be affected by construction and will provide appropriate mitigation. MTA understands small, local and EJ businesses in the Purple Line corridor will require some unique efforts. To address access restrictions or detours to businesses, MTA is committed to identifying and working with local business liaisons and groups like CASA de Maryland and others to understand the characteristics of local EJ businesses (customer origins, peak business times, etc.) and to establish construction stage plans to minimize business disruptions. MTA would continue communication with local businesses including Spanish-speaking liaisons and translated written material during construction to monitor effects and modify construction plans, if possible, to further reduce impacts.

MTA will implement a Business Impact Minimization Plan. MTA will develop this plan after evaluation of best practices and lessons learned from other light rail construction projects (see Sections 8.2.2). These practices could include:

- Maintaining Spanish-speaking outreach staff
- Constructing the project in segments, to keep disruption to a small area at a time
- Maintaining access to business during construction for customers and deliveries
- Maintaining or relocating bus stops
- Maintaining parking lot access
- Providing directional signage
- Developing "Open for Business" marketing and advertising tools for use during construction, translated where appropriate
- Promotion of local businesses
- Providing a construction hotline open 24/7
- Maintaining open communication between the project outreach team and local businesses
- Maintaining communication with local support and advocacy groups

Most importantly, MTA will maintain open communication between the Purple Line public outreach team and local businesses, so businesses have no surprises and know who to call when they have questions or issues. As noted above, MTA coordination with affected commercial property owners has already started and will continue through project construction and implementation.

MTA is committed to addressing language barriers and promoting engagement of EJ communities.

MTA has reached out to the Montgomery and Prince George's County Economic Development offices as well as the Maryland Small Business & Technology Development Center and CASA de Maryland to identify support services and resources available for small businesses. MTA will continue to coordinate with the counties on how to facilitate use of these services and resources by Purple Line corridor businesses.

The National Center for Smart Growth has recently created the Purple Line Corridor Coalition. The mission of the coalition is to engage organizations active in the Purple Line corridor, stimulate collaborative projects, and provide valuable information to assure that investments in the Purple Line will achieve the maximum possible economic, social, and environmental benefits to the residents and businesses of the corridor. MTA is partnering with the National Center for Smart Growth in this effort.

Specifically, the Purple Line Corridor Coalition aims to:

- Stimulate economic development
- Strengthen neighborhoods
- Engage historically under-represented communities
- Support distinctive places to live, work and play
- Provide people of all backgrounds with better access to opportunities
- Establish the Purple Line corridor as a world class, multi-ethnic corridor of major research and development institutions, small business incubator, and affordable place to live

Since January 2006 MTA has met with business groups in the corridor 47 times, including the

- CASA de Maryland Fair Development Coalition
- Takoma Langley Crossroads Development Authority
- Long Branch Business League
- Silver Spring Chamber of Commerce
- Bethesda-Chevy Chase Chamber of Commerce
- Maryland Hispanic Chamber of Commerce
- Riverdale Park Business
- Central Kenilworth Avenue Revitalization
- Purple Business Alliance (now Purple Rail Alliance)
- Langley Park businesses
- Takoma Park businesses

MTA will work with Montgomery and Prince George's counties to create opportunities for project-related local economic benefits including workforce development programs. MTA has partnered with the Maryland Department of Labor, Licensing and Regulation in the creation of a workforce development plan to identify training and certification needs in the local labor pool for the Purple Line, and to help create a local workforce ready and equipped to build and operate the Purple Line.

Air Quality
Impacts to air quality from construction would be felt by all neighborhoods.

Noise and Vibration
Noise and vibration impacts from construction would be felt by all neighborhoods.

Mitigation and Enhancement Measures
MTA will mitigate adverse effects on EJ and non-EJ populations from the Purple Line. Mitigation measures for each topic area are discussed in detail in Chapters 3.0 and 4.0.

Indirect and Cumulative Effects
The potential effects, both adverse and beneficial, that have been discussed above are all direct effects of the implementation and operation of the Purple Line. There are however, potential indirect effects that could be caused by the Purple Line, later in time or farther removed in distance, but still reasonably foreseeable. Likewise, there are cumulative effects which would be the result of incremental impacts added to other past, present, or reasonably foreseeable future actions.

In general, indirect impacts would be limited to the station areas; the spacing of stations is generally consistent along the corridor. Opportunities for redevelopment exist throughout the corridor in both EJ and Non-EJ areas, and are dependent largely on land availability, land use and the presence of supportive zoning. The Preferred Alternative would provide new economic competitiveness advantages to the EJ areas through increased transit service that would not be available under the No Build Alternative. However, potential indirect effects to EJ populations could include increased business expenses (e.g., rents) from increased property values, business migration and displacement, changes in the availability and affordability of housing stock, and changes in neighborhood character in the indirect effects study area.

Over time, additional economic and employment opportunities would be expected to capitalize on the improved accessibility and the effects of increased expenses would be offset to varying degrees through increased customer markets for local businesses.

Studies of the effect of transit on property value using sales data typically have indicated increases in residential real estate values in close proximity to stations, with a reduced influence beyond a one-half mile radius.[16] This premium depends on several factors, including the design of the station, the level of ridership, local real estate market conditions, neighborhood characteristics, and adjacent land uses. These economic effects can be a both a benefit and a burden. While implementation of the Purple Line may help communities effect positive economic growth, the diversity and the economic needs of the entire community must be considered.

Affordable Housing
A potential indirect effect of the Purple Line to EJ populations would be a reduction in affordable housing as a result of redevelopment of existing housing and increased commercial rents and property values. A goal of the project is to serve transit-dependent communities, many of which are low income. Land use and zoning decisions by the counties and cities in the corridor affect the stock and affordability of local housing. MTA has discussed concerns regarding the preservation of affordable and low-income housing with both Montgomery and Prince George's Counties; however, MTA has no authority over affordable housing, or any policies and programs that implement or maintain affordable housing.

The Montgomery County Moderately Priced Housing Law, in effect since 1974, has facilitated the private development of over 13,000 affordable housing units between 1976 and 2010. Montgomery County also recently enacted legislation requiring the county to include an assessment of the potential for incorporating affordable housing into county capital projects such as libraries, fire stations, recreation centers, and parking structures.

In Prince George's County a number of public assistance programs, including home and business improvement subsidies and public infrastructure

[16] Public Transportation Boosts Property Values" in *Transportation: A Toolkit for Realtors*
2nd Edition, National Association of Realtors, 2012
http://www.realtor.org/sites/default/files/transportation-toolkit-2012-05-29.pdf

funding, are in place in Prince George's County to address priority needs related to affordable housing, economic revitalization, and public services.

MTA will continue working with the counties and advocacy groups to support engagement of local elected officials regarding affordable housing and increased commercial rents resulting from increased property values as the project moves forward.

Cumulative effects to neighborhoods and community facilities and services would result from additional residential and commercial/employment development in the cumulative effects study area. The Preferred Alternative would play a supporting role with incremental effects compared to the larger state and county-driven planning actions. Yet, at some Purple Line station locations, such as Chevy Chase Lake, Lyttonsville, Woodside/16th Street, Long Branch, Piney Branch Road, Takoma/Langley Transit Center, Riggs Road, Adelphi/West Campus, East Campus, M Square, Riverdale Park, Beacon Heights and Annapolis Road/Glenridge, the Preferred Alternative would have a more prominent role in shaping neighborhood character. With the exception of Chevy Chase Lake, these stations are in EJ neighborhoods.

The Takoma/Langley Transit Center and the Riggs Road station would serve the Takoma Langley Crossroads area, which straddles the Montgomery County and Prince George's County boundary. The planned Takoma/Langley Transit Center and adjacent Purple Line station at the intersection of University Boulevard and New Hampshire Avenue are envisioned as the catalysts for redevelopment of the existing suburban style commercial retail uses corridor.

The planned redevelopment of the neighborhood could increase pedestrian activity and increase property values. Visually, the neighborhood would become more urban, with buildings constructed on the front property line and parking in structures or mid-block lots.

As the catalyst for implementation of these plans, the Preferred Alternative is expected to have long-term positive effects to the economy. Future development would create more jobs for local residents and improve mobility and accessibility for commuters. Potential indirect effects to environmental justice populations include increased business expenses (e.g., rents) from increased commercial property values. These effects may be offset to varying degrees through increased customer markets for local businesses. For example, implementation of Montgomery County's Takoma Langley Crossroads Sector Plan calls for broadening local commercial and housing opportunities, thereby potentially increasing the customer markets for local businesses.

For further discussion of Indirect and Cumulative Effects, see Chapter 7.0.

4.19.6 Assessment of Potential for "Disproportionally High and Adverse Effects" on Minority and Low-Income Populations

Standards for Evaluating Effects

Disproportionately High and Adverse Effect on Minority and Low-income Populations means an adverse effect that:

- Is predominantly borne by a minority population and/or a low-income population, or
- Will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population

Determinations of whether a project will have disproportionately high and adverse effects must take into consideration "mitigation and enhancements measures that will be taken and all offsetting benefits to the affected minority and low-income populations…" (USDOT Order, Section 8.b). The FTA Circular explains how benefits are considered in making this determination:

> "…your analysis also should include consideration of offsetting benefits to the affected minority and low-income populations. This is particularly important for public transit projects because they often involve both adverse effects (such as short-term construction impacts, increases in bus traffic, etc.) and positive benefits (such as increased transpor-

tation options, improved connectivity, or overall improvement in air quality). The NEPA EJ analysis will include a review of the totality of the circumstances before determining whether there will be disproportionately high and adverse effects on EJ populations." (see FTA Circular 4703.1, p. 46.)

Evaluation of Effects and Benefits

Adverse Effects

Sixty-nine percent of the block groups in the corridor are EJ areas, so it is to be expected that adverse effects will be experienced by EJ populations. The adverse effects of the project are distributed proportionately between EJ and non-EJ areas.

The potential direct and indirect adverse effects on EJ populations in the study corridor described in the preceding pages are listed below. Some of these are long term and others are short-term effects.

- Parking impacts
- Business property acquisitions, including some business relocations
- Residential property acquisitions
- Displacements and partial acquisitions of some community facilities
- Moderate to high visual effects
- Noise and vibration impacts during construction and operation
- Business disruption during construction
- Increasing rents for businesses
- Loss of affordable housing

Minimization and mitigation for both the direct and indirect effects have been described.

Offsetting Benefits

While these adverse effects would occur on EJ populations, the EJ populations in the corridor also benefit from the project. The following is a list of the benefits to EJ communities in the corridor:

- More reliable, more frequent, and higher capacity service for transit riders
- Improved connectivity and access to transit
- Improved mobility through the project vicinity
- Improved pedestrian and bicycle connections and access
- Faster transit service
- Improved access to employment, educational, recreational, shopping, and cultural opportunities
- Improved overall health of the users of the Purple Line with improvements and extensions of the trail system and safety improvements
- Increased employment opportunities due to a greater number of commercial and residential businesses that are planned along the corridor, which would result in positive economic gains in the form of increased wages and spending.

The key benefits of the Purple Line are improved mobility and travel time to locations along the corridor and the provision of connectivity to other transit services and systems.

Additionally, pedestrian enhancements to sidewalks, paths, and crosswalks would be constructed at various locations as part of the overall project. These enhancements would provide safer street crossings and improve access to several trails located within the corridor for pedestrians and bicyclists. Most of these proposed enhancements would be in areas that have environmental justice populations residing in those block groups.

These improvements would benefit low-income and minority areas throughout the project corridor, including transit-dependent residents of those areas. Some of the EJ areas that would be most directly affected, such as Langley Park and Long Branch would be among the principal beneficiaries of the project as these neighborhoods are not served by the Metro system, and many of the residents of these areas are transit dependent.

The Preferred Alternative is located largely within EJ communities, and thus both adverse and beneficial effects will be experienced by EJ communities. Where there are adverse impacts, MTA has committed to apply the mitigation measures equally through the project corridor.

Potential for Denial of Benefits

In an effort to assess the potential for the possible denial of benefits to environmental justice populations by the construction and operation of the proposed transit system, an analysis was completed to address location and access.

The Purple Line would provide accessibility to locations throughout the project corridor and to the Metrorail, MARC and Amtrak systems. The Purple Line station locations were selected based upon the density of residential development, activity centers, and creation of transfer points to other transit services. These locations are evenly distributed along the corridor and serve all populations, including environmental justice populations equally. Therefore, EJ populations will not be denied the benefits of the proposed Purple Line.

Full and Fair Participation

Full and fair access to meaningful involvement by low-income and minority populations in project planning and development is an important aspect of environmental justice. Ensuring full and fair access means actively seeking the input and participation from those typically under-represented groups throughout all the project stages. Residents can provide important information on community concerns, special sites, and unusual traffic, pedestrian or employment patterns in the corridor. This information can be used in the design and evaluation of alternatives, to avoid negative impacts to valued sites, and to support the development of safe, practical, and attractive transportation options that are responsive to the concerns of environmental justice communities.

Findings

Taking all of these factors into account, MTA and FTA have concluded that the Preferred Alternative as a whole would not have "disproportionately high and adverse effects" on EJ populations. Nonetheless, MTA and FTA recognize that some of the specific impacts of the Preferred Alternative may adversely affect EJ populations. Therefore, where possible, the alignment options have been refined through the NEPA process to minimize impacts to both the human and natural environment. Environmental commitments and mitigation measures identified throughout Chapters 3.0, and 4.0 of this FEIS will address impacts from LRT operations and construction activities that may affect EJ populations. MTA will mitigate adverse impacts throughout both EJ and non-EJ communities. MTA, however, will provide enhanced outreach to EJ communities, particularly Spanish-speaking communities with limited English proficiency, to implement mitigation strategies effectively in those communities.

4.20 Commitments

This section summarizes MTA's commitments to minimize and mitigate impacts on the natural and built environment described in Sections 4.2 through 4.19 during the design, construction, and operation of the Preferred Alternative. MTA is considering a range of procurement methods including a Public Private Partnership. MTA is responsible for implementing the commitments in this FEIS regardless of the procurement method used.

Land Use, Zoning, and Public Policy (Section 4.2)

- MTA will provide alternative access for properties that would be subject to changes in access or closures of portions of their property during construction, as necessary.

Neighborhoods and Community Facilities (Section 4.3)

- The Purple Line Fire Life/Safety & Security Committee will continue to meet prior to and during construction with emergency responders to identify and resolve issues arising from construction and operation.
- MTA will work to negotiate just compensation or mitigation to the First Korean Presbyterian Church on Kenilworth Avenue.
- MTA will construct the Glenridge Maintenance Facility at a lower grade than the existing park maintenance facility and provide a landscape buffer, as appropriate, to the adjacent park and school; MTA will install retaining walls to minimize the area of grading needed.
- MTA will coordinate with the counties to identify alternative access or temporary off-site parking for community facilities and businesses where access or parking may be temporarily removed, as appropriate.
- MTA will coordinate with UMD, Rosemary Hills Elementary School, Sligo Creek Elementary School, and Silver Spring International Middle School to minimize disruptions to the extent reasonably feasible.

- MTA will provide alternative access to community facilities if access is temporarily removed, where practical.
- MTA will build traction power substations with landscaping or appropriate architectural treatments to be compatible with adjacent land uses in areas of moderate or high visual sensitivity.

Property Acquisition and Displacements (Section 4.4)

- MTA will perform property acquisition and relocation activities in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) as amended and FTA Circular 5010.1D, Grants Management Requirements and all applicable Maryland State laws that establish the process through which MTA may acquire real property through a negotiated purchase or through condemnation.
- For areas that would be subject to construction easements for staging or access areas, MTA will compensate owners based on fair market appraisal.
- MTA will use vacant or publicly-owned property, rather than privately-owned, developed property, for temporary construction activities to the greatest extent possible.
- MTA will restore properties affected through a temporary easement to an acceptable pre-construction condition following construction activities, in accordance with the individual easement agreements.
- MTA will provide a parking facility for both County and MTA employees in Lyttonsville.

Economics (Section 4.5)

- MTA will continue to coordinate with affected commercial property owners to identify strategies to minimize the effects of temporary construction easements, lane or road closures, and other property restrictions on existing corridor businesses.
- MTA will implement a Business Impact Minimization Plan as described in the Environmental Justice section.

Parks, Recreational Facilities, and Open Space (Section 4.6)

- MTA will include drainage improvements and water quality facilities in four stream valley parks (Sligo Creek, Long Branch, Northwest Branch, and Anacostia River), Long Branch Local Park, and New Hampshire Estates Neighborhood Park.
- MTA, through coordination with M-NCPPC, the NCPC, the NPS, and the public, will implement the following measures:
  - Expand and upgrade facilities and plant trees in Glenridge Community Park, as well as convert approximately 2 acres of land currently used for the Prince George's County Parks' Northern Area Maintenance—Glenridge Service Center either to parkland within Glenridge Community Park or to upgrade and expand athletic fields at the Glenridge Elementary School
  - Restore park properties that are disturbed as a result of construction activities to acceptable conditions through coordination with the park owners
  - Provide replacement parkland for all park impacts; the amount and location of replacement parkland will be determined by MTA in consultation with park owners
  - Coordinate selective tree clearing and identification of significant or champion trees with agencies having jurisdiction.
- MTA will continue to coordinate with the public and agencies to develop appropriate minimization strategies during construction. Efforts will include the following:
  - Roadway or sidewalk closures will be staged to maintain pedestrian and vehicular access.
  - Trail detours needed during construction will be coordinated with the agency having jurisdiction over the trail to identify and develop a plan for a temporary detour route, and the trail routes would be restored at the end of construction.
  - MTA will continue to coordinate during further design development with the agencies having jurisdiction over the

affected parks to develop additional appropriate long-term minimization and mitigation.

Built Historic Properties (Section 4.7)

- In accordance with Section 106 of the National Historic Preservation Act, MTA and the Maryland Historical Trust are preparing a Programmatic Agreement that outlines commitments and mitigations concerning historic and archeological resources under Section 106. MTA will implement the project in accordance with the Section 106 Programmatic Agreement.
- MTA will continue to plan and implement the project design elements negotiated with the Columbia Country Club and the MHT minimize impacts to the Club.
- MTA, in coordination with the M-NCPPC, will provide transitway and pedestrian structures through the Rock Creek Park that include design elements to minimize the effects of the project.
- MTA will continue to coordinate with UMD regarding the aesthetic design of the transitway.
- Minimization measures for the Baltimore-Washington Parkway, in addition to what is listed above for Parks, Recreational Facilities and Open Space (4.6), are as follows:
  - The permanent replacement bridges of the Baltimore-Washington Parkway over Riverdale Road will have a similar arch design as the existing bridge structures and would include horizontal arched shields above the transitway overhead wires.
  - The stone façade from the existing bridge abutments will be re-used on the new bridge abutments. If additional stone is required, it will come from the same source or would be selected in consultation with the NPS to match the existing stone.
  - The catenary wires will be attached to the bridges to minimize the number of poles throughout the Parkway.
  - Landscape plans for the Baltimore-Washington Parkway will be developed in accordance with the Baltimore-Washington Parkway Design Elements-Section 2: Parkway Landscape-Recommendations, and submitted to NPS for review and approval.
  - Protected resources will be identified and marked for protection in field prior to construction activities (i.e., trees, archeological sites).

Archeological Resources (Section 4.8)

- As discussed above in Parks, Recreational Facilities and Open Space (4.6), the proposed temporary bridges to carry Baltimore-Washington Parkway over Riverdale Road will be constructed between the existing ramps and the existing bridges to completely avoid the archeological site identified in the median.
- Protected resources will be identified and marked for protection in field prior to construction activities.

Visual Resources (Section 4.9)

- MTA and Montgomery County will continue to coordinate and consult on the design of the future Capital Crescent Trail to provide an aesthetically pleasing facility while meeting safety requirements and ADA requirements.
- MTA will continue to coordinate with the Columbia Country Club on the visual and aesthetic elements of the transitway.
- MTA will continue to coordinate and consult with Montgomery County and the local community regarding the aesthetic treatment of the bridge structures over Connecticut Avenue.
- MTA will continue to coordinate with M-NCPPC and the NCPC regarding the design and construction of the Rock Creek Bridges.
- MTA will continue to coordinate and consult with affected communities regarding the aesthetic treatments of the transitway elements.
- MTA will require that the construction contractor utilize best management practices to maintain an orderly appearance of active work zones and staging areas.
- MTA will use the Art-In-Transit program to enhance key elements of the project as appropriate.
- MTA will require that the construction contractors utilize best management practices

to maintain an orderly appearance of active work zones and staging areas

Air Quality (Section 4.10)

- MTA will require the construction contractor to implement dust control measures in accordance with MDE requirements and require that construction equipment complies with EPA's Tier 2 engine emission standards. Possible dust and emission control measures include the following:
  - Minimizing land disturbance
  - Constructing stabilized construction site entrances per construction standard specifications
  - Covering trucks when hauling soil, stone, and debris
  - Using water trucks or calcium chloride to minimize dust
  - Stabilizing or covering stockpiles
  - Minimization of dirt tracking by washing or cleaning trucks before leaving the construction site
  - Using ultra-low sulfur diesel fuel for diesel equipment
  - Equipping some construction equipment with emission control devices such as diesel particulate filters
  - Permanently stabilizing and seeding any remaining disturbed areas

Noise (Section 4.11)

- MTA will minimize noise resulting from Purple Line operations as follows:
  - Between Bethesda and Rock Creek Stream Valley Park, there will be a minimum four-foot noise wall or retaining wall adjacent to residential areas.
  - LRT vehicles will include vehicle skirt panels to reduce the noise caused by the vehicles on the track.
  - Public address systems at stations will have volume adjustment controls designed to maintain announcement volume at the specified noise levels, as appropriate.
  - The traction power substations will be designed in accordance with MTA design criteria intended to minimize the noise from transformer hum.
- Possible noise minimization measures during construction will include to the extent reasonably feasible the following:
  - Conducting the majority of construction activities during the daytime, as reasonably feasible.
  - Routing construction equipment and other vehicles carrying spoil, concrete, or other materials over designated truck routes that will minimize disturbance to residents.
  - Locating stationary equipment away from residential areas within the site/staging area
  - Employing control technologies to limit excessive noise when working near residences
  - Adequately notifying the public of construction operations and schedules.

Vibration (Section 4.12)

- MTA will perform site-specific assessments of those areas identified in the FEIS as having potential vibration impacts. MTA will develop appropriate mitigation measures.
- MTA will analyze extremely vibration-sensitive buildings located within the UMD campus, as agreed upon by MTA and UMD. The study will establish criteria, and measure regarding mitigation for vibration will be specified in the MTA UMD agreement. MTA will develop appropriate mitigation measures.
- MTA will identify control measures be implemented by the contractor during construction activities to minimize the potential for vibration impacts.

Habitat and Wildlife (Section 4.13)

- MTA will prepare a Forest Conservation Plan, or similar, and will detail additional impact avoidance and minimization techniques to be applied during construction.
- MTA will comply with MDNR requirements for the final forest planting obligation.
- MTA will coordinate with the NMFS and other regulatory agencies during further design development to avoid or minimize:

  - Creation of in-stream barriers that block migratory fish from upstream spawning grounds
  - Alterations of stream configuration, characteristics, and hydrology
  - Incremental changes to in-stream water quality from deforestation of the riparian zone
- MTA will provide a spill management plan and water quality and quantity controls for work area containment, use and storage of fuels and other potential contaminants based on current regulations and project permit conditions.
- MTA will design culverts and bridges to MDE standards to avoid or minimize secondary and cumulative impacts to migratory fish and the alteration of habitat.
- MTA will restore and stabilize temporarily disturbed aquatic habitat at the end of construction according to a location-specific restoration plan developed in coordination with the USACE and MDE permits.
- MTA will not undertake in-stream construction during state-mandated stream closure periods.
- MTA will coordinate with the MDNR during further design development to ensure that its concerns are addressed relative to the heron colony located within Coquelin Run.

Water Resources (Section 4.14)

- MTA will mitigate project impacts to Waters of the U.S., including wetlands, by complying with the Federal Compensatory Mitigation Rule (33 CFR Part 332), as well as stipulations from federal and state resource agencies.
- MTA will coordinate with the regulatory agencies to develop a project-wide compensatory mitigation strategy to offset impacts to wetlands and aquatic resources. MTA will minimize the area of disturbance to Maryland-designated wild and scenic rivers by clearly marking and fencing the work area and prohibiting activity outside the work area.
- MTA will obtain applicable environmental permits for water resources.
- MTA will submit project plans to the MDNR during further design development for evaluation in compliance with the Maryland Scenic and Wild Rivers Act to assure that the project will not jeopardize the scenic value of the designated rivers.
- MTA will restore Sligo Creek approximately 180 feet upstream and 180 feet downstream of the project bridge to provide long-term benefits.
- MTA will perform hydraulic and hydrologic studies during further design development. If these studies find that flood elevation would change, floodplain storage mitigation may be required.
- MTA will submit project plans to MDE for approval of structural evaluations, fill volumes, proposed grading elevations, structural flood-proofing, and flood protection measures in compliance with FEMA requirements, USDOT Order 5650.2 "Floodplain Management and Protection," and Executive Order 11988.
- MTA will obtain applicable environmental permits for water resources.

Topography, Geology, and Soils (Section 4.15)

- MTA will develop an Erosion and Sediment Control Plan, in accordance with the Stormwater Management Act of 2007, which will specify proper slope and soil stabilization techniques, erosion and sediment controls, and stormwater management facilities.

Hazardous Materials (Section 4.16)

- MTA will establish procedures and staff training for proper storage and maintenance of equipment and hazardous materials.
- MTA will develop a site-specific health and safety plan. The plan will include the following:
  - Equipment and procedures to protect the workers and general public
  - Procedures for monitoring of contaminant exposures
  - Identification of the contractor's chain of command for health and safety
- If groundwater contamination is encountered that results in contaminated groundwater inflow after the completion of construction, MTA will obtain an NPDES permit for discharges from project sump and underdrain systems, if required.

- MTA will perform a Phase II ESA prior to acquisition of any property with a high potential for concern (sites ranked 1 or 2 in the Phase I ESA) unless the property can be classified accurately by other means or methods. MTA also will perform further records research on sites with a ranking of 4 to determine potential presence of PCBs.
- MTA will identify remediation actions to be implemented as needed if unexpected soil or groundwater contamination is encountered.
- If contaminated soils are identified or encountered during construction, MTA will evaluate off-site remediation, chemical stabilization, or other treatments and disposal options, in cooperation with MDE.
- MTA will coordinate with MDE to determine the mitigation response and reporting required should a release of hazardous materials occur during operations.

Environmental Justice (Section 4.19)

In addition to the commitments described above for Sections 4.2 through 4.18, MTA will work with Montgomery and Prince George's Counties on business improvement initiatives, including:

- To address access restrictions or detours to businesses, MTA will work with local business liaisons to understand the characteristics of local businesses (customer origins, peak business times, etc.) and to establish construction stage plans to minimize business disruptions.
- MTA will implement a Business Impact Minimization Plan. MTA will develop this plan after evaluation of best practices and lessons learned from other light rail construction projects (see Sections 8.2.2 and 4.5.3). These practices could include:
  - Maintaining Spanish-speaking outreach staff
  - Constructing the project in segments, to keep disruption to a small area at a time
  - Maintaining access to business during construction for customers and deliveries
  - Maintaining or relocating bus stops
  - Providing directional signage
  - Developing "open for business" marketing and advertising tools for use during construction, translated where appropriate
  - Promotion of local businesses
  - Providing a construction hotline open 24/7
  - Maintaining open communication between the project outreach team and local businesses
  - Maintaining communication with local support and advocacy groups
- MTA will continue communication with local businesses during construction to monitor effects and modify construction plans, if possible, to further reduce impacts.
- MTA will work with the counties and other stakeholders to leverage existing resources to support and strengthen small businesses in the corridor.
- MTA will work with Montgomery and Prince George's counties to create opportunities for project-related local economic benefits including workforce development programs.
- MTA will continue working with the counties and advocacy groups to support engagement of local elected officials regarding affordable housing and increased commercial rents resulting from increased property values as the project moves forward.

4.21 Irreversible and Irretrievable Commitment of Resources

Pursuant to NEPA regulations (40 CFR 1502.16), an analysis of a proposed project's environmental consequences is required to address the irreversible and irretrievable commitment of resources associated with the project's implementation. An irreversible and irretrievable commitment of resources results in the permanent loss of a resource for future uses (or alternative purposes) as the resources cannot be replaced or recovered.

The No Build Alternative would not require an irreversible and irretrievable commitment of resources.

Construction of the Preferred Alternative would require the commitment of natural, human, and monetary resources. While some resources could be

recovered within a relatively short period of time, other resources would be committed irreversibly and irretrievably. As the Preferred Alternative would be largely constructed within existing roadway and transportation rights-of-way, potential effects on natural resources have been minimized, as described in Chapter 4.0 of this FEIS. Construction materials such as steel, fossil fuels, energy, concrete, and aggregate would be irretrievably expended during grading, tunneling, and construction of track and related facilities.

Construction of the Preferred Alternative would require a one-time financial expense of federal, state, and local funds as well as contributions from private sources. Although the initial capital cost for the Preferred Alternative would be irretrievably committed and unavailable for other projects, the Preferred Alternative would benefit local and regional economies with positive employment, earnings, and output effects. In addition, Purple Line operations and maintenance expenditures ($38.3 million annually) would result in approximately 425 permanent jobs for the regional economy. This new employment would result in a $9.165 million annual increase in household earnings for the region, which would equate to a $50.33 million increase in regional output, as explained in Section 4.5.

As noted in previous sections of Chapter 4.0, MTA has worked during the planning and design stages to avoid or minimize impacts to resources. MTA is continuing these efforts by integrating public involvement with design development.

4.21.1 Short-term Effects/Long-term Benefits

NEPA requires that the environmental analysis include identification of ".. the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity" (42 USC 4332). This section compares the short-term uses of the environment (that is, effects during construction) with long-term benefits over the operational lifetime of the No Build and Preferred Alternatives.

As the No Build Alternative would not involve construction activity, neither short-term nor long-term effects of the No Build Alternative would occur.

In some locations within the study area, short-term construction-related effects of Preferred Alternative, as discussed in Chapter 5.0, would include temporary parking loss, easements for staging areas and construction access, temporary lane or road closures, and temporary property access restrictions. Additionally, short-term visual effects, localized airborne dust and emissions, elevated noise and vibration levels, utility interruptions, and temporary disturbances to parks, habitat, wetlands, and soils also are anticipated in some locations during the construction of the Preferred Alternative. However, the short-term use of human, socioeconomic, cultural, and natural resources would contribute to the long-term benefits that the Preferred Alternative is intended to provide, as described in this FEIS.

4.22 Anticipated Permits and Approvals

Construction of the Purple Line is expected to require a number of permits and approvals. Table 4-54 lists these anticipated permits, along with the federal or state agency with authority over each one.

Agency coordination has been ongoing through all planning phases, as summarized within the AA/DEIS, and also in Chapter 8.0. Coordination with the regulatory and resource agencies will continue throughout the later stages of design and during construction. In interagency review meetings held throughout the project planning phase, MTA has coordinated with the following resource/regulatory agencies:

- U.S. Army Corps of Engineers (USACE)
- U.S. Fish and Wildlife Service (USFWS)
- U.S. Environmental Protection Agency (EPA)
- Maryland Department of the Environment (MDE): Water Management Administration—Nontidal Wetlands and Waterways Division; Compliance Program; and Sediment, Stormwater & Dam Safety Program
- Maryland Department of Natural Resources (MDNR): Environmental Review Unit (ERU) and Program Open Space (POS)

Table 4-54. Anticipated Permits and Approvals Required for the Preferred Alternative

Resources/Impacts	Agencies	Permit Type/Additional Information
Natural Resources		
Nontidal Wetlands, 25-foot Wetland Buffer, Streams, and 100-year Floodplain	USACE	Section 404 Individual Permit
	MDE Water Management Administration — Nontidal Wetlands and Waterways Division	Nontidal Wetlands and Waterways Permit, and Water Quality Certification, Construction within a 100-year floodplain
Dewatering and groundwater withdrawal for contractor dewatering operations associated with deep excavations	MDE	MDE Water Appropriations Permit and, if contaminated water is encountered, an NPDES permit
Forest	MDNR	Forest Conservation Act compliance
Maryland Scenic and Wild Rivers	MDNR	No permit required, just coordination with MDNR during the design process
Rare, Threatened or Endangered Species (RTE)	USFWS, MDNR ERU, and NMFS	Endangered Species Act Compliance- Based on the resource agency responses, no RTEs have been identified within the project area.
Water Resources		
Stormwater Management	MDE Water Management Administration — Sediment, Stormwater & Dam Safety Program	Stormwater Management Approval, COMAR 26.17.01 and 26.17.02
Erosion & Sediment Control	▪ MDE Water Management Administration — Sediment, Stormwater & Dam Safety Program, and ▪ Montgomery and Prince George's County Soil Conservation Districts (SCD)	Erosion & Sediment Control Approval, COMAR 26.17.01 and 26.17.02
Ponds	MDE Water Management Administration — Sediment, Stormwater & Dam Safety Program	Waterway construction permits for new ponds or alterations to existing impoundments, COMAR 26.17.04
Point Source Water Pollution	EPA and MDE Water Management Administration — Compliance Division	National Pollutant Discharge Elimination System (NPDES) General or Individual Permit to Discharge Stormwater Associated with Construction Activities, Notice of Intent (NOI)
Historic Resources		
Built and archeological resources	FTA and MHT	Section 106 compliance and Section 4(f) compliance
Parks, Recreational Areas, and Open Space		
Parks, recreational areas, and open space	FTA, USDOI/NPS, and NCPC	Section 4(f) compliance
Baltimore-Washington Parkway	DOI/NPS	▪ Special Use Permit (valid for five years) for non-invasive activities such as survey geotechnical borings, etc. ▪ Construction/Access Permit for temporary use of parkland ▪ Right-of-way Permit for the permanent use of parkland
Construction Permits		
Sediment Control	MDE	Sediment control permit — stipulates how and where major sediment control devices would be located and maintained
Groundwater	MDE	Groundwater Appropriation Permit — required for tunnel construction
Maintenance of Traffic (MOT)	Maryland State Highway Administration, Montgomery County Department of Transportation, Prince George's County Department of Public Works and Transportation, and FHWA–Eastern Federal Lands	MOT plan — phasing to be submitted for approval
Construction on or adjacent to railroads	CSX, Amtrak	Railroad access permits — stipulate insurance requirements, and provide mechanism for contractor to request railroad flaggers, as well as other coordination
Adjacent construction	WMATA Metrorail — Metro Office of Joint Development and Adjacent Construction	Adjacent construction permit — for construction adjacent to the Metrorail

- Maryland Historical Trust (MHT)
- National Capital Planning Commission (NCPC)
- M-NCPPC—Montgomery County Department of Parks and Prince George's County Department of Parks and Recreation
- U.S. Department of Interior, National Park Service (DOI/NPS)
- Federal Highway Administration (FHWA)
- Maryland State Highway Administration (MDSHA)
- Federal Railroad Administration (FRA)
- National Marine Fisheries Service (NMFS)

The interagency review meetings serve to inform the resource agencies of the project and to resolve any resource issues or concerns of the agencies early in the process and prior to the permitting phase. This collaboration assists MTA in addressing agency comments and input early and throughout the design and permitting phases.

In addition to the interagency review meetings, other agency coordination meetings, specifically related to obtaining permits and approvals, were held during the preparation of this FEIS. These meetings include the following:

- Jurisdictional Delineation (JD) Field Reviews, required for wetland permits, attended by USACE, MDE, and NMFS: May 8 and May 9, 2012.
- Coordination meeting to discuss wetland and stream mitigation opportunities within Prince George's County M-NCPPC owned properties, attended by PG M-NCPPC: November 2, 2012.
- Wetland/Waterway Mitigation Meetings/Field Reviews, attended by MDE, USACE, and MTA: October 25 and November 28, 2012.
- Coordination meeting to discuss forest impacts and mitigation with MDNR-Forestry Division: May 18, 2012.
- Coordination meetings with NCPC to discuss impacts to parks partially purchased using Capper-Cramton Act funding as well as the Baltimore-Washington Parkway: June 9, 2011, April 22, 2012, and July 12, 2012.
- Coordination meetings to discuss park impacts with M-NCPPC—Montgomery County Department of Parks: January 25, 2012, May 16, 2012, and November 21, 2012.
- Coordination meetings to discuss park impacts with M-NCPPC—Prince George's County Department of Parks and Recreation: January 6, 2012, June 7, 2012, and October 8, 2012.
- Monthly coordination meetings with USDOI/NPS-National Capital Parks-East to discuss the proposed Purple Line and the impacts it would have on the Baltimore-Washington Parkway, and potential minimization and mitigation measures: began January 2012.
- Coordination meeting with MDNR's POS staff to provide a detailed overview of the Preferred Alternative and discuss impacts to parks that were purchased or developed using POS funds: July 9, 2012.

Chapter 5.0

Overview of Construction Activities

This chapter describes, to the extent feasible, how construction of the Preferred Alternative might be undertaken and summarizes the measures that have been and would be taken to minimize the impacts of these activities on the community and the environmental resources in the corridor. Additional detail can be found in the *Purple Line Construction Activities Technical Report.* Actual construction methods may change depending on the method used. As the project design advances, The Maryland Transit Administration (MTA) will develop a specific construction plan describing construction sequencing, equipment, and methodologies. The MTA is considering a variety of methods to construct the Preferred Alternative including the possibility of a Public-Private Partnership (P3), in which one entity would be contracted by the MTA to design, build, operate, and maintain the facilities, equipment, and services, as well as provide project financing. Under any method of constructing and operating the Purple Line, the MTA will remain responsible for the Purple Line and will be responsible for honoring all commitments made as part of the NEPA process.

At this conceptual level of study, the project was organized into 11 construction areas based on available access points; this chapter is organized by construction area. It is critical for MTA to have adequate access to an entire construction area to efficiently and safely complete the work. Access points are limited in some areas, specifically along the Georgetown Branch right-of-way, or controlled by a single entity such as the campus of the University of Maryland (UMD).

Section 5.1 discusses the construction schedule. Section 5.2 describes the construction areas. The construction areas are used in this chapter as a way to organize the presentation of information; the construction contracts will not necessarily correspond to these areas, nor do they imply sequence. Sections 5.3 and 5.4 discuss the role and major elements of a Transportation Management Plan and Environmental Compliance Plan, respectively, which will be implemented during construction.

5.1 Construction Schedule

MTA anticipates construction of the Preferred Alternative from July 2015 to late 2020, with revenue service beginning in December 2020. The time to construct each project element would differ based on the type of element, site characteristics, weather, structural design, and other factors, such as the relationship among the construction elements. Table 5-1 identifies typical construction activity tasks and average durations. The duration of a few elements, such as the structures connecting to the Silver Spring Transit Center (SSTC), is expected to be the entire construction period, while other areas would require a substantially shorter time.

Construction activity is likely to begin simultaneously at several locations within the project corridor to accommodate activities requiring lengthy construction times, such as tunnels, underground stations, and aerial segments. The time necessary for each activity would vary depending upon such factors as work hours, traffic

Table 5-1. Typical Construction Activities

Activity	Tasks	Average Time Required[1]
Pre-construction survey	Locate utilities, establish right-of-way and project control points and centerlines, and relocate survey monuments	6 months
Site preparation	Relocate utilities and clear and grub right-of-way (demolition), widen streets, establish detours and haul routes, erect safety devices and mobilize special construction equipment, prepare construction equipment yards and stockpile materials, install monitoring instrumentation for tunneling, implement ground improvements, underpin existing building, and establish maintenance of traffic	18 months
Heavy construction	Excavate and construct the tunnel portals, tunnels, and underground stations; construct the aerial structures, including foundation elements, construct surface trackway, reconstruct adjacent roadways and sidewalks	52 months
Medium construction	Lay track work, construct surface stations, install drainage, minor earthwork, and roadway paving	26 months
Light construction	Finish work, install system elements (electrical, signal, and communications), street lighting, landscaping, signage and striping, close detours, clean-up, and test system	24 months
Pre-revenue service	Test communications, signaling and ventilation systems, training of operators and maintenance personnel	9 months

[1]Activities may overlap

restrictions, and contractors' means and methods. Other factors would include the number and type of utilities requiring relocation and location and condition of nearby surface and subsurface structures.

Typically, surface and above ground construction activities would occur 6 days a week, 15 hours per day. There would be instances when certain construction activities could take place during weekends or other times. Typical construction activities for the underground sections, which include portal areas, stations, ancillary buildings, and tunneling, would be performed 7 days a week, 24 hours a day. Trucking would be permitted only on designated truck routes and may occur up to 24 hours a day, 7 days a week. As design of the project progresses, the construction schedule, and assumptions would be refined.

5.2 Summary of Activities by Construction Area

The activities described in this section are based on the MTA's conceptual construction staging plan and are subject to change as the project design advances. The effects of construction result from several activities:

- The movement of materials and equipment to the construction site and the removal of unwanted material. The effects of these activities are experienced on haul routes and at access points.
- The storage of materials and equipment, the assembly of components, and the management offices and other facilities for workers within staging areas. The effects of these activities result from the establishment of the staging areas and the activities that take place within them.
- The construction work performed on the site, which would range from shallow excavation to install the at-grade portions of the transitway, to the construction of aerial structures, to the construction of the Plymouth Street tunnel.

The potential for these activities to affect the community often is greatest at the access points where the workers, materials, and equipment enter the staging areas or access points on the site and where equipment and unwanted materials leave the site.

Staging areas may be located within the construction site in some cases, but this may not always be reasonably feasible given the various site constraints such as those found in the Georgetown Branch right-of-way or in the UMD campus west of US 1.

Where reasonably feasible, land area needs and impacts would be minimized by locating staging areas on sites designated for permanent non-transitway elements of construction, such as the

yard, the maintenance facility, or the traction power substation sites. In other cases, temporary construction easements on public land, when possible, or on private land would be required. Where reasonably feasible, access points would be located at staging areas to reduce the need for additional movements of material and equipment. By limiting access points to specific locations, MTA will minimize impacts to surrounding properties and resources and limit effects on the transportation network.

Potential haul routes were identified on public roads for each construction area to move equipment and materials to construction access points, as well as to remove unwanted materials. The at-grade portions of the transitway also could be used as a haul route.

Construction sequencing would be determined when detailed construction activities are more fully developed, but MTA anticipates that multiple parts of the project would be under construction simultaneously, and the transitway likely would be built in pieces. Due to the duration of the construction of certain elements, some communities potentially would be affected for longer periods of time than others.

In each of the discussions of the proposed construction areas that follow, the potential haul routes, access points, and staging areas that are currently anticipated to be used are identified, and the general construction activities in each construction area from west to east are described.

Table 5-2 identifies the transitway, roadway, and drainage structures that would be widened or constructed in each construction area; the roadways that potentially would be impacted because the transitway would be constructed within, along, or across the roadway; and any special features for Construction Areas 1 through 9 that comprise the transitway. Construction Areas 10 and 11 are the Yard and the Maintenance Facility, respectively.

The impacts to the affected roadways would typically be temporary lane closures or complete closures of the street for brief periods, the need for flagging operations, and restrictions on parking. To the extent reasonably feasible, street and lane closures would be at off-peak hours. As discussed in Section 5.3, MTA will prepare a Transportation Management Plan, including a public outreach and information component, to minimize the effects of construction on the transportation system and to inform the public of the current changes in the system before they occur. MTA also will prepare an Environmental Compliance Plan as discussed in Section 5.4 to ensure compliance of the construction activities with federal, state, and local requirements and the commitments and mitigation measures identified in this FEIS.

Figure 5-1 through Figure 5-5 illustrate the various types of construction equipment and activities discussed in this chapter.

Table 5-2. Elements of Construction Areas 1 Through 9

Construction Area	Limits and Length	Structures	Affected Roadways	Special Features
1	▪ Bethesda Metro Station to east of Jones Mill Road ▪ 2.0 miles of transitway	▪ New culvert at Coquelin Run ▪ Connecticut Avenue bridges ▪ Jones Mill Road bridges over the transitway ▪ Underpasses at Sleaford Road, Columbia Country Club (2), and Lynn Drive ▪ Pedestrian bridge at Bethesda	▪ Connecticut Avenue ▪ Jones Mill Road ▪ Montgomery Avenue ▪ East West Highway	▪ Bethesda Metro Station ▪ Capital Crescent Trail ▪ Columbia Country Club ▪ Connecticut Avenue bridge
2	▪ East of Jones Mill Road to east of Lyttonsville Place ▪ 0.7 mile of transitway	▪ Rock Creek bridge ▪ Capital Crescent Trail over Rock Creek ▪ Lyttonsville Place Bridge ▪ Capital Crescent Trail underpass west of Grubb Road	▪ Brookville Road ▪ Lyttonsville Place ▪ Jones Mill Road	▪ Capital Crescent Trail ▪ Rock Creek bridges ▪ Lyttonsville Yard

Table 5-2. Elements of Construction Areas 1 Through 9 (continued)

Construction Area	Limits and Length	Structures	Affected Roadways	Special Features
3	▪ East of Lyttonsville Place to west of Georgia Avenue ▪ 1.7 miles of transitway	▪ Talbot Avenue Bridge ▪ 16th Street Bridge ▪ Spring Street Bridge ▪ Transitway crossing of CSXT, WMATA, and Colesville Road ▪ Trail bridge over CSXT ▪ Trail bridge from Apple Avenue to Silver Spring Transit Center	▪ Stewart Avenue ▪ Talbot Avenue ▪ Brookville Road ▪ 16th Street ▪ Spring Street ▪ Colesville Road ▪ Bonifant Street ▪ East-West Highway ▪ 4th Avenue ▪ Michigan Avenue ▪ Kansas Avenue ▪ Lanier Drive ▪ Ripifant Street ▪ Apple Avenue	▪ Capital Crescent Trail ▪ Silver Spring Transit Center
4	▪ West of Georgia Avenue to University Boulevard (MD 193)/Piney Branch Road (MD 320) ▪ 2.1 miles of transitway	▪ Wayne Avenue bridge over Sligo Creek ▪ Culvert extension over Long Branch stream ▪ Plymouth Street tunnel	▪ Bonifant Street ▪ Georgia Avenue ▪ Wayne Avenue ▪ Fenton Street ▪ Flower Avenue ▪ Arliss Street ▪ Plymouth Street ▪ Piney Branch Road	▪ Plymouth Street tunnel
5	▪ University Boulevard to west of West Campus station ▪ 2.7 miles of transitway	▪ Bridge over Northwest Branch	▪ University Blvd, including the intersections of Piney Branch Road and Campus Drive ▪ Intersection of Campus Drive and Adelphi Road ▪ Various side streets	N/A
6	▪ West of Adelphi Road/West Campus Station to Rossborough Lane ▪ 1.2 miles of transitway	N/A	▪ Campus Drive ▪ Intersection of Campus Drive and Adelphi Road ▪ Presidential Drive ▪ Union Drive ▪ Rossborough Lane ▪ Regents Drive	UMD
7	▪ Rossborough Lane to east of Haig Drive ▪ 1.9 miles of transitway	N/A	▪ Paint Branch Parkway ▪ River Road	N/A
8	▪ East of Haig Drive to Veterans Parkway ▪ 1.8 miles of transitway	▪ Northeast Branch Bridge ▪ Bridge over intersection of Kenilworth Avenue and East West Highway ▪ Baltimore-Washington Parkway bridges over Riverdale Road	▪ Intersection of Kenilworth Avenue and East West Highway ▪ Riverdale Road ▪ Baltimore-Washington Parkway ▪ River Road	▪ Kenilworth Avenue/East West Highway bridge ▪ Baltimore-Washington Parkway
9	▪ Veterans Parkway to New Carrollton Station ▪ 2.1 miles of transitway	N/A	▪ Veterans Parkway ▪ Ellin Road	▪ Glenridge Maintenance Facility ▪ New Carrollton Metro Station

Figure 5-1. Example of Pile Driving Equipment

Figure 5-2. Example of Bridge over Roadway with a Crane

Figure 5-3. Examples of Site Grading and Equipment

Figure 5-4. Example of Road Cut for Track Installation

Figure 5-5. MSE Retaining Wall Construction

5.2.1 Construction Area 1: Bethesda Metro Station to East of Jones Mill Road

Construction Area 1 (Figure 5-6) would include 2.0 miles of at-grade and elevated transitway and the construction of the Capital Crescent Trail from the Bethesda Metro Station to Jones Mill Road.

- Haul routes would be along Pearl Street and East West Highway near Sleaford Road, Connecticut Avenue and Jones Mill Road, Connecticut Avenue to Interstate 495, East West Highway to Connecticut Avenue and Wisconsin Avenue, and Jones Mill Road to Connecticut Avenue or East West Highway.
- The access points would be located on Pearl Street, Sleaford Road, Connecticut Avenue, Newdale Road, Jones Mill Road, the traction power substation site on Montgomery Avenue, and Woodmont East.
- The staging areas would be along Newdale Road and at Connecticut Avenue and on the traction power substation site on Montgomery Avenue.

General Construction Activities

To reduce construction time, utilities would be relocated prior to the initiation of transitway construction. Work in Construction Area 1 would require the construction of retaining walls to build the transitway and Capital Crescent Trail to the proposed grade. The construction of these walls requires the use of heavy equipment such as cranes, excavators, bulldozers, loaders, dump trucks, and when necessary rigs to install piles.

Construction plan development is being coordinated with the Columbia Country Club to minimize impact to the Club's golf course. Also, Purple Line construction would be coordinated with the construction of a new south entrance at the existing Bethesda Metrorail station.

5.2.2 Construction Area 2: East of Jones Mill Road to East of Lyttonsville Place

Construction Area 2 (Figure 5-7) would include 0.7 mile of at-grade and elevated transitway and the construction of the Capital Crescent Trail from east of Jones Mill Road to east of Lyttonsville Place.

- Haul routes would be along Jones Mill Road to I-495 and Lyttonsville Place to East West Highway.
- The access points would be located along Jones Mill Road and at the Lyttonsville Yard site.
- The staging area would be the Lyttonsville Yard site.

General Construction Activities

Work would include cut-and-fill and utility relocations and the mass grading of the Lyttonsville Yard site to provide a staging area. Piles probably would be needed for retaining walls and bridges. The shallow bedrock at the yard site would be removed by ripping or splitting. Blasting would be used only as a last resort. Safety measures relative to blasting are discussed in Section 3.6.4.

5.2.3 Construction Area 3: East of Lyttonsville Place to West of Georgia Avenue

Construction Area 3 (Figure 5-8) would include 1.7 miles of at-grade and elevated transitway from east of Lyttonsville Place to west of Georgia Avenue and of the Capital Crescent Trail to its terminus at the SSTC.

- The primary haul routes would be along 16th Street. Secondary routes would be along 16th to East West Highway, US 29, and Stewart Avenue to Brookville Road.
- The access points would be located along the CSXT rail line and on local roadways.
- The staging areas would be between Kansas and Michigan Avenues on CSXT and WMATA property on the site of a proposed traction power substation, along 16th Street and Spring Street, on the Metro Plaza Property at the intersection of East West Highway and Colesville Road, and at 1110 Bonifant Street adjacent to the Silver Spring Transit Center.

General Construction Activities

Construction Area 3 would include retaining walls and other structural elements that require piles and the use of cranes. Augured piling, which employs drilling instead of driving piles to minimize impacts, would be used where reasonably feasible. It is probable that rock would need to be removed to construct the transitway into the SSTC.

Figure 5-6. Construction Area 1

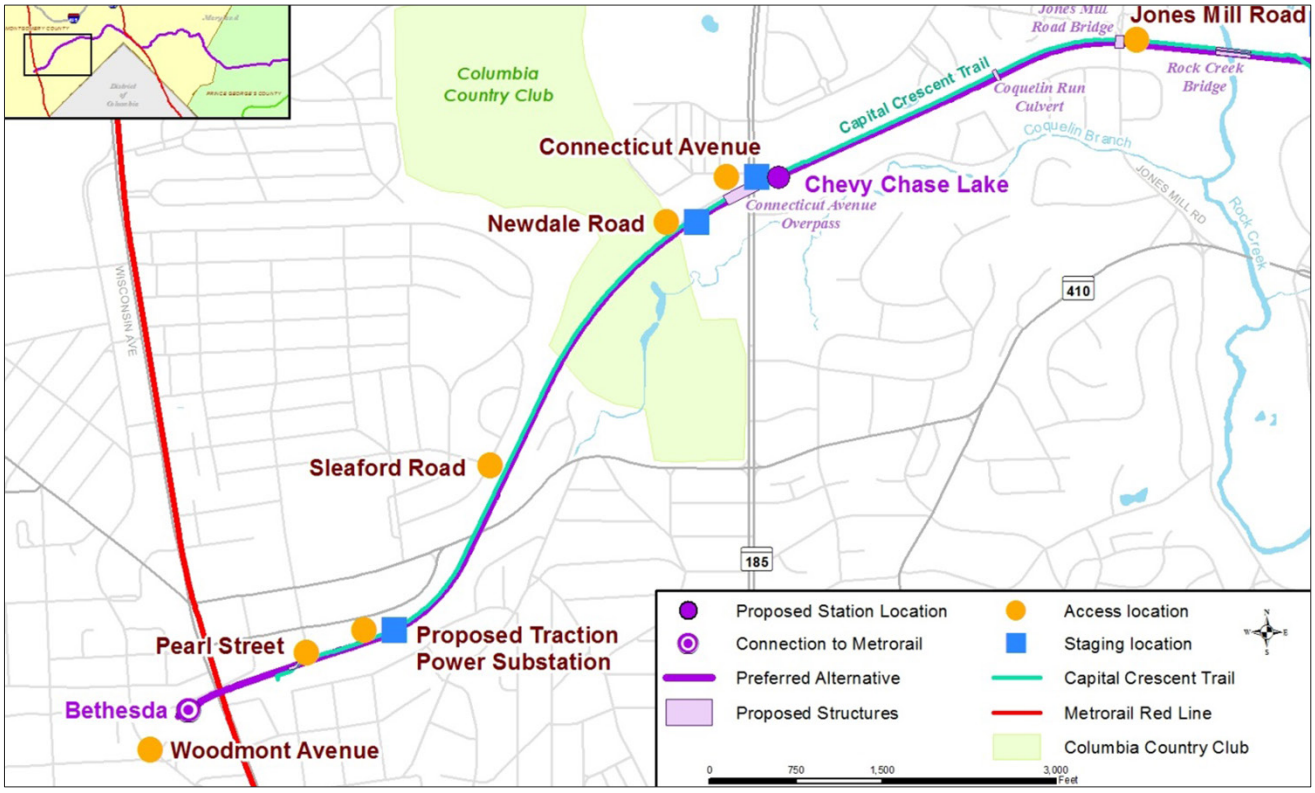


Figure 5-7. Construction Area 2

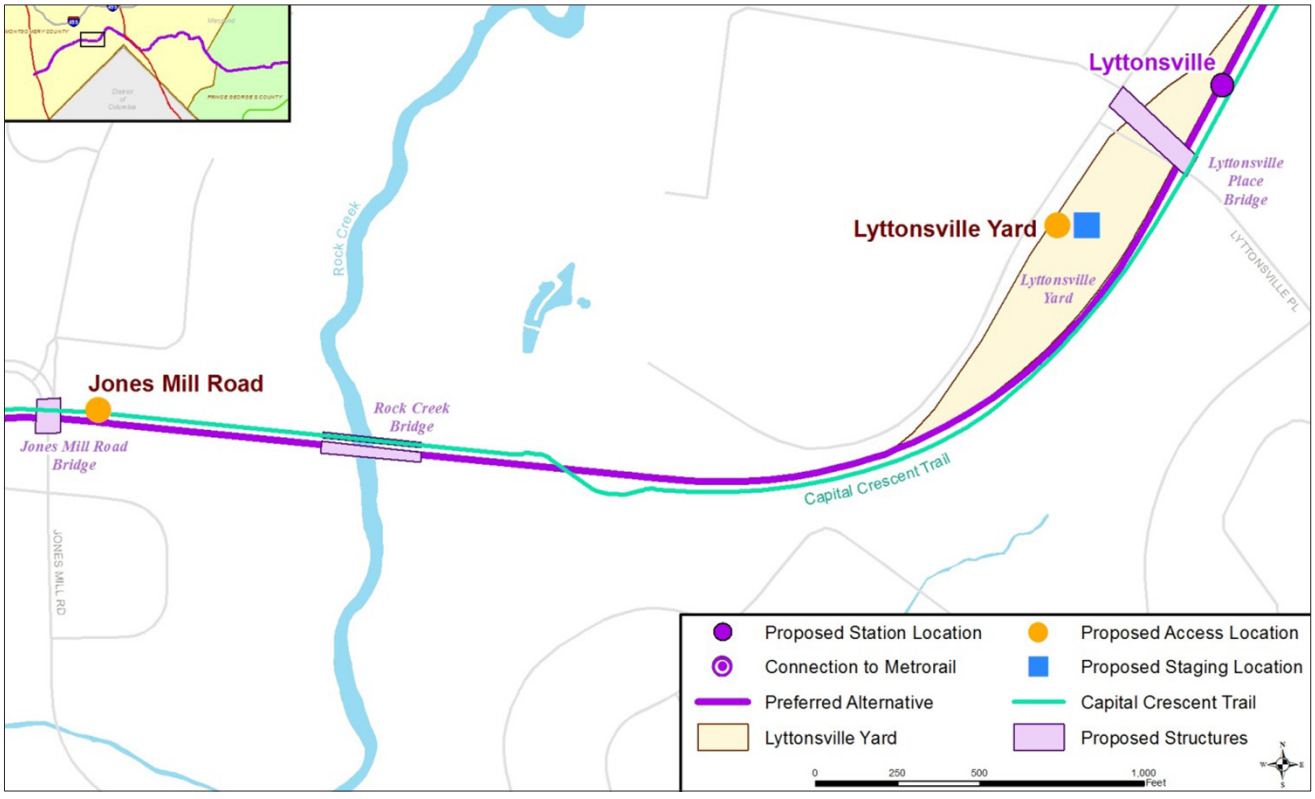
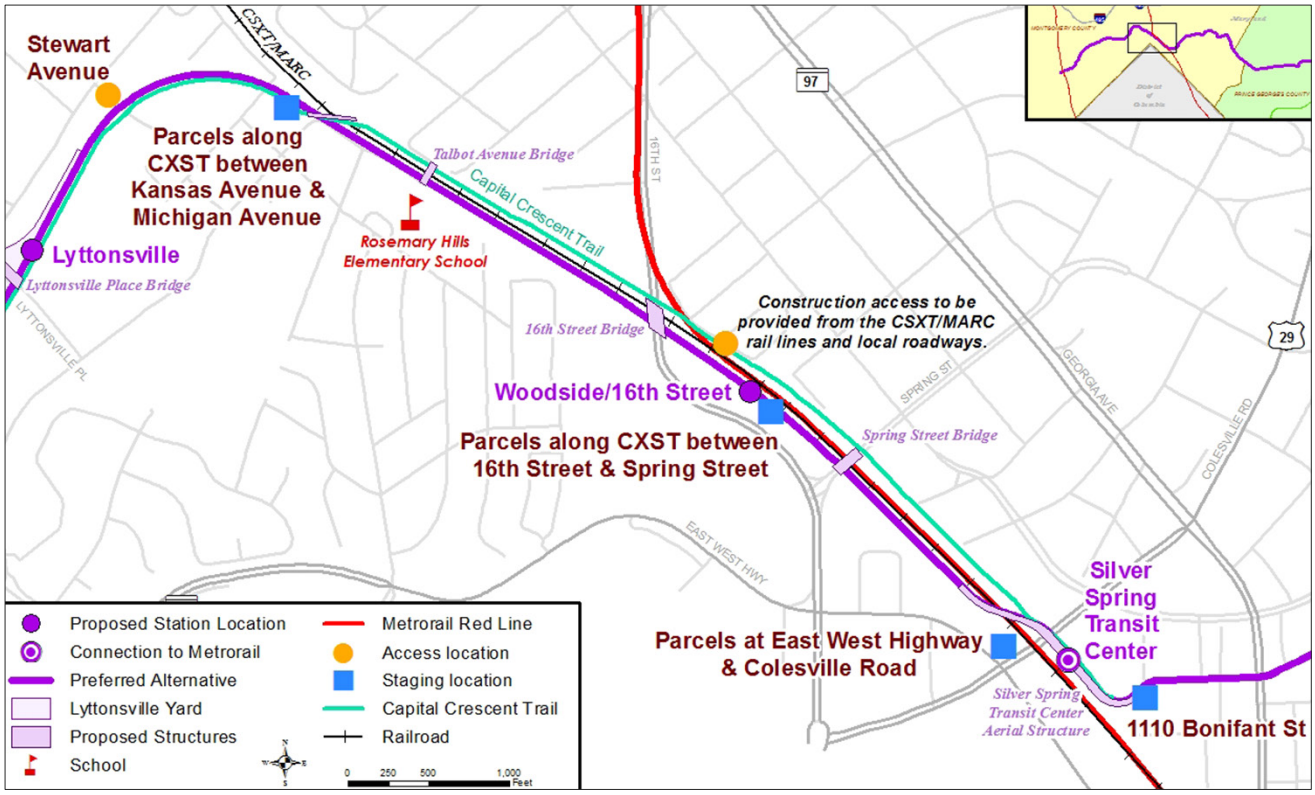


Figure 5-8. Construction Area 3



Before and during construction along and over the CSXT and Washington Metropolitan Area Transit Authority (WMATA) tracks, MTA would coordinate with both entities to ensure that the construction plan meets prevailing railroad safety and operational requirements and does not substantially interfere with railroad operating schedules.

MTA will coordinate with Rosemary Hills Elementary School to minimize disruptions to the extent reasonably feasible.

5.2.4 Construction Area 4: West of Georgia Avenue to University Boulevard — Route 193/Piney Branch Road — Route 320

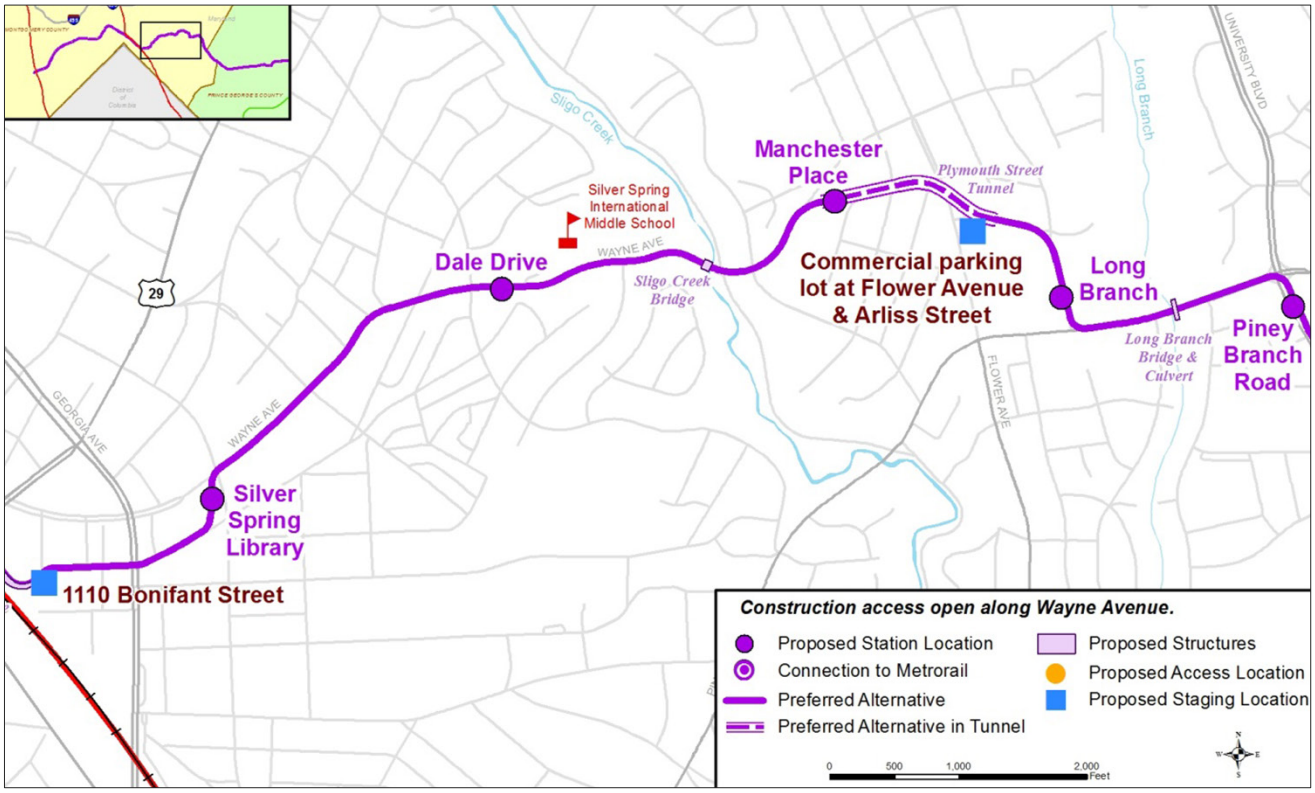
Construction Area 4 (Figure 5-9) would include 2.1 miles of at-grade transitway in both shared and dedicated lanes and in a tunnel from west of Georgia Avenue to the intersection of University Boulevard and Piney Branch Road.

- Haul routes would be along Wayne Avenue to Dale Drive to Colesville Road and along Piney Branch Road to University Boulevard to I-495.
- The staging areas would be located within the construction limits along Wayne Avenue and in a portion of a commercial parking lot at the intersection of Flower and Arliss Streets.

General Construction Activities

Construction Area 4 would include the construction of the Plymouth Street tunnel, a shared bridge on Wayne Avenue over Sligo Creek, a culvert extension at Long Branch, and roadway reconstruction on Wayne Avenue, Arliss Street and Piney Branch Road. Construction over Long Branch Stream Valley Park and Long Branch Local Park would occur primarily from Piney Branch Road. However, temporary occupancy of the parkland would be needed for drainage and bridge construction work. Construction along Wayne Avenue would require that the road be reduced temporarily to one lane in each direction with on-street parking temporarily displaced. Once construction is completed, on-street parking would be available only during off-peak hours. The work would be completed in stages working from one end to the other, so as to preserve much of the on-street

Figure 5-9. Construction Area 4



parking and to limit how far on-street parking must be relocated away from adjacent residences. If temporary lane closures are necessary during off peak periods, a flagging operation would be implemented.

MTA will coordinate with Silver Spring International Middle School to minimize disruptions to the extent reasonably feasible.

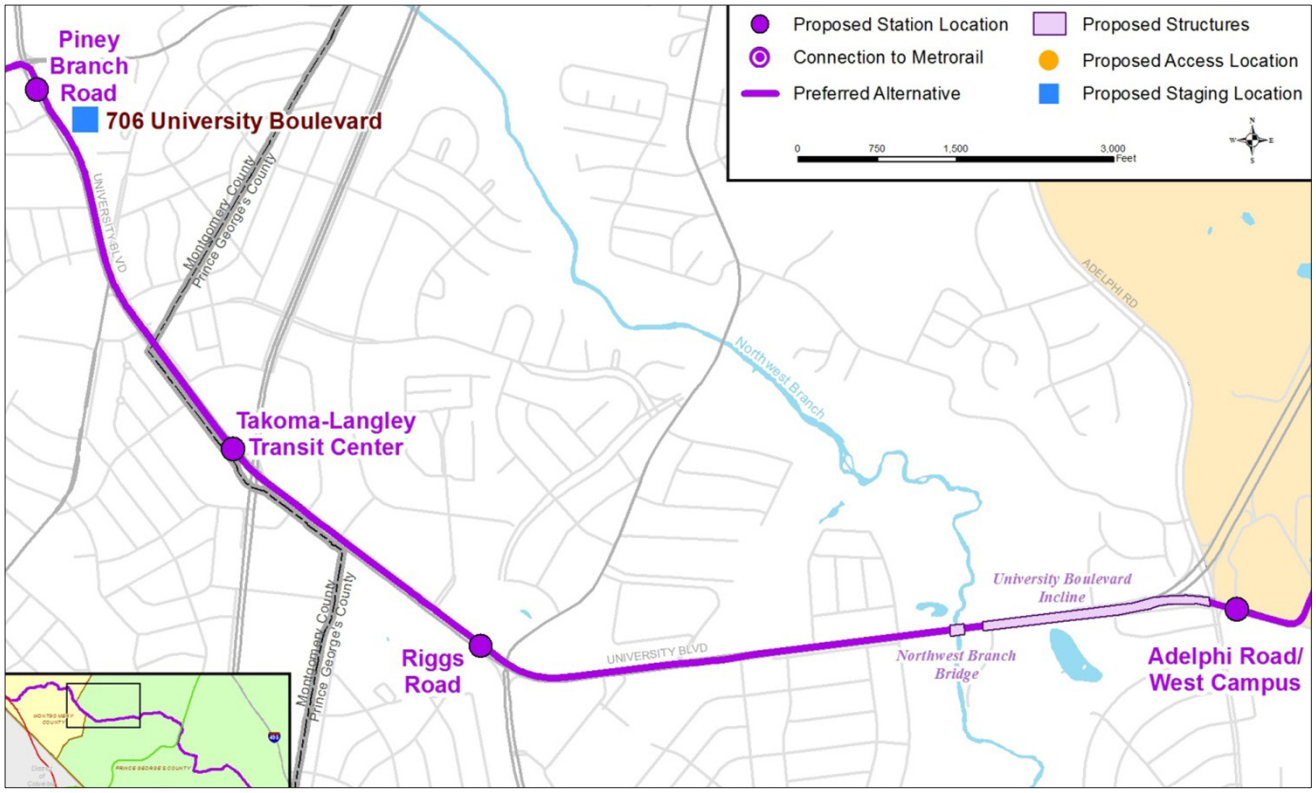
The tunnel under Plymouth Street would be a mined tunnel with a small portion of cut and cover sections at each end for the portals. The tunnel would be constructed using the Sequential Excavation Method (SEM), which is also referred to as the New Austrian Tunneling Method (NATM). This is an open face tunneling method, applicable to a wide range of ground conditions, ranging from relatively soft ground to rock. SEM/NATM involves sequential excavation of the tunnel in short sections, while concurrently installing a primary lining to provide immediate support to the ground behind the advancing face. Immediately supporting short sections of tunnel reduces the amount of ground movement and hence reduces surface settlement. Due to the close proximity of residential buildings to the construction activities, alternative methods of removing rock would be tried, and, only if they fail, would blasting during daytime hours be considered as the last resort.

5.2.5 Construction Area 5: University Boulevard to west of West Campus Drive Station

Construction Area 5 (Figure 5-10) would include 2.7 miles of at-grade transitway along University Boulevard to just west of the Adelphi Road/West Campus station.

- The primary haul routes would be along University Boulevard. New Hampshire Avenue would be a secondary haul route.
- The staging areas would be along University Boulevard within the construction right-of-way and on adjacent properties MTA proposes to acquire, specifically 706 University Boulevard.

Figure 5-10. Construction Area 5



General Construction Activities

Construction Area 5 would include typical roadway reconstruction associated with transitway construction[1] including a bridge crossing Northwest Branch. Roadway construction would include pavement removal, grading, utility relocation, track installation and re-paving. Within Northwest Branch Stream Valley Park, the proposed bridge replacement would be primarily staged from University Boulevard. There would be a temporary occupancy required within the park needed for stream diversions and bridge construction work.

Along University Boulevard, utilities would be relocated, followed by widening the roadway where needed, to locate the transitway in the median. To enable transit vehicles to ascend a steep hill and cross Adelphi Road at grade, MTA would use retained fill to elevate the transitway more gradually than the roadway.

5.2.6 Construction Area 6: West of West Campus Dr. Station to Rossborough Lane

Construction Area 6 (Figure 5-11) would include 1.2 miles of at-grade transitway through the UMD campus, beginning west of the Adelphi Road/West Campus station and continuing to the intersection of Rossborough Lane and Paint Branch Parkway. The work to be completed in this construction area is of a similar nature throughout the campus.

- Haul routes would be along University Boulevard to US 1 to I-495.
- The staging areas would be decided prior to construction in coordination with UMD.

[1] The first stage of construction would be to maintain existing traffic movements while widening. Subsequent stages would shift traffic to the newly constructed widened road while constructing the transitway. Temporary lane closures, if required, would occur only during off peak hours. Constructing the embedded track across major signalized intersections would occur at night with temporary lane closures. To the extent reasonably feasible, embedded track would be constructed across minor signalized intersections with long term closures of the median openings.

General Construction Activities

Construction Area 6 would include typical roadway reconstruction associated with transitway construction. Work would be staged to maintain vehicular and pedestrian traffic along and across the work zone to the extent reasonably feasible. Given the length of Construction Area 6, completion of the transitway during the low traffic summer months is not feasible. Before and during construction, MTA and UMD would coordinate to define a minimally disruptive construction plan.

5.2.7 Construction Area 7: Rossborough Lane to East of Haig Drive

Construction Area 7 (Figure 5-12) would include 1.9 miles of at-grade transitway from near the intersection of Rossborough Lane with Paint Branch Parkway to just east of Haig Drive. Access for construction of the transitway and to staging areas would be from Paint Branch Parkway and River Road.

- Haul routes would be along Paint Branch Parkway to Kenilworth Avenue and along US 1 to I-495.
- The staging area would be at the intersection of Haig and River Roads.

General Construction Activities

Construction Area 7 would include typical roadway reconstruction associated with construction of the transitway. The grade of Paint Branch Parkway under CSXT would be lowered slightly, which would require sheeting and shoring, a support system which prevents the movement of soil during excavation. MTA would coordinate with Prince George's County, CSXT, and WMATA as it refines and implements the construction plan for work beneath and along these active rail lines.

Figure 5-11. Construction Area 6

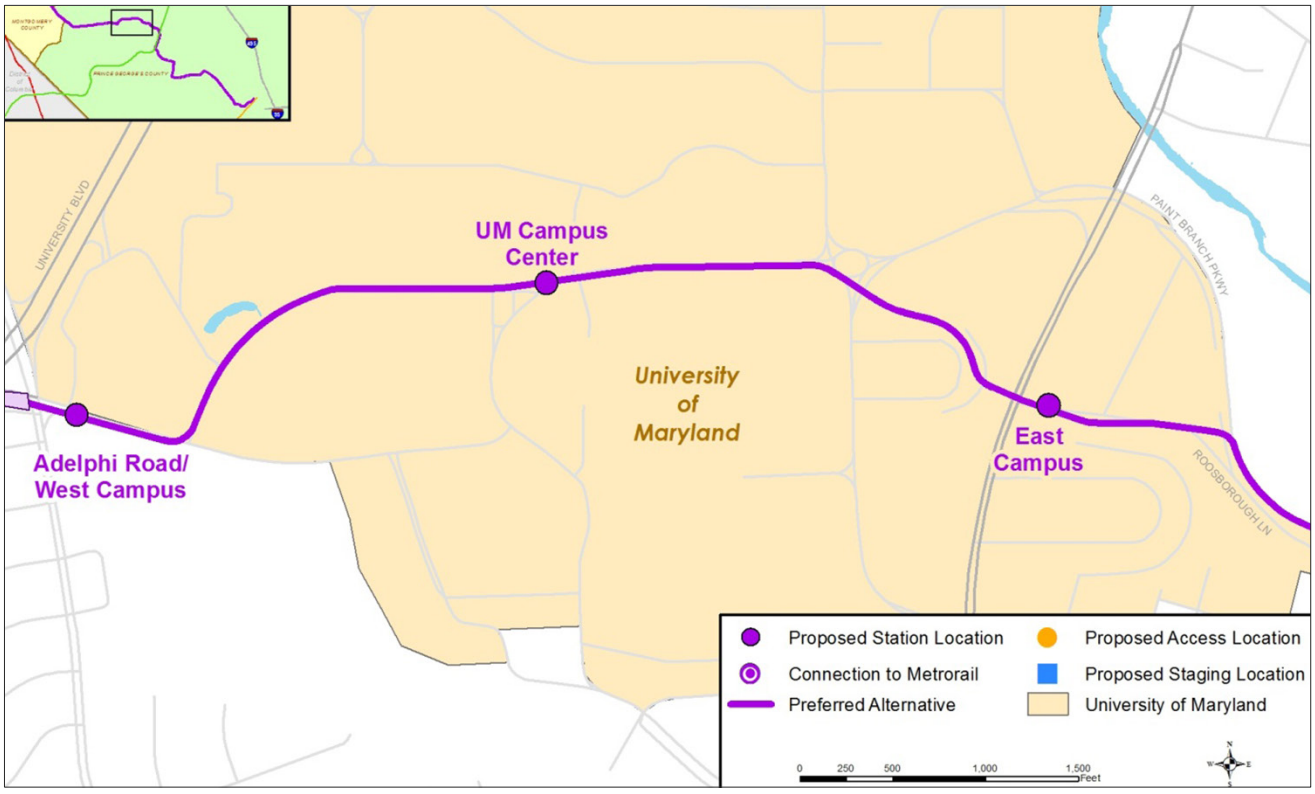
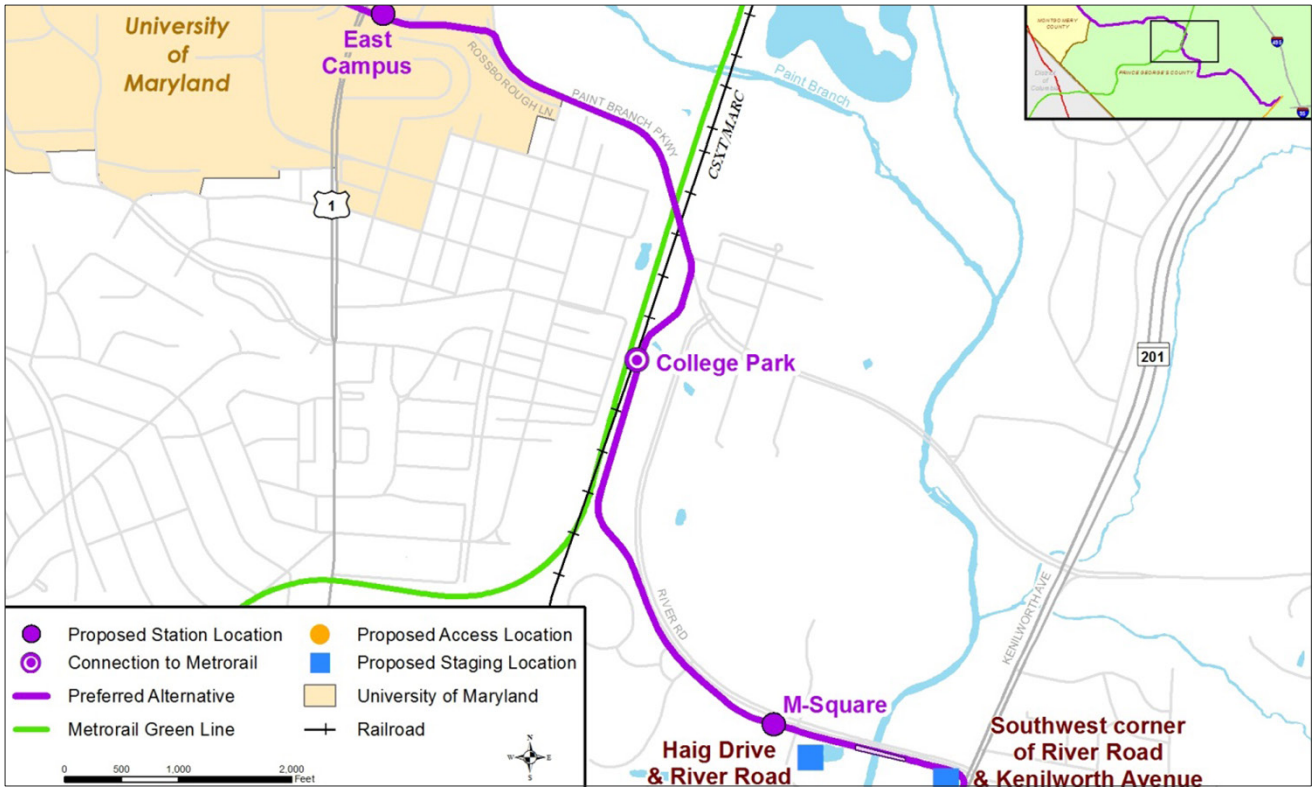


Figure 5-12. Construction Area 7



5.2.8 Construction Area 8: East of Haig Drive to Veterans Parkway

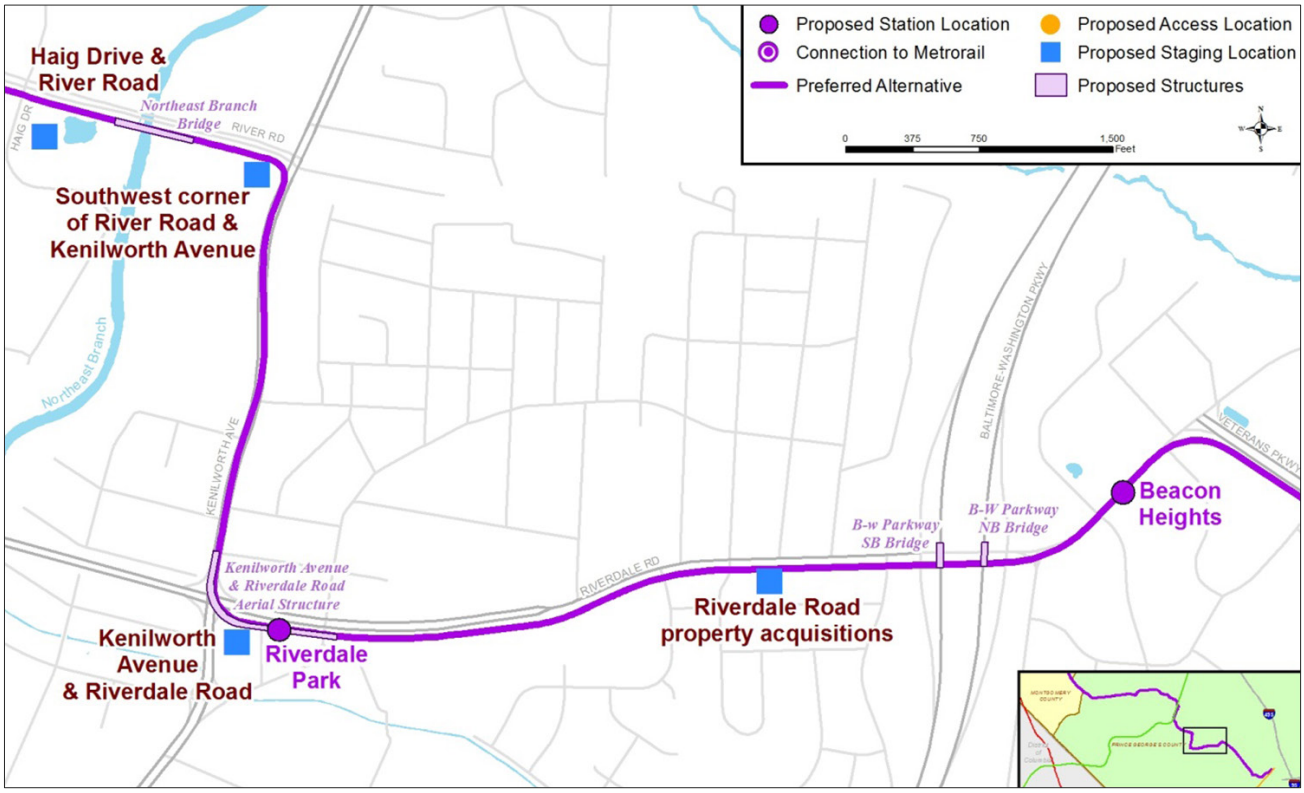
Construction Area 8 (Figure 5-13) would include 1.8 miles of at-grade and elevated transitway from east of Haig Drive to Veterans Parkway just past the intersection with Riverdale Road.

- Haul routes would be along East West Highway/Riverdale Road to US 1 and along Kenilworth Avenue to I-495.
- The staging areas would be at the intersection of Kenilworth Avenue and East West Highway, and on the south side of Riverdale Road where residential properties would be displaced.

General Construction Activities

Construction Area 8 would include typical roadway reconstruction along Kenilworth Avenue associated with transitway construction. Extensive grading would be required as well as the construction of the Northeast Branch bridge, the aerial crossing of the Kenilworth Avenue/East West Highway intersection, and the reconstruction of the Baltimore-Washington Parkway bridges over Riverdale Road. The proposed temporary bridges to carry Baltimore-Washington Parkway over Riverdale Road would be constructed between the existing ramps and existing bridges in an effort to minimize tree impacts in the existing roadway median. The construction work would take place in existing right-of-way, but a small portion of National Park Service land west of Riverdale Road would be temporarily needed for staging of equipment. Piles would be required to build retaining walls and substructure units for the aerial structure at the intersection of Kenilworth Avenue and Riverdale Road. Where practical, utilities would be relocated prior to constructing the transitway.

Figure 5-13. Construction Area 8



5.2.9 Construction Area 9: Veterans Parkway to New Carrollton Station

Construction Area 9 (Figure 5-14) would include 2.1 miles of at-grade dedicated transitway from Veterans Parkway to New Carrollton Station.

- Haul routes would be along Veterans Parkway to US 50.
- The staging area would be the Glenridge Maintenance Facility site.

General Construction Activities

Construction Area 9 would include grading for the Glenridge Maintenance Facility, and retaining walls along Veterans Parkway and Ellin Road. Piles would be required along the transitway in locations to be determined as the project design advances. MTA and Pepco (Potomac Electric Power Company) would coordinate regarding the construction plan in the area of the Pepco substation and associated electrical utilities along Ellin Road.

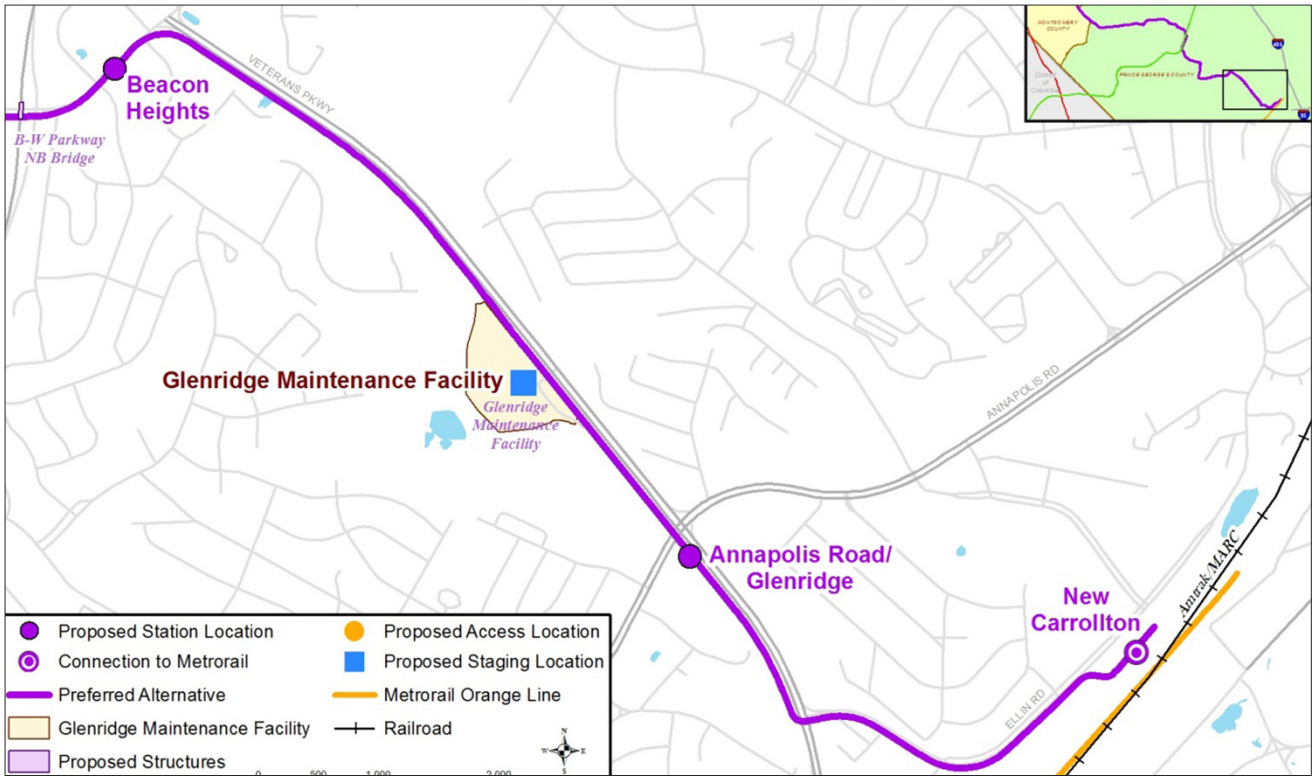
5.2.10 Construction Area 10: Lyttonsville Yard

The Lyttonsville Yard site would be graded for use as a staging area for track work. Construction of the Yard would include storage tracks, train wash, traction power substation, office space, underground stormwater management structures, electrical hook-ups, connections to the transitway, and employee parking to begin when use of the site for staging ends.

5.2.11 Construction Area 11: Glenridge Maintenance Facility

The Glenridge Maintenance Facility site would be graded for use as a staging area for track work. Construction of the Maintenance Facility would include an underground 66-inch relocated water main, which would be completed when use of the site for staging ends, followed by tracks, a maintenance facility, underground stormwater management structures, fuel pumps, a traction power sub-station, electrical hook-ups, connections to the transitway, and employee parking.

Figure 5-14. Construction Area 9



5.3 Transportation Management Plan

A Transportation Management Plan would be developed and implemented for the entire project in accordance with the Maryland State Highway Administration's Transportation Management Plans: Guidelines for Development, Implementation and Evaluation and in coordination with the Maryland State Highway Administration, Montgomery County, Prince George's County, and the providers of transit and emergency services to minimize negative impacts to transportation. The plan would include traffic control plans that illustrate how to maintain transit, vehicular, pedestrian, and bicycle traffic during construction, as well as emergency vehicle and property access. Safety provisions would be incorporated as discussed in Section 3.7.

The major elements of the Transportation Management Plan (TMP) will include the following:

- TMP Team Roles and Responsibilities
- TMP Implementation Task Leaders
- Emergency Contacts
- General Schedule and Timeline
- Related Projects
- Existing Volumes and Levels of Service
- Crash Data
- Maintenance of Traffic Alternatives Analysis
- Proposed Construction Staging (by major highway segment)
- Traffic Control Plans
- Bicycle and Pedestrian Impacts/Interfaces
- Detours during Construction
- Temporary Lane Closures during Construction
- Transportation Operations Strategies (by major highway segment) Addressing Construction Impacts (i.e., mitigation strategies)
- Public Information and Outreach Program
- TMP Monitoring

The MTA, in coordination with its contractor, would be responsible for the plan's Public Information and Outreach program, which is intended to inform motorists, residents, businesses, schools, emergency service and delivery providers, and the public regarding temporary changes to

traffic patterns and detours. Where transit stop relocations and detours are necessary, affected transit service providers would issue a Rider Alert that would be posted at the affected stops, on buses, at schedule distribution outlets, and on the service providers' websites. Changes in traffic, bicycle, and pedestrian routes, including the existing Georgetown Branch Interim Trail, would be announced in the print and electronic media. Appropriate lines of communication would be maintained with emergency service providers throughout construction regarding current and upcoming construction activities, potential issues, and planned route changes. Pedestrian access to adjacent properties and access to adjacent parking facilities would be maintained during construction. Whenever existing movements cannot be maintained, alternate routing would be designated with appropriate signing. Additional information regarding community outreach and coordination with businesses can be found in Chapter 8.0.

5.4 Environmental Compliance Plan

MTA will develop and implement an Environmental Compliance Plan (ECP) after the issuance of the project's ROD and prior to the initiation of construction activities. The plan will identify and describe the management of environmental commitments and mitigation measures as the project design advances. The objectives of the plan are to:

- Identify environmental requirements of the Purple Line project that require compliance to federal, state, and local regulatory permit conditions and the procedures defined to meet them
- Incorporate environmental commitments and mitigation measures stipulated with the FEIS, ROD, and *Section 106 Programmatic Agreement* (*Appendix H),* to ensure that these requirements are identified in Construction Contract documents
- Define responsibilities and actions required to maintain compliance with environmental requirements during design and construction, and to effectively respond to problem situations or agency/public concerns
- Establish necessary procedures for communication, documentation, and review of environmental compliance for each construction contract
- Describe protected resources within the project study corridor and types of mitigation measures needed to protect them
- Ensure that contractors' submittals properly document the work required in the Contractor Documents
- Ensure that contractors employ means and methods to avoid or minimize impacts to the environment and general public in compliance with the construction Contract Documents

The ECP would be updated as design and construction progresses, and if further environmental effects are identified. Periodic reviews of the plan and procedures would be performed to ensure continual improvement of the plan's adequacy.

Because the MTA is considering a variety of construction methods, the plan would be flexible and tailored to match each type of construction contract. The plan would provide a general framework for methods that would be employed to reduce environmental impacts from construction activities. Specific environmental requirements and controls would be tailored to the various construction contracts and would be included in the contract specifications and documents.

The ECP would identify commitments and mitigation measures related to the proposed construction methods and activities as listed below. Additional commitments and mitigation measures for long-term operation and short-term construction-related impacts to transportation and environmental resources are identified in Chapters 3.0 and 4.0 of this FEIS.

Chapter 6.0
Draft Section 4(f) Evaluation

The Section 4(f) Evaluation has been prepared to comply with the USDOT Act of 1966 (49 USC 303), hereinafter referred to as "Section 4(f)" and its implementing regulations codified at 23 CFR Part 774. Additional guidance was obtained from FHWA Technical Advisory T6640.8A (FHWA 1987b) and the revised FHWA Section 4(f) Policy Paper (FHWA 2012).

The Section 4(f) Evaluation identifies properties in the project study area protected by Section 4(f), evaluates the use of these properties by the Preferred Alternative, and presents documentation required for FTA to approve the use of Section 4(f) properties. FTA will make its Section 4(f) determination as part of its Record of Decision for the project, after its consideration of public and agency comments on this Draft Section 4(f) Evaluation. The public comment period for the Draft Section 4(f) Evaluation is 30 days, concurrent with the comment period for the Final Environmental Impact Statement (FEIS).

This Draft Section 4(f) Evaluation provides notification of FTA's intent to pursue *de minimis* use determinations for nine park and recreation properties and historic sites that would be affected by the construction and operation of the Purple Line project:

- Columbia Country Club
- Sligo Creek Stream Valley Park
- Sligo Creek Parkway
- Long Branch Stream Valley Park
- New Hampshire Estates Neighborhood Park
- Northwest Branch Stream Valley Park
- University of Maryland
- Anacostia River Stream Valley Park
- Baltimore-Washington Parkway

The proposed *de minimis* use determinations are based on coordination with the officials with jurisdiction. The officials with jurisdiction are Federal or designated State agencies that own and/or administer the affected portion of the property protected by Section 4(f). The officials have been notified of FTA's intent to make a *de minimis* use determination. Should the officials with jurisdiction concur, FTA will issue determinations of *de minimis* use as part of the Final Section 4(f) Evaluation in the Record of Decision. Pursuant to 23 CFR 774.5(b)(2), notice is hereby provided of the proposed *de minimis* use determinations, which are made available in this document for public review and comment. Comments regarding the proposed Section 4(f) *de minimis* use determinations may be submitted to FTA and MTA during the 30-day comment period on this FEIS; the comment deadline is posted on the project website (www.purplelinemd.com). Correspondence to date with officials with jurisdiction is included in Appendix G.

6.1 Methodology

Section 4(f) of the US Department of Transportation Act of 1966, 49 USC 303(c) is a federal law that protects publicly owned parks, recreation areas, wildlife and/or waterfowl refuges, as well as significant historic sites, whether publicly or privately owned. Section 4(f) requirements apply to all transportation projects that require funding or other approvals by the USDOT. As a USDOT agency, FTA must comply with Section 4(f). FTA's Section 4(f) regulations are at 23 CFR Part 774.

FTA cannot approve a transportation project that uses a Section 4(f) property, as defined in 23 CFR 774.17, unless FTA determines that:

- There is no feasible and prudent avoidance alternative, as defined in 23 CFR 774.17, to the use of land from the Section 4(f) property, and the action includes all possible planning, as defined in 23 CFR 774.14, to minimize harm to the property resulting from such use (23 CFR 774.3(a)); or
- The use of the Section 4(f) property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant would have a *de minimis* use, as defined in 23 CFR 774.17, on the property (23 CFR 774.3(b)).

This Draft Section 4(f) Evaluation was conducted according to the requirements of 23 CFR Part 774 and FHWA's Section 4(f) Policy Paper. The evaluation included the following steps:

- Using a study area (250 feet on each side of the centerline of the Preferred Alternative), MTA reviewed existing mapping, conducted field investigations/site reconnaissance, searched property records and consulted with officials with jurisdiction to identify the properties protected by Section 4(f). Public ownership, public access, significance, and funding of parks and recreational facilities were verified through coordination with the property owners. As defined in FEIS Section 4.7.1 a 1,000-foot Area of Potential Effects (APE) around the Preferred Alternative alignment was defined in consultation with the Maryland Historical Trust (MHT), which is the State Historic Preservation Office in Maryland and the official with jurisdiction over historic properties.[1]
- **Assessment of Potential Section 4(f) Uses**—FTA and MTA identified and quantified potential uses of Section 4(f) properties by the Preferred Alternative. This assessment considered the potential for permanent use (23 CFR 774.17), constructive use (23 CFR 774.15), and temporary use (23 CFR 774.13(d)).
- **Temporary Occupancy Exceptions**—In evaluating potential uses, FTA and MTA considered the exception for temporary occupancy in 23 CFR 774.13(d). If the criteria for a temporary occupancy exception are met, there is no use.
- **De minimis Uses**—For properties that would be used, FTA and MTA evaluated the use to determine whether it would meet the requirements for a *de minimis* use. FTA and MTA have notified the officials with jurisdiction of each property for which they are proposing a determination of *de minimis* use. Should the officials with jurisdiction concur, FTA will issue determinations of *de minimis* use as part of the Final Section 4(f) Evaluation in the Record of Decision.
- **Analysis of Avoidance, Minimization, and Least-Overall-Harm**—For properties that would be used by the Preferred Alternative, and for which a determination of *de minimis* use is not proposed, FTA and MTA have conducted an analysis to determine if there are feasible and prudent alternatives that avoid the use of Section 4(f) properties. In the absence of feasible and prudent avoidance alternatives, FTA and MTA compared alternatives to determine which alternative caused the least overall harm and to ensure that the Preferred Alternative incorporates all possible planning to

[1] It is important to recognize the difference between Section 4(f) use of historic properties and Section 106 project effects to historic properties, which are discussed in Section 4.7 of the FEIS. Section 4(f) and Section 106 are similar in that they both mandate consideration of historic properties in the planning of a federal undertaking. Section 4(f) applies to the actual use or occupancy of a historic site, while Section 106 involves an assessment of adverse effects of an action on historic properties. The Section 106 process is integral to the Section 4(f) process when historic properties are involved. Conversely, the Section 4(f) process is not integral to the Section 106 process.

minimize harm as required by Section 4(f). In determining the alternative with the least overall harm, FTA and MTA considered design refinements, such as alignment shifts, to reduce impacts to Section 4(f) properties.

6.1.1 Definition of Section 4(f) Uses

After identifying the Section 4(f) properties in the project study area, FTA determined whether and to what extent the Preferred Alternative would use each property. The type of Section 4(f) use was then determined according to the Section 4(f) use definitions below.

- **Permanent Use**—Pursuant to 23 CFR 774.17, a permanent use occurs when land from a Section 4(f) property is permanently incorporated into a transportation project. This may occur as a result of partial or full acquisition of the Section 4(f) property, permanent easements, or temporary easements that exceed regulatory limits.
- **Temporary Use**—As defined in 23 CFR 774.13(d), a temporary use occurs when there is a temporary use of land that is "adverse in terms of the statute's preservation purpose as determined by the criteria in 23 CFR 774.13(d)." If the criteria in 23 CFR 774.13(d) are met, the "temporary use exception" applies in which there is no "use" of the Section 4(f) property. If the criteria in 23 CFR 774.13(d) are not met, the use is evaluated as permanent.
- **Constructive Use**—As defined in 23 CFR 774.15(a), a constructive use occurs when a transportation project does not incorporate land from a Section 4(f) property, but the project's proximity impacts are so severe that the protected activities, features or attributes that qualify a property for protection under Section 4(f) are substantially impaired.

6.1.2 Individual Section 4(f) Evaluation

The term "individual Section 4(f) evaluation" is used in this chapter to refer to the process of assessing avoidance alternatives, determining the alternative with the least overall harm, and considering all possible planning to minimize harm for each property. This analysis is required for all uses of a Section 4(f) property except in the case of a *de minimis* use determination. The steps in this analysis are described below:

- **Analyze Avoidance Alternatives**—In this step, FTA considers alternatives that completely avoid the use of a Section 4(f) property. The avoidance analysis applies the Section 4(f) feasible and prudent criteria (23 CFR 774.17(2) and (3)). An alternative is not feasible if it cannot be built as a matter of sound engineering judgment (2). An avoidance alternative is not considered prudent (3) if (i) it compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need; (ii) it results in unacceptable safety or operational problems; (iii) after reasonable mitigation, it still causes: (A) severe social, economic, or environmental impacts; (B) severe disruption to established communities; (C) severe disproportionate impacts to minority or low income populations, or (D) severe impacts to environmental resources protected under other Federal statutes; (iv) it results in additional construction, maintenance, or operational costs of an extraordinary magnitude; (v) it causes other unique problems or unusual factors; or (vi) it involves multiple factors in paragraphs (3)(i) through (3)(v) of this definition, that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.
- **Determine Alternative with Least Overall Harm**—If no feasible and prudent alternative is identified that would avoid using a Section 4(f) property, FTA determines the alternative that would cause the least overall harm to Section 4(f) properties using the following factors (23 CFR 774.3(c)1): (1) the ability to mitigate adverse impacts to each Section 4(f) property; (2) the relative severity of the remaining harm after mitigation; (3) the relative significance of each Section 4(f) property; (4) the views of the officials with jurisdiction over each property; (5) the degree to which each alternative meets the project purpose and need; (6) the magnitude of adverse effects to resources not protected by Section 4(f); and (7) substantial cost differences among the alternatives.

- **Consider All Possible Planning to Minimize Harm**—Upon determining no feasible and prudent alternatives to avoid Section 4(f) properties, FTA considers and incorporates all possible planning to minimize the impacts of the Preferred Alternative. All possible planning, as defined in 23 CFR 774.17, means that all reasonable measures identified in the Section 4(f) evaluation to minimize harm or mitigate for adverse impacts and effects must be included in the project.
- **Coordinate with Officials with Jurisdiction**—FTA and MTA are coordinating with the officials with jurisdiction over each of the protected properties for which a determination is made in this Draft Section 4(f) Evaluation.

6.1.3 Temporary Occupancy Exception

Temporary occupancies do not constitute a use and, therefore, are not subject to the provisions of Section 4(f) if they meet each of the five criteria for temporary occupancy exception in 23 CFR 774.13(d):

- Duration of occupancy must be temporary; i.e., less than the time needed for construction of the project, and there can be no change in ownership of the land.
- The scope of work must be minor; i.e., both the nature and magnitude of the changes to the Section 4(f) property are minimal.
- There can be no anticipated permanent adverse physical impacts, nor can there be interference with the activities, features or attributes of the property, on either a temporary or permanent basis.
- The land being used must be fully restored; i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project.
- Written concurrence must be obtained from the officials with jurisdiction, documenting agreement with the above conditions. If the official with jurisdiction does not agree with a temporary occupancy exception determination, an analysis of use must be conducted. If concurrence is obtained from the officials with jurisdiction over the properties, a final determination will be made by FTA in the Final Section 4(f) Evaluation, which will be included in the Record of Decision.

6.1.4 *De minimis* Use

A determination of *de minimis* use can be made only if the project will not adversely affect the features, attributes or activities that make the Section 4(f) property significant. The specific requirements for a *de minimis* use determination are different for historic sites and for public parklands, recreational areas, and wildlife and waterfowl refuges. Per Section 4(f) regulations, evaluations of avoidance alternatives and selection of an alternative having the least overall harm are not required if a *de minimis* use determination is made.

If the official with jurisdiction does not agree with a *de minimis* use determination, an analysis of avoidance alternatives must be conducted. If the analysis concludes that there is no feasible and prudent alternative to use of the Section 4(f) property, FTA may only approve the alternative that causes the least overall harm. A least overall harm analysis is conducted to determine which alternative may proceed. A *de minimis* use determination is inappropriate where a project results in a constructive use (23 CFR 774.3(b) and 23 CFR 774.17).

Historic Properties

As defined in 23 CFR 774.5 and 774.17, a *de minimis* use determination is made for an historic site if FTA makes a determination for a property of "No Adverse Effect" or "No Historic Properties Affected" through consultation under Section 106 of the National Historic Preservation Act (NHPA), and the State Historic Preservation Officer (SHPO) concurs with that determination.

Parks, Recreation Areas, and Refuges

A *de minimis* use on a public parkland, recreational area, or wildlife and waterfowl refuge is defined as that which does not "adversely affect the features, attributes or activities qualifying the property for protection under Section 4(f)." This determination can be made only with the concurrence of the official with jurisdiction, and can be made only after an opportunity for public review and comment on the proposed determination.

6.1.5 Constructive Use

The FEIS assessment of the potential for proximity effects of the Preferred Alternative is used by FTA and MTA to determine whether a constructive use of properties protected by Section 4(f) would occur. The FEIS assesses the direct, indirect and cumulative effects of the Preferred Alternative on the natural and human environment.

6.2 Purpose and Need

The purposes of the Purple Line project are the following:

- Provide faster, more direct, and more reliable east-west transit service connecting the major activity centers in the Purple Line corridor at Bethesda, Silver Spring, Takoma/Langley Park, College Park, and New Carrollton
- Provide better connections to Metrorail services located in the corridor
- Improve connectivity to the communities in the corridor located between the Metrorail lines

A deficiency in east-west transit services in Montgomery and Prince George's counties has been identified, in various forms, for more than 20 years in regional studies and local land use plans. Growing population and employment in the region has resulted in increasingly congested roadways.

Changing land use patterns in Montgomery and Prince George's counties have increased the amount of suburb-to-suburb travel to and from the corridor's major activity centers. The existing transit system is primarily oriented to accommodate travel in and out of Washington DC. The only transit service available for direct east-west travel is bus service, which can be slow and unreliable because it operates on a congested roadway system. East-west travel on Metrorail within the corridor is possible, but requires a trip into and then out of Washington DC. Large transit-dependent populations in the corridor are affected adversely by the poor connectivity and unreliability of the existing east-west transit services. The Purple Line project proposes to reduce or eliminate these deficiencies.

6.2.1 Need for Faster and More Reliable Transit Service

Faster and more reliable transit service is needed in the Purple Line corridor to address two related transportation problems arising from existing and forecasted transit service market demands: the increasingly detrimental effect of existing and expected future roadway congestion in the corridor on travel times, and the resulting unreliability of the east-west bus transit services in the corridor. The congested roadways mean that bus travel times are not predictable.

The transit service market demands to, from and within the corridor demonstrate the nature and importance of the local and regional travel occurring in the project corridor. Expected growth in population, employment, and activity centers will place a substantial burden on the roadway and transit service networks in the corridor between now and the design year. Road-based bus dependability will deteriorate as traffic congestion grows, making access to destinations such as major activity centers and radial transit services slow and unreliable. Populations that are transit-dependent will be particularly adversely affected by these conditions.

6.2.2 Need for More Direct Transit Connections to Metrorail

The corridor is deficient in fast, reliable east-west transit services providing access to and from the Metrorail system. WMATA's Metrorail service connects Bethesda, Silver Spring, College Park, and New Carrollton. However, since this service is radially-oriented, rail travel between these centers requires a lengthy, time-consuming trip into Washington DC and then, in most cases, transferring to a different radial line. A Metrorail trip between Bethesda and Silver Spring requires taking the Red Line into the Washington DC core and then traveling back out. To travel from Silver Spring to College Park by Metrorail requires taking the Red Line to the Washington DC core and then transferring to the Green Line to College Park. The Metrorail station at College Park is approximately one mile from the eastern edge of the University of

Maryland (UMD) campus, requiring a bus transfer to get to or from UMD.

6.2.3 Need for Better Connectivity to the Communities In Between the Metrorail Lines

As noted above, the corridor lacks fast, reliable east-west transit to serve the communities located in the wedges between the Metrorail lines. These communities are dependent on local bus services, which are often slow and unreliable because of the existing congested roadways.

The county bus services, provided by Montgomery County Ride On and Prince George's TheBus, both terminate in Takoma/Langley Park at the county boundary, requiring the through traveler to transfer to continue an east-west trip. The majority of these bus transfers take place at the intersection of University Boulevard and New Hampshire Avenue, which is the planned location of the Takoma/Langley Park Transit Center and a planned Purple Line station.

6.3 Description of the Preferred Alternative

The Purple Line is a proposed 16.2-mile light rail transit (LRT) line project in the Maryland suburbs of Washington DC inside the Capital Beltway (I-495). The Purple Line would extend between Bethesda Metro station in Montgomery County and New Carrollton Metro station in Prince George's County. It would connect both branches of the Washington Metrorail Red Line, at Bethesda and Silver Spring, the Green Line at College Park, and the Orange Line at New Carrollton; all three Maryland Area Rail Commuter (MARC) lines; local and regional bus systems; and Amtrak's Northeast Corridor.

6.3.1 Preferred Alternative

The Preferred Alternative would be at grade except for one short tunnel section and three sections elevated on structures. The Preferred Alternative would operate mainly in dedicated or exclusive lanes, providing fast, reliable transit operations. The alignment, stations, system elements, yard, maintenance facility and operating plan are summarized in Table 6-1, shown on Figure 6-1, and described in the following sections.

Alignment

Bethesda to Silver Spring Transit Center—4.3 miles

The transitway would begin on the Georgetown Branch right-of-way in Bethesda. The Georgetown Branch right-of-way crosses under Wisconsin Avenue. On either side of the Wisconsin Avenue bridge, buildings have been built above the right-of-way; the Apex building west of Wisconsin Avenue, and the Air Rights building to the east. The western terminus would include a short section of track extending west outside the Apex building for approximately 100 feet. The Bethesda station would be under the Apex building.

The station would connect to elevators serving a new south entrance to the Bethesda Metrorail station. The elevators would continue up to Elm Street. Access also would be provided from Woodmont Plaza to the west, and via a sidewalk from the Capital Crescent Trail. This sidewalk from the elevator lobby area adjacent to the Purple Line station and under the Air Rights building would provide access to the station from the east. The transitway would continue east under both Wisconsin Avenue and the Air Rights building. After emerging from under the Air Rights building, the transitway would continue in the Georgetown Branch right-of-way, crossing under East West Highway and passing through the Columbia Country Club (see Figure 6-2 for an illustration of a typical section in the Georgetown Branch right-of-way).

Table 6-1. Summary of Preferred Alternative

Measure	Preferred Alternative
Length	16.2 miles
Stations	21
Storage and maintenance facilities	2
Ancillary facilities	20 traction power substations—18 along the alignment and 2 in yards Approximately 14 signal bungalows
Length in tunnel	0.3 miles
Length on aerial structures	7,560 feet
Travel time (Bethesda–New Carrollton)	63 minutes during peak hours 60 minutes during off peak hours

Figure 6-1. Purple Line Preferred Alternative

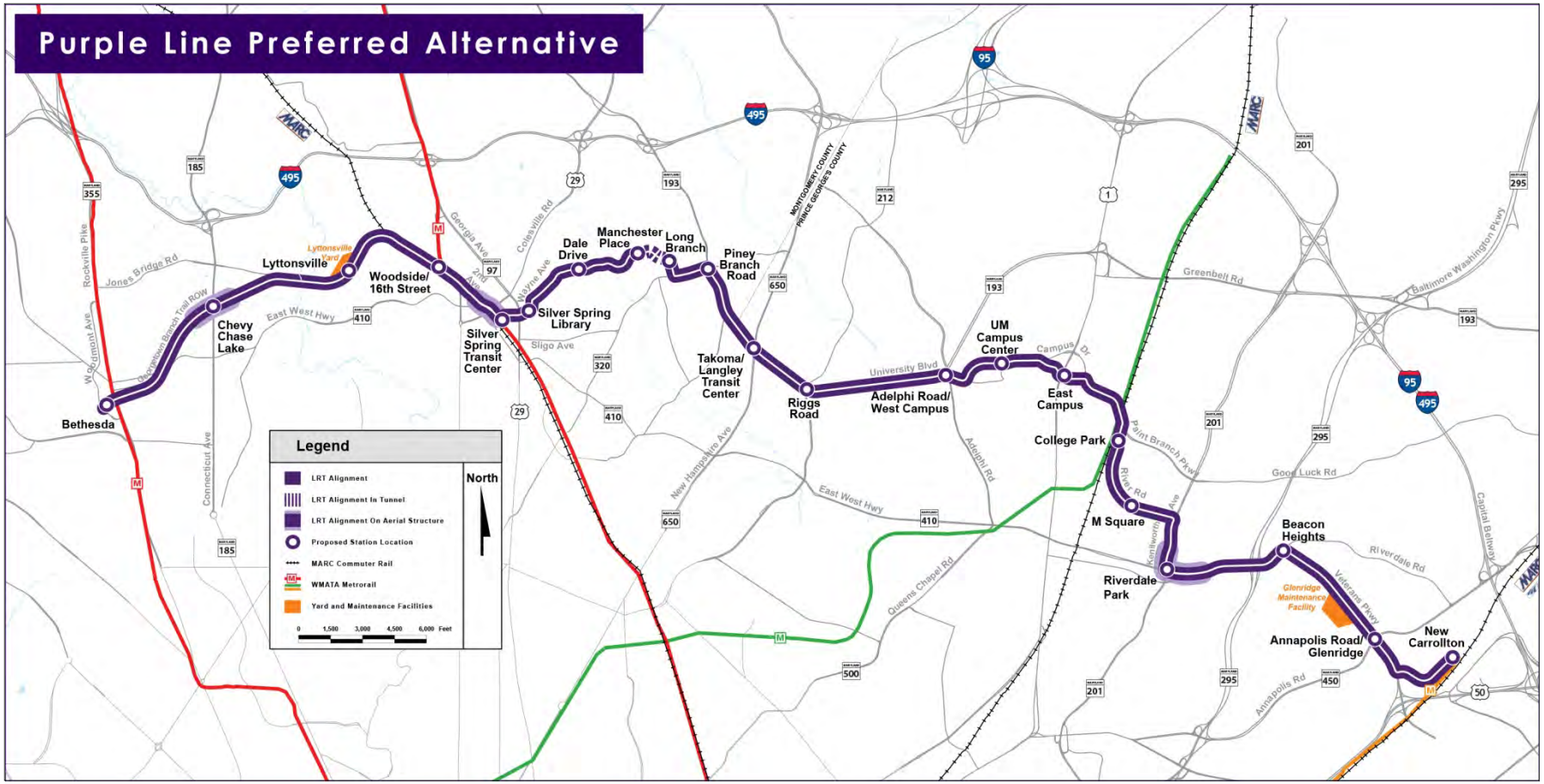
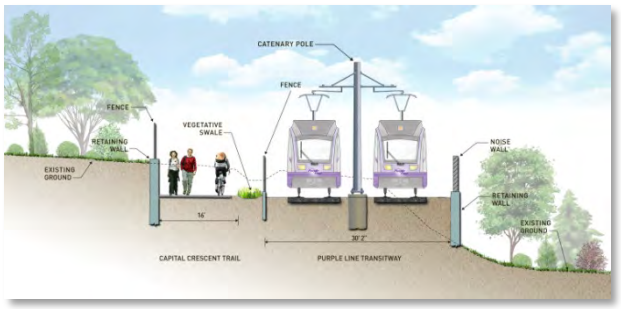


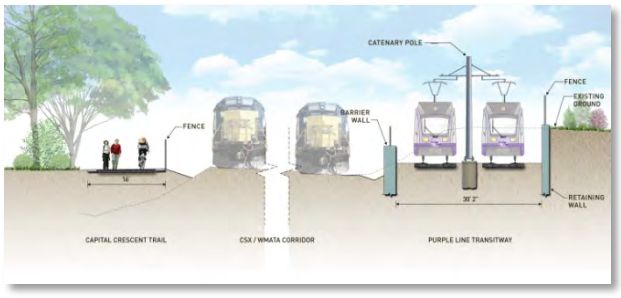
Figure 6-2. Typical Section in Georgetown Branch Right-of-way



Continuing along the Georgetown Branch right-of-way, the transitway would cross Connecticut Avenue on a bridge. The Chevy Chase Lake station would be on the east side of Connecticut Avenue, elevated at the level of the bridge with connections to street level provided by stairs and elevators. The transitway would continue east, returning to grade, and then pass under Jones Mill Road. A new bridge, approximately 10-15 feet lower than the existing pedestrian bridge, would carry the transitway across Rock Creek. The Lyttonsville Yard would be located on the north side of the transitway, mostly west of the Lyttonsville Place bridge. The Lyttonsville station would be located east of the bridge.

Continuing east in the Georgetown Branch right-of-way to the CSXT right-of-way, the transitway would continue parallel to the CSXT right-of-way on the south side (see Figure 6-3 for an illustration of a typical section along the CSXT right-of-way).

Figure 6-3. CSXT Right-of-Way Typical Section, Looking Southeast



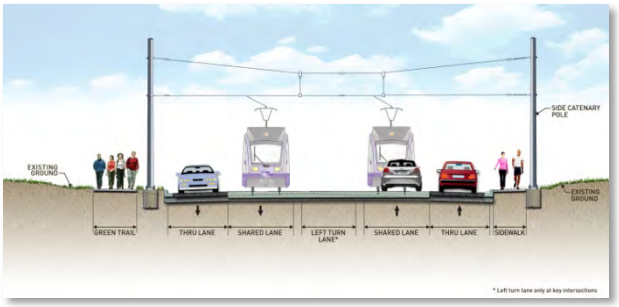
It would pass under the bridges at Talbot Avenue, 16th Street, and Spring Street within or adjacent to the CSXT right-of-way, at approximately the same elevation as the CSXT tracks. The Woodside station would be just east of the 16th Street Bridge. East of the Falkland Chase (formerly Falklands) Apartments, the transitway would cross over the CSXT tracks to the north on an aerial structure and enter the Silver Spring Transit Center (SSTC) parallel to, but higher than, the existing Metrorail tracks. The SSTC station platform would be located between the SSTC and the existing railroad tracks.

Silver Spring Transit Center to Takoma/Langley Park Transit Center — 3.2 miles

East of the SSTC, the transitway would turn away from the CSXT right-of-way and descend to grade on the south side of Bonifant Street in dedicated lanes. The transitway would cross Georgia Avenue at grade, shifting to the north side of Bonifant Street. Just before reaching Fenton Street, the transitway would turn north to pass through the future Silver Spring Library building, the location of a station, and enter the intersection of Fenton Street and Wayne Avenue. The transitway would continue on Wayne Avenue in mixed-use lanes in the center of the roadway. The intersection of Wayne Avenue and Dale Drive has been identified as the location of a future station.

The transitway would continue along Wayne Avenue (Figure 6-4). After crossing the intersection of Sligo Creek Parkway, it would enter a tunnel from Wayne Avenue east of Manchester Road to avoid the steep grade of Wayne Avenue. The Manchester Place station in the portal of the tunnel would be accessed both at grade from Wayne Avenue or by stairs or elevators from Plymouth Street above. The transitway would emerge from the tunnel on the south side of Arliss Street in dedicated lanes and would continue to the intersection of Piney Branch Road. The Long Branch station would be on the west side of Arliss Street at this intersection.

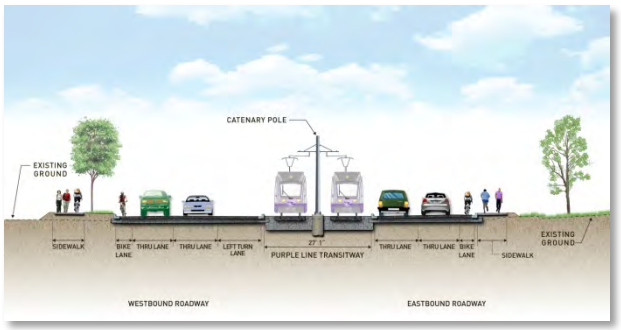
Figure 6-4. Wayne Avenue Typical Section, Looking East



The transitway would run in the median of Piney Branch Road to the intersection with University Boulevard. Piney Branch Road would be widened to accommodate the two new transit lanes.

The Piney Branch station would be in the median of University Boulevard at this intersection. The transitway would continue south in dedicated lanes in the median of University Boulevard to a station at the intersection with New Hampshire Avenue, adjacent to the Takoma/Langley Park Transit Center. On University Boulevard the Preferred Alternative would replace the two center traffic lanes with the transitway. See Figure 6-5 for a typical section of the transitway in the median of University Boulevard.

Figure 6-5. University Boulevard Typical Section, Looking East



Takoma/Langley Park Transit Center to College Park Metrorail Station — 4.0 miles

Continuing along University Boulevard, the Riggs Road station would be in the median of University Boulevard on the west side of the Riggs Road intersection. The transitway would continue on University Boulevard, crossing Adelphi Road at grade to enter the University of Maryland (UMD) campus. The Adelphi Road/West Campus station would be located here directly across from UMD University College.

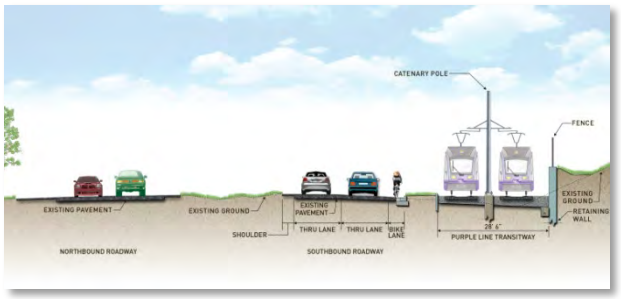
The transitway would turn left at Presidential Drive and follow a future extension of Union Drive as shown in the UMD 2011-2030 Facilities Master Plan in an area which currently contains parking lots to connect to the existing Union Drive and continue to Campus Drive. The Campus Center station would be located near Cole Student Activities Building. The transitway would continue on Campus Drive to Regents Drive. Campus Drive would be rebuilt as a three-lane roadway, with the outside lanes shared by Purple Line vehicles and buses and the center lane as a one-way lane for general traffic. The Preferred Alternative would continue at grade in a new exclusive transitway from Regents Drive, along the parking lots adjacent to the Armory, behind the Visitors Center to Rossborough Lane. The transitway would cross US 1 at grade on Rossborough Lane, to enter the East Campus development. The East Campus station would be on Rossborough Lane just east of US 1. The transitway would continue east to Paint Branch Parkway in dedicated lanes along the curb and would continue on Paint Branch Parkway in mixed-use lanes. Immediately east of the existing station parking garage, it would turn and enter the College Park—UMD Metro station area and would run adjacent to the Metrorail tracks. The Purple Line College Park Metro station would be located here. After passing behind the proposed parking garage for the currently planned future residential development, the transitway would turn towards River Road.

College Park Metrorail Station to New Carrollton Metrorail Station — 4.7 miles

The Preferred Alternative would parallel the south side of River Road from River Tech Court to Haig Drive. The M Square station would be just west of Haig Drive. The transitway would continue along the side of River Road, cross over the Northeast Branch, and turn right into the median of Kenilworth Avenue. It would rise on an aerial structure that begins near Quesada Street and would continue over the intersection of Kenilworth Avenue and East West Highway where it would then turn left onto the south side of Riverdale Road. The Riverdale Park station would be on the elevated structure just after the intersection. The transitway would return to grade in dedicated lanes adjacent to Riverdale Road on the south side and would then pass under the Baltimore-Washington Parkway. The existing bridges of the Baltimore-Washington Parkway over Riverdale Road would be lengthened to accommodate the Preferred Alternative. The Beacon Heights station would be just west of the intersection with Veterans Parkway.

The transitway would turn at Veterans Parkway and continue on the south side of the parkway, as shown in Figure 6-6. Along Veterans Parkway, the Glenridge Maintenance Facility would be located at the current site of the Maryland-National Capital Park and Planning Commission (M-NCPPC) Northern Area Maintenance-Glenridge Service Center. The transitway would cross Annapolis Road at grade to arrive at the Annapolis Road station. It would continue along Veterans Parkway and turn left at Ellin Road and travel in the outside lanes of Ellin Road in mixed-traffic operations to arrive at the transitway terminus at the New Carrollton Metro station.

Figure 6-6. Veterans Parkway Typical Section, Looking East



Capital Crescent Trail

As part of the Preferred Alternative, the permanent Capital Crescent Trail would be constructed within the Georgetown Branch right-of-way for a distance of 3.3 miles between Bethesda and the CSXT Metropolitan Branch. At the junction with the CSXT the trail is planned to continue on the north side of the CSXT corridor to the SSTC. The permanent Capital Crescent Trail would replace the existing Georgetown Branch Interim Trail which currently extends from Bethesda to Stewart Avenue within the Georgetown Branch right-of-way. The completion of the trail along the CSXT corridor is contingent on agreement with CSXT on the use of their property on the north side of the CSXT tracks for the trail. If agreement is not reached by the time the Purple Line construction occurs, MTA would construct the trail from Bethesda to Talbot Avenue. From Talbot Avenue to Silver Spring an interim signed bike route on local streets would be used.

MTA will plan, design, and construct the permanent Capital Crescent Trail between Bethesda and Talbot Avenue. MTA will construct the permanent Capital Crescent Trail from Talbot Avenue to Silver Spring if agreement can be reached with CSXT regarding use of its right-of-way. If agreement cannot be reached, then an interim signed bicycle route on local streets would be used between Talbot Avenue and Silver Spring until such time an agreement is obtained.

The Capital Crescent Trail will be owned and operated by Montgomery County, which will be responsible for providing the funds to construct it. Funding for the trail is in the county's Capital Improvements Program. Because the Capital Crescent Trail will be a county facility, Montgomery County has determined design elements such as the trail width, the type of surface, and inclusion of additional amenities such as lighting.

This FEIS for the Purple Line describes the environmental impacts of the trail and the proposed mitigation. Once completed, the Capital Crescent Trail would be a paved trail, generally 12 feet wide with 2-foot unpaved shoulders, except that it may be narrower in locations where the width is constrained. Where there is sufficient width, the trail would be located approximately 10 feet from the transitway to provide a landscaped buffer between the two. The trail would include 23 access locations, listed below:

- Elm Street Park
- Pearl Street
- Lynn Drive
- East West Highway
- Sleaford Road
- Kentbury Drive
- Newdale Road
- Connecticut Avenue
- Jones Mill Road
- Rock Creek Trail
- Grubb Road
- Lyttonsville Place
- Stewart Avenue
- Michigan Avenue
- 4th Avenue/Hanover Street
- 4th Avenue/Talbot Avenue
- Lyttonsville Road
- 16th Street
- 3rd Avenue
- Spring Street

- Apple Avenue
- Silver Spring Transit Center
- Ripifant Street

Due to the physical constraints under Wisconsin Avenue and the Air Rights and Apex buildings, the construction of a full-width trail above the LRT tracks in the underpass would incur high costs and a very high risk due to the need to lower the transitway and reinforce the piers that support the buildings above. In March 2012 the Montgomery County Council decided that it would defer the construction of a full width trail in this built-over section because of the high cost and associated risks.

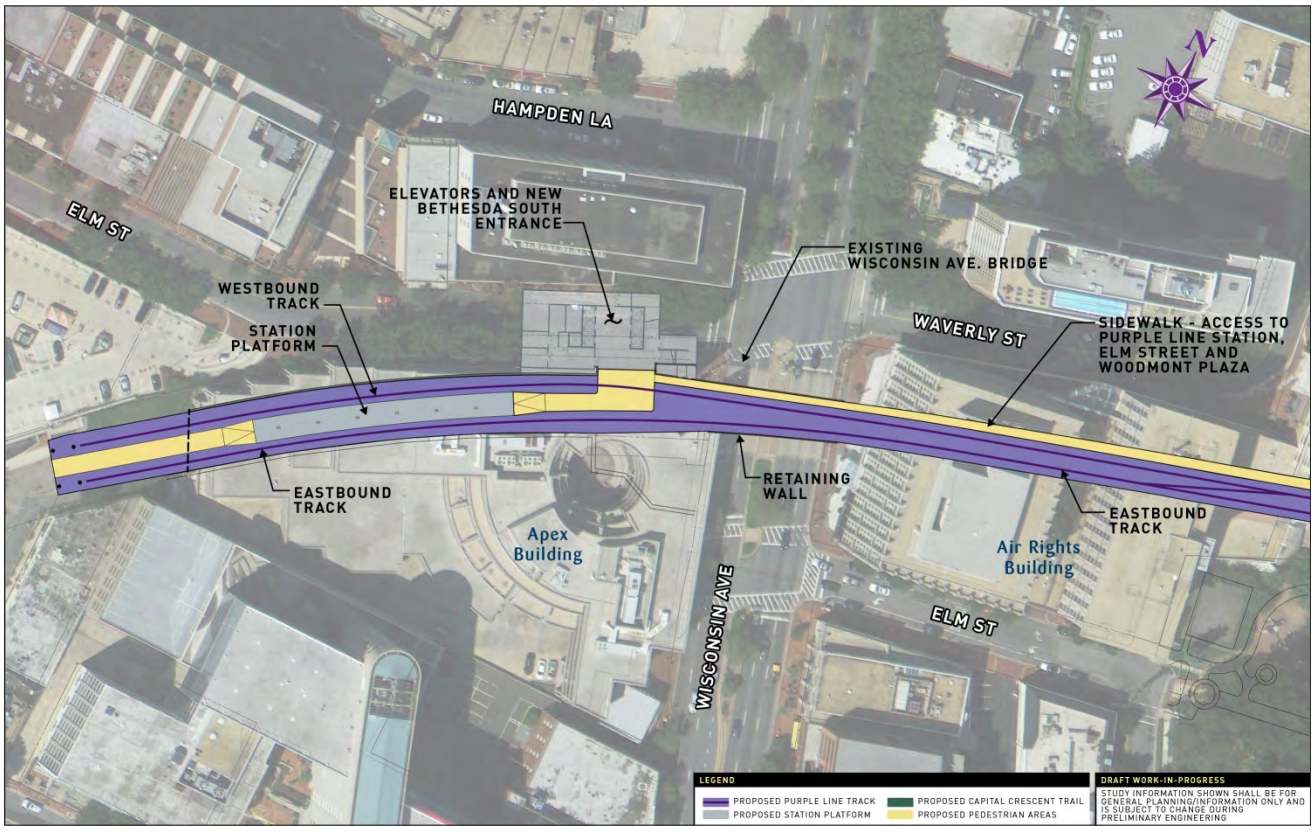
In fall 2012 MTA developed a new option that would provide a sidewalk connection from the trail to the Bethesda station platform (Figure 6-7). While not a full-width trail, this 5 to 7-foot sidewalk would allow pedestrians to access the Purple Line station, the elevators to the Red Line station and Elm Street, and continue to Woodmont Plaza. This option was presented to and endorsed by the Montgomery County Council in September 2012.

As a separate project, Montgomery County is constructing an at-grade connection between the existing Capital Crescent Trail in Bethesda and Elm Street Park. This connection includes bike lanes and signage on existing streets. The connection is part of the Montgomery County Countywide Bikeways Functional Master Plan (2005).

From Elm Street Park on the south side of the right-of-way, the Capital Crescent Trail would cross over the transitway on an elevated structure. Once on the north side of the transitway the trail would descend to ground level. Between approximately Pearl Street and Rock Creek, the trail would be on the north side of the transitway.

The trail would cross Connecticut Avenue on a separate bridge adjacent to the transitway and would provide pedestrian and bicycle access to the Chevy Chase Lake station. The trail would continue east, passing under Jones Mill Road and crossing Rock Creek on a separate bridge that would be lower than the transitway bridge. After crossing Rock Creek, the trail would pass under the transitway to the south side.

Figure 6-7. Bethesda Station



Between Bethesda and Stewart Avenue in Lyttonsville, the trail would parallel the transitway in a similar location as the existing trail. The trail would follow the transitway until crossing to the northeast side of the CSXT right-of-way via a new structure, west of the Talbot Avenue Bridge. The trail would be built parallel to, and on the northeast side of, the CSXT right-of-way. The trail would then parallel the CSXT corridor, passing under the Talbot Avenue, 16th Street, and Spring Street bridges, continuing directly into the SSTC over Colesville Road on an aerial structure that would be below the level of the transitway, but above the top level of the SSTC. As noted above, the completion of the trail along the CSXT corridor is contingent on agreement with CSXT. If agreement is not reached the trail may cross the CSXT corridor on the new Talbot Avenue bridge.

Stations

Twenty-one stations, including the Dale Drive station, are planned for the Preferred Alternative. The station locations were selected based on connections with existing transit services and urban design principles including access and safety, public space availability, local plans, ridership catchment areas, and engineering feasibility. Potential station locations were presented to community members, local jurisdictions, and other stakeholders for input. In some cases, stations were moved or shifted in response to comments and included in the 2012 *Draft Environmental Impact Statement Re-evaluation*. Seventeen of the stations would be at street level, three would be on aerial structures, and one would be in a tunnel portal. Most riders would walk to the stations or transfer from other transit services. Access plans for each station have been developed to enhance pedestrian and transit access for nearby communities. Ramps, stairs, elevators, and escalators in compliance with the Americans with Disabilities Act of 1990, as amended, would be provided where needed.

As illustrated in Figure 6-8 and Figure 6-9, the stations would have either side or center platforms depending on the site characteristics and space availability. The characteristics of each station are summarized in Table 6-2. The platforms would be approximately 200 feet long to serve two-car trains. Stations would include ticket vending machines, weather shelters for passengers, lighting, wayfinding and informational signage, trash receptacles, seating, and security equipment such as emergency telephones and closed circuit television cameras. The Purple Line would use off board fare collection, compatible with the SmarTrip system, and a barrier-free proof-of-payment system. Landscaping and bike storage would be included where space allows. The size of station shelters and the number of bike storage facilities would be relative to the projected ridership at each station.

Track Types

Four types of track (ballasted, embedded, direct fixation, and green track) are being considered for the project. They are described below:

- Ballasted track would be used where the transitway would not be used by other vehicles, such as along Veterans Parkway. Ballast is made up of stones of granite or a similar material. Ballasted track is formed by packing ballast between, below, and around the railroad ties. The ballast provides support, load transfer, and drainage to the track.
- Embedded track would be used where the Purple Line operates in mixed-use lanes on Wayne Avenue and Paint Branch Parkway and where vehicles would cross or drive on the tracks. Embedded track is track structure that is completely covered, except for the top of the rails, with pavement. Embedded track can typically be found where light rail transit routes are constructed within public streets, pedestrian or transit malls, or any area where rubber-tired vehicles must operate.
- Direct fixation track would be used where the Purple Line is on bridges or in a tunnel. Direct fixation track is similar to embedded track in that the rails are fastened directly to the track support.

Figure 6-8. Typical Center Platform Station

Figure 6-9. Typical Side Platform Station

Table 6-2. Station Summary

Station	Location	Markets Served	Vertical Location	Platform Type	Connecting Transit Services
Bethesda	Georgetown Branch right-of-way and Elm Street, west of Wisconsin Avenue, under Apex Building	Central business and residential district, and transfers	Under Building	Center	Metrorail Red Line; Metrobus: J2, J3, J7, J9; Ride On: 29, 30, 32, 33, 34, 36, 42, 47, 70, 92
Chevy Chase Lake/ Connecticut Avenue	Georgetown Branch ROW at Connecticut Avenue	Local business and residential	Aerial	Side	Metrobus: L7, L8
Lyttonsville	Georgetown Branch ROW at Lyttonsville Place	Local business and residential	At Grade	Center	Ride On: 2
Woodside/16th Street	South of CSXT ROW at 16th Street	Local business and residential, and transfers	At Grade	Side	Metrobus: J5, Q2, Y5, Y7, Y8, Y9; Ride On: 3, 4, 5, 127
Silver Spring Transit Center	Silver Spring Metrorail Station	Central business and residential district, entertainment, and transfers	Aerial	Center	Metrorail Red Line; MARC Brunswick Line; Metrobus: F4, F6, J1, J2, J3, J5, Q2, S2, S4, Y5, Y7, Y8, Y9, Z2, Z6, Z8, Z9, Z11, Z13, Z29, 70, 71, 79; Ride On: 1, 2, 3, 4, 5, 8, 9, 11, 12, 13, 14, 16, 17, 18, 19, 20, 22, 28, 127
Silver Spring Library	Wayne Avenue and Fenton Street	Central business and residential district, and transfers	At Grade	Side	Metrobus: F4, F6; Ride On: 12, 16, 17, 19, 20, 28
Dale Drive	Wayne Avenue at Dale Drive	Local residential	At Grade	Center	Ride On: 3, 12, 19;
Manchester Place	Wayne Avenue between Manchester Road and Manchester Place	Local residential	Tunnel Portal	Side	Ride On: 12, 13, 19
Long Branch	Arliss Street at Piney Branch Road	Local business and residential	At Grade	Center	Ride On: 14, 16, 20, 24
Piney Branch Road	University Boulevard and Piney Branch Road	Local business and residential, and transfers	At Grade	Center	Metrobus: C2, C4; Ride On: 14, 15, 16, 20, 24
Takoma/Langley Transit Center	University Boulevard and New Hampshire Avenue	Local business and residential, and transfers	At Grade	Center	Metrobus: C2, C4, F8, K6; Ride On: 16, 17, 18; TheBus: 17, 18
Riggs Road	University Boulevard and Riggs Road	Local business and residential, and transfers	At Grade	Center	Metrobus: C2, C4, F8, R5, R1, R2; TheBus: 17, 18
Adelphi Road/West Campus	Campus Drive and Adelphi Road	Residential, UMUC, and transfers	At Grade	Center	Metrobus: C2, C8, F6, F8, R3; TheBus: 17
Campus Center	Campus Drive at Cole Student Activities Building	UMD	At Grade	Side	Metrobus: C2, C8, F6; UM Shuttles; TheBus: 17,
East Campus	Rossborough Lane at US 1	Commercial, hotel, residential, UM, and transfers	At Grade	Side	Metrobus: C2, C8, F6, 81, 83, 86; TheBus: 17
College Park Metro	River Road at College Park — UMD Metro station	Residential, future mixed-use development, and transfers	At Grade	Center	Metrorail Green Line; MARC Camden Line; Metrobus: C2, C8, F6, R12, 83, 86; TheBus: 14, 17 CAR: G, H
M Square	River Road at Haig Drive/University Research Court	M Square Research Park and residential	At Grade	Side	Metrobus : F6, R12; TheBus: 14
Riverdale Park	Kenilworth Avenue and MD 410	Local business, and residential	Aerial	Side	Metrobus: F4, R12, 84, 85; TheBus: 14
Beacon Heights	Riverdale Road at Veterans Parkway	Local business and residential	At Grade	Side	Metrobus: F4, 84, 85; TheBus: 14
Annapolis Road/Glenridge	Veterans Parkway at Annapolis Road	Local business	At Grade	Side	Metrobus: F13, T18,
New Carrollton	Ellin Road at New Carrollton Metro station	Business, residential, and transfers	At Grade	Center	Metrorail Orange Line; MARC Penn Line; Amtrak; Metrobus: B21, B22, B24, B25, B27, B29, B31, C28, F4, F6, F12, F13, F14, R12, T16, T17, T18, 84,85, 88; TheBus: 15, 16, 21, 21X

Notes: Bus Operators: WMATA Metrobus = WMATA, Ride On = Montgomery County, TheBus = Prince George's County, CAR = Connect a Ride
WMATA J4, Ride On 15, and Shuttle-UM 111 would likely be replaced by the Purple Line

- Green track (Figure 6-10) is trackway where plant material is grown between the rails. Green track is commonly used in Europe and is being evaluated for portions of the Purple Line. Green track can be an aesthetic treatment and under certain conditions may be used to address stormwater management requirements.

Figure 6-10. Green Tracks with Grass

In some locations there is no choice of track type. For example, the tracks must be embedded where other vehicles would operate on or cross the tracks. In other areas the track type is being evaluated based on operations, maintenance, cost, and aesthetics.

Storage and Maintenance Facilities

Two storage and maintenance facilities are proposed: one at Lyttonsville in Montgomery County and the other at Glenridge in Prince George's County. The AA/DEIS envisioned that approximately half the fleet would be stored in each location, and the maintenance and operations activities would be split. However, this resulted in some redundant activities as certain functions would be performed at both sites, and maintenance buildings would be required at each site with associated materials storage, locker rooms, training/break rooms, and other employee services. As discussed below and in the 2012 *Draft Environmental Impact Statement Re-evaluation*, the activities at the sites have been reconsidered as a result of further design work to reduce redundant activities, reduce costs, and minimize impacts.

Lyttonsville Yard

The Lyttonsville yard would be parallel to the transitway and provide tracks to store vehicles not in use or waiting for repair. The yard would include a train wash, a traction power substation, fuel pumps, office facilities, operations center, and an employee parking structure located above the storage tracks. The parking structure would provide 200 spaces for MTA employees and 200 spaces for employees of the county's maintenance facility. The parking for county employees would be provided because the yard would displace their existing parking facility. A stormwater management facility would be constructed underground. Figure 6-11 shows the proposed Lyttonsville Yard site plan.

Glenridge Maintenance Facility

The Glenridge Maintenance Facility would be located at the current site of the M-NCPPC Northern Area Maintenance—Glenridge Service Center. The facility would provide the repair and maintenance needs. To increase the separation from, and reduce impacts to, Glenridge Park and Glenridge Elementary School, a more linear configuration is proposed for the Glenridge site rather than the loop configuration proposed in the AA/DEIS. Most activities would occur in the maintenance building. Approximately 225 parking spaces would be provided for MTA employees. A traction power substation would also be located at this facility. Figure 6-12 shows the proposed Glenridge Maintenance Facility site plan.

Ancillary Facilities

Traction Power Substations

Traction power substations convert electric power to appropriate voltage and type to power the light rail vehicles. The Preferred Alternative would require substations approximately every mile. Twenty substations are proposed, including 18 along the transitway and one each at the Lyttonsville and Glenridge facilities (see FEIS Volume II plans and mapping). The substation structures would range in size from approximately 15 by 52 feet to 22 by 60 feet. The substations would be sited at easily accessible locations with approximately 10 feet of space around the substation building for access and for underground electrical

facilities. Depending on the visual sensitivity of each site, landscaping or other screening could be used.

Signal Bungalows

Signal bungalows contain elements of the signaling control system, circuits and equipment required for train operation. Fourteen signal bungalows would be located along the transitway at track crossover locations and would be approximately 10 feet by 20 feet in size. Depending on the visual sensitivity of each site, landscaping or other screening could be used.

Overhead Contact System

The overhead contact system (OCS) provides a continuous supply of electrical power to the LRT vehicles. This is achieved by the use of overhead wires centered over the tracks, supported by poles. The vehicles have rooftop pantographs which run along the wires supplying the vehicles with power. Depending on the location, the poles supporting the overhead contact system would be positioned in between the tracks, or on either side, outside of the tracks. In some cases, poles also would be used for street lights or signs. MTA will work with the local utility companies and jurisdictions to investigate the opportunities for this shared use during the design phase of the project.

Figure 6-11. Lyttonsville Yard

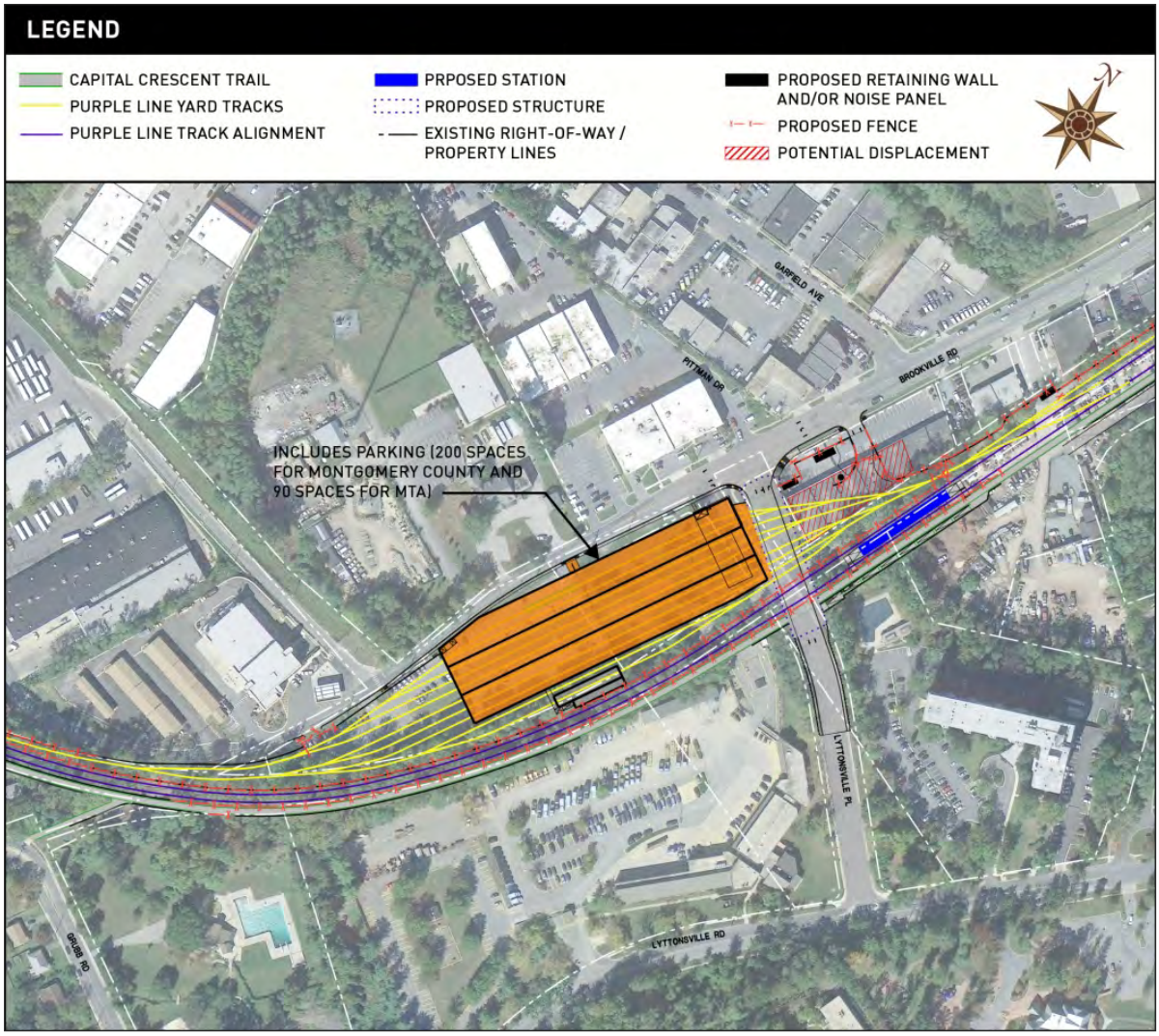
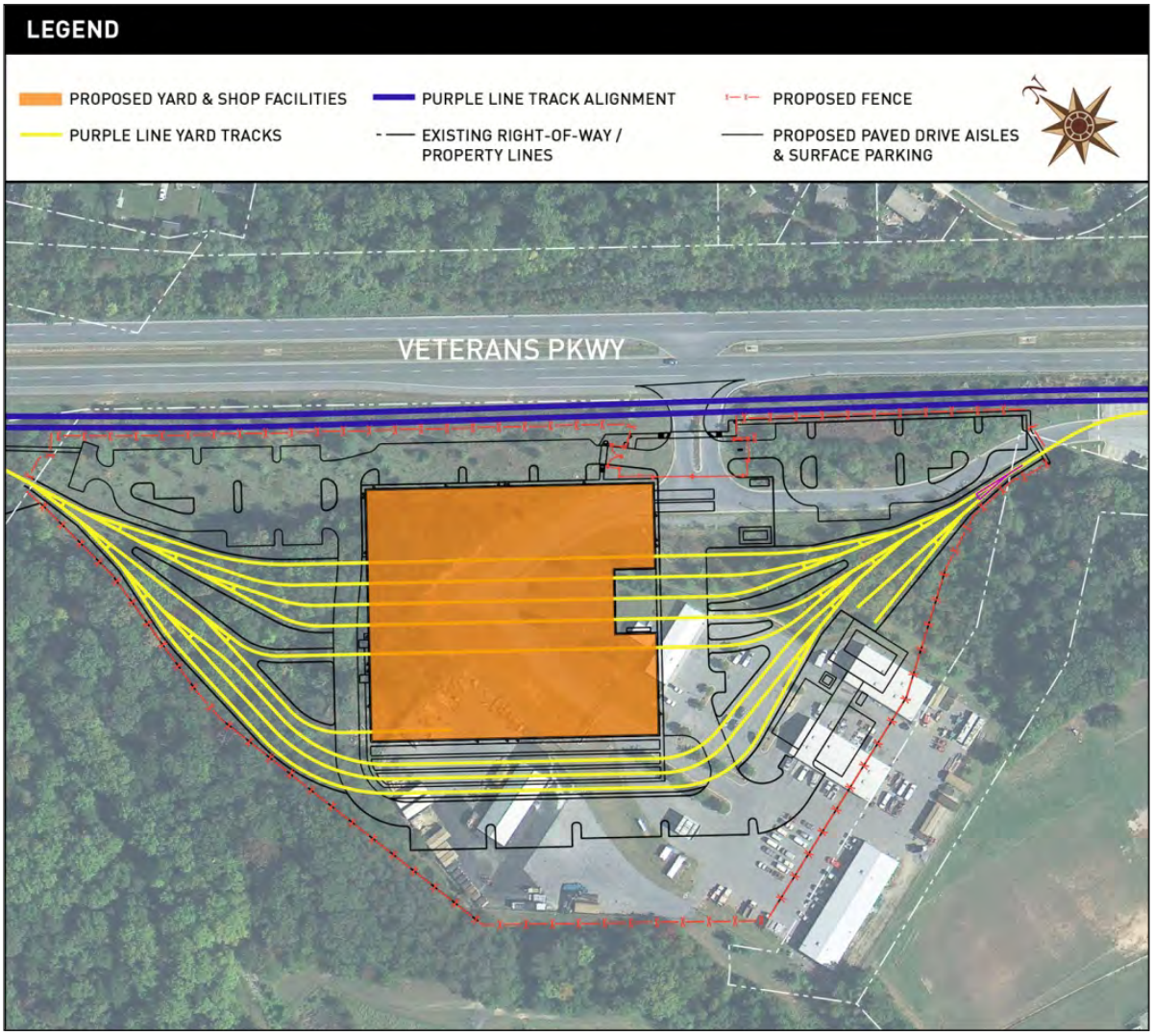


Figure 6-12. Glenridge Maintenance Facility



Two types of wire systems are proposed for the Purple Line: an auto-tensioned simple catenary and a fixed-termination single contact wire.

An auto-tensioned simple catenary system typically consists of a messenger wire supporting a contact wire by means of hangers (Figure 6-13). The distance between the messenger wire and the contact wire is typically four feet. In straight sections of the transitway the support poles can be up to 240 feet apart, but would need to be more closely spaced in curves.

A fixed-termination single contact wire uses a single trolley wire (Figure 6-14); however, because of the electrical load requirements, a parallel supplementary feeder needs to tap into the trolley wire approximately every 200 feet.

The auto-tensioned simple catenary is proposed for the majority of the transitway, while the fixed-termination single contact wire is proposed for the Plymouth Street tunnel and the portion of the transitway from the Adelphi Road/West Campus station to the College Park Metro station. A double feeder system would be installed through the center of the UMD campus to minimize the potential for electromagnetic interference (EMI) impacts to university research activities. (See the memos regarding EMI mitigation and minimization in Summary of Alternatives Analysis, 2008 to the Present (2012)).

Figure 6-13. Auto Tensioned Catenary System

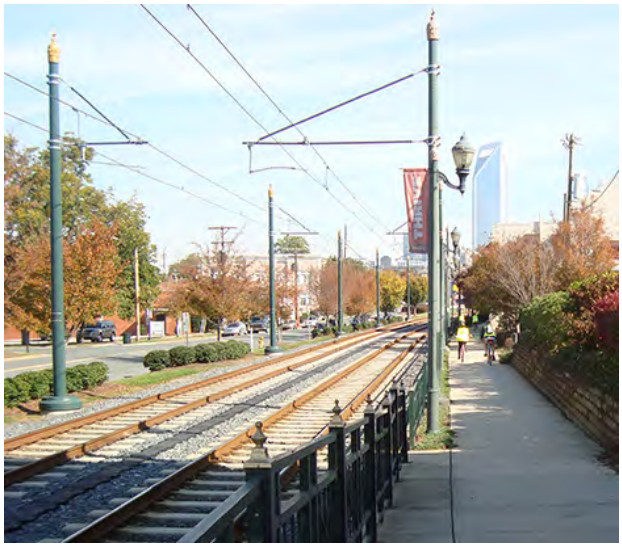


Figure 6-14. Fixed-Termination Single Contact Wire Sharing a Pole with Street Lights

Gates

An automatic gate protects road users and pedestrians, and informs them of the approach or presence of rail traffic at grade crossings. Automatic gates are typically installed in conjunction with flashing light signals, and they are designed to extend across the approaching roadway to block roadway vehicles or pedestrians from crossing the tracks when a train is approaching. On the Purple Line, the decision to install automatic gates at grade crossings will be based on engineering studies of each crossing. In general, automatic gates would be installed at grade crossings of dedicated alignments where LRT speeds would exceed 35 mph.

Crossovers

A crossover is a location where a rail vehicle can move from one set of tracks to another. Twelve crossovers are proposed, one at each of the two terminal stations at Bethesda and New Carrollton, and 10 intermediate crossovers. The crossovers at the terminal stations would be used for normal operations to provide access to both platform tracks. The intermediate crossovers would be used during special operations or during maintenance. These have been located to provide approximately 12-minute headways in both directions when single-track operations are required.

Additionally, two pocket tracks would be located on either side of the UMD campus to facilitate the addition of supplementary trains during special events at the University. Pocket tracks are short sections of track located off the mainline transitway to provide a place to stage supplementary trains. The pocket tracks would be located in the median of University Boulevard near Riggs Road and just east of the College Park Metro station, behind the proposed joint development residential building on River Road.

Preferred Alternative Service Characteristics

The operations plan for the Preferred Alternative is based on a number of assumptions that were developed from the ridership estimates. Headways for the line were planned to provide sufficient capacity for that passenger volume. The Preferred Alternative would take approximately 63 minutes to travel the corridor from Bethesda to New Carrollton during peak hours, and 60 minutes during off peak hours. When operating in or adjacent to roadways, the Preferred Alternative would operate at, or below, the posted speed limit.

Hours of Service and Headways

The Preferred Alternative would operate seven days a week. The hours of operation would be scheduled to meet the first and last Metrorail train at each of

the four stations where the Preferred Alternative connects with Metrorail (Table 6-3). Peak hour headways would be 6 minutes, and off-peak headways would be 10-12 minutes.

Table 6-3. Approximate Span of Service

Day of Week	Hours of Operation
Monday–Thursday	5:00 AM–12:00 AM
Friday	5:00 AM–3:00 AM
Saturday	7:00 AM–3:00 AM
Sunday	7:00 AM–12:00 AM

Fares

Purple Line fares are assumed to be a flat fares following the regular Metrobus fares and policies. Passengers would purchase tickets from ticket vending machines at stations and board the trains through multiple doors to expedite boarding. A proof-of-payment method is assumed, with roving, on-board fare inspectors. SmarTrip cards and other multi-trip passes would be available for purchase at Metro sales offices, retail outlets, or Commuter Stores. Passengers would swipe their cards to record the trip before boarding the Purple Line. Purple Line transfers to Metrobus and Metrorail would be free. Transfers from the Purple Line to Metrorail and from Metrorail to the Purple Line would be reduced. Transfers to other local services are proposed to be equal to existing bus-to-bus transfer policies.

Preferred Alternative Operating Characteristics

The specific vehicles for the Purple Line have not been identified, but a set of general design criteria have been established calling for articulated vehicles approximately 95 feet long operating in two-car trains. Each vehicle would accommodate 140 passengers for a total train capacity of 280. The vehicles would be 70 percent low-floor vehicles for easy boarding.

Preferred Alternative Costs

Capital Cost

The estimated capital cost for the Purple Line is $2.2 billion in Year of Expenditure dollars. This cost includes the transitway construction, vehicles, support facilities, right-of-way, and the engineering and other professional services required to design and implement the project. These costs are presented in detail in the *Purple Line Capital Cost Technical Report* (2013).

Project capital funding is expected to come from federal and State/local sources with up to 50 percent of funding planned to come from the federal FTA New Starts program. FTA's New Starts program is a discretionary federal program that provides capital grants for the construction of fixed-guideway transit projects. The Purple Line would compete for New Starts funding grants with projects from across the country. On October 7, 2011, the Purple Line was approved for FTA New Starts Preliminary Engineering Phase, as it was called at the time of approval, based on the previously submitted Request to Enter Preliminary Engineering. The project was deemed competitive in projected ridership, cost-effectiveness, user benefits, and many other areas, as compared to other projects receiving federal funds, and it is believed the project continues to be competitive for the next phases under the new criteria FTA has established under the recent federal MAP-21 law that enabled the New Starts program. The State of Maryland is identifying funding options from state and local sources for its share of the funding with the primary state source being the Transportation Trust Fund.

As the SSTC and the Takoma/Langley Transit Center are funded separately and scheduled to be constructed independently and in advance of the Purple Line, no costs are assumed here except for possible modifications of the projects to accommodate the Purple Line. The new south entrance to the Bethesda Metro station also is an independent project, but it would be built at the same time as the Purple Line.

The expenditure for the Georgetown Branch right-of-way between Bethesda and the CSXT Metropolitan Branch, purchased previously by Montgomery County for the specific purposes of providing both a transitway and trail, is assumed to be already contributed by the county to the project.

The Capital Crescent Trail between Bethesda and Silver Spring would be constructed by MTA concurrently with the construction of the Purple

Line. Along the Georgetown Branch right-of-way, MTA would include sufficient right-of-way for the trail as part of the design of the project, and would design the transitway to be compatible with the trail. Construction of the trail itself would be funded by Montgomery County. The cost of construction of the trail is not included as part of the $2.2 billion cost estimate of the project. Funding for the trail is in Montgomery County's approved Capital Improvements Program. The Green Trail along Wayne Avenue is not part of the Purple Line and also would be funded separately by Montgomery County, but likely would be built with the Purple Line.

It is assumed that the use of roadway rights-of-way controlled by the state, counties, and local jurisdictions, including those on the UMD campus and at Metrorail stations, would be granted to the project at no cost, except for construction of new facilities and replacement or repair of existing facilities and utilities.

Operations and Maintenance Costs

MTA is assumed to be responsible for operation and maintenance of the Purple Line services and associated costs. This annual cost is estimated to be $38 million (2012 dollars). MTA, WMATA, Montgomery County, Prince George's County, UMD, and other transit operators in the corridor and the region would continue to be responsible for operations and maintenance of their bus and rail transit services and facilities, recognizing that some adjustments to service levels and routing bus services may result from implementation of the project.

The cost of operating and maintaining the Capital Crescent Trail would be the responsibility of Montgomery County.

Preferred Alternative Implementation Schedule

The schedule for the Purple Line anticipates major construction beginning in July 2015 and revenue service beginning in December 2020.

6.3.2 Refinements since the AA/DEIS and Preliminary Section 4(f) Evaluation

The AA/DEIS and Preliminary Section 4(f) Evaluation identified a number of properties that would potentially be affected by one or more of the numerous alternatives considered in the AA/DEIS within a 500-foot-wide study area centered on the alignment for the build alternatives. See AA/DEIS, Section 4.4.2; see also *Preliminary Section 4(f) Evaluation Technical Report* (Sept. 2008), Table 4-1. Between the AA/DEIS and the FEIS, the Preferred Alternative was chosen and has been refined through public involvement and agency outreach resulting in a reduction in the number and extent of potential uses of Section 4(f) properties (see 2012 *Draft Environmental Impact Statement Re-evaluation*). Table 6-4 lists properties that were identified by FTA as potential uses in the Preliminary Section 4(f) Evaluation, but would not be used by the Preferred Alternative. As no Section 4(f) use would occur, these properties are not included in this evaluation.

Table 6-4. Section 4(f) Properties Identified in the AA/DEIS Not Used by the Preferred Alternative

Property Name	Classification	Reason for Exclusion
Georgetown Branch Interim Trail	Shared-use trail	The Georgetown Branch Interim Trail—that is, the temporary recreational trail that currently exists within the Georgetown Branch right-of-way—is not a Section 4(f) property. In a letter dated February 22, 1995, FTA informed the County that Section 4(f) "does not apply to land that has been temporarily used for recreational or park purposes if the State or local government with jurisdiction over the land officially indicated prior to allowing the temporary park or recreational use, that the land was intended for a transportation use." The Montgomery County Council adopted a resolution on August 1, 1995 authorizing the establishment of an interim hiker/biker trail in the Georgetown Branch right-of-way. The resolution stated that "the section between Bethesda and Silver Spring remains designated as a transportation corridor in which an interim trail is permitted until the master planned transit and trail facility is approved and funded consistent with the master plan." After that resolution was adopted, the County removed the then-existing freight rail tracks and established an unpaved recreational trail in the Georgetown Branch right-of-way. That unpaved trail remains in existence today.[1]

[1]Based on these facts, FTA confirms its previous determination that the unpaved hiker/biker trail in the Georgetown Branch right-of-way is not a Section 4(f) property, because it was constructed as a temporary facility with an explicit understanding that the right-of-way was reserved for a transportation purpose. The determination is consistent with 23 CFR 774.11(h), which provides that Section 4(f) does not apply when a property that has been formally reserved for a future transportation facility temporarily functions for park or recreation purposes. This determination also is consistent with 23 CFR 774.11(i), which provides that Section 4(f) does not apply when a park or recreational area and a transportation facility are jointly planned

Table 6-4. Section 4(f) Properties Identified in the AA/DEIS Not Used (continued)

Property Name	Classification	Reason for Exclusion
Taylor Site (18MO243)	Archeological Site	No direct use, properties are outside the project limits of disturbance
Bethesda Elementary School	Public School	No constructive use of properties; project noise, vibration, and visual effects would not impair the activities, features or attributes of these properties
Leland Neighborhood Park	Local Park	
Bethesda-Chevy Chase High School	Public School	
Preston Place	Historic Property	
Woodside Historic District	Historic Property	
Old Silver Spring Post Office	Historic Property	
First Baptist Church of Silver Spring	Historic Property	
Montgomery Blair High School	Historic Property/ Public School	
East-West Highway Neighborhood Conservation Area	Conservation Area	
Lynnbrook Local Park	Local Park	
North Chevy Chase Local Park	Local Park	
North Chevy Chase Elementary School	Public School	
Clean Drinking Water Manor Site (18MO030)	Archeological Site	
Rosemary Hills Elementary School	Public School	Recreational facilities within the boundaries of the school are not open to the public and, therefore, are not protected by Section 4(f); also, they are located outside the proposed limits of disturbance.
Metro Urban Park	Local Park	Property no longer exists; it was removed as part of construction of the Silver Spring Transit Center.
Silver Spring International School	School	Recreational facilities within the boundaries of the school are not open to the public and, therefore, are not protected by Section 4(f).
East Silver Spring Elementary School	Public School	No direct use, properties are outside the project limits of disturbance
Sligo Cabin Site (18MO)	Archeological Site	No constructive use of properties; project noise, vibration, and visual effects would not impair the activities, features or attributes of these properties
Sligo Adventist School	Historic Property/ Religious School	
Nolte Local Park	Local Park	
Dale Drive Neighborhood Park	Local Park	
Flower Avenue Urban Park	Local Park	
Long Branch Arliss Neighborhood Park	Local Park	
New Hampshire Estates Elementary School	Public School	
Carole Highlands Elementary School	Public School	
Paint Branch Stream Valley Park	Park	
Paint Branch Trail	Recreational Trail	
Rossborough Inn	Historic Property	
Old Town College Park	Historic Property	
College Lawn Station	Historic Property	
Indian Creek Park	Park	
Calvert Hills Historic District	Historic Property	
M-NCPPC Department of Parks and Recreation Regional Headquarters	Historic Property	
Calvert Neighborhood Park	Local Park	
Riverdale Community Recreation Center (part of Anacostia River Stream Valley Park)	Recreation Center	
Riverside Drive Park (part of Anacostia River Stream Valley Park)	Local Park	
College Park Airport	Historic Property	No direct use; the Preferred Alternative would be aligned in existing travel lanes on Paint Branch Parkway. The parkway occupies a corner of the historic property, having been built in 1977 subsequent to the National Register listing and historic boundary definition. Paint Branch Parkway is not a contributing element to the historic property. MTA would not acquire the property the Preferred Alternative would occupy. No constructive use of the property; project noise, vibration, and visual effects would not impair the activities, features or attributes of this property (see Section 106 Assessment of Effects for Historic Properties, 2013).
College Park Airport Site (18PR200)	Archeological Site	No direct use, properties are outside the project limits of disturbance
Fire Site (18PR263)	Archeological Site	Eligible portion of site is outside of proposed limits of disturbance.
Area K Domestic Site	Archeological Site	Site is outside of proposed limits of disturbance.
Martins Woods	Historic Property	No direct or constructive use of property
East Pines Neighborhood Recreation Center	Recreation Center	No direct or constructive use of property
Prince George's County's M-NCPPC Park Police Headquarters	Park Police Headquarters	This facility has no recreational facilities. It is not considered a public park or recreational property, is not open to the public, and therefore is not protected by Section 4(f).
M-NCPPC's Northern Area Maintenance Office	Maintenance Facility	This facility has no recreational facilities. It is not considered a public park or recreational property, is not open to the public, and therefore is not protected by Section 4(f).
Glenridge Elementary School	Public School	Recreational facilities within the boundaries of the school are not open to the public and, therefore, are not protected by Section 4(f); also, they are located outside the proposed limits of disturbance.

6.4 Section 4(f) Properties

Fourteen properties protected by Section 4(f) would be used by the Preferred Alternative. Each property was determined to be of national, state, or local significance and is classified as one or both of the following:

- Publicly owned park, recreation area, or refuge
- Publicly or privately owned historic site

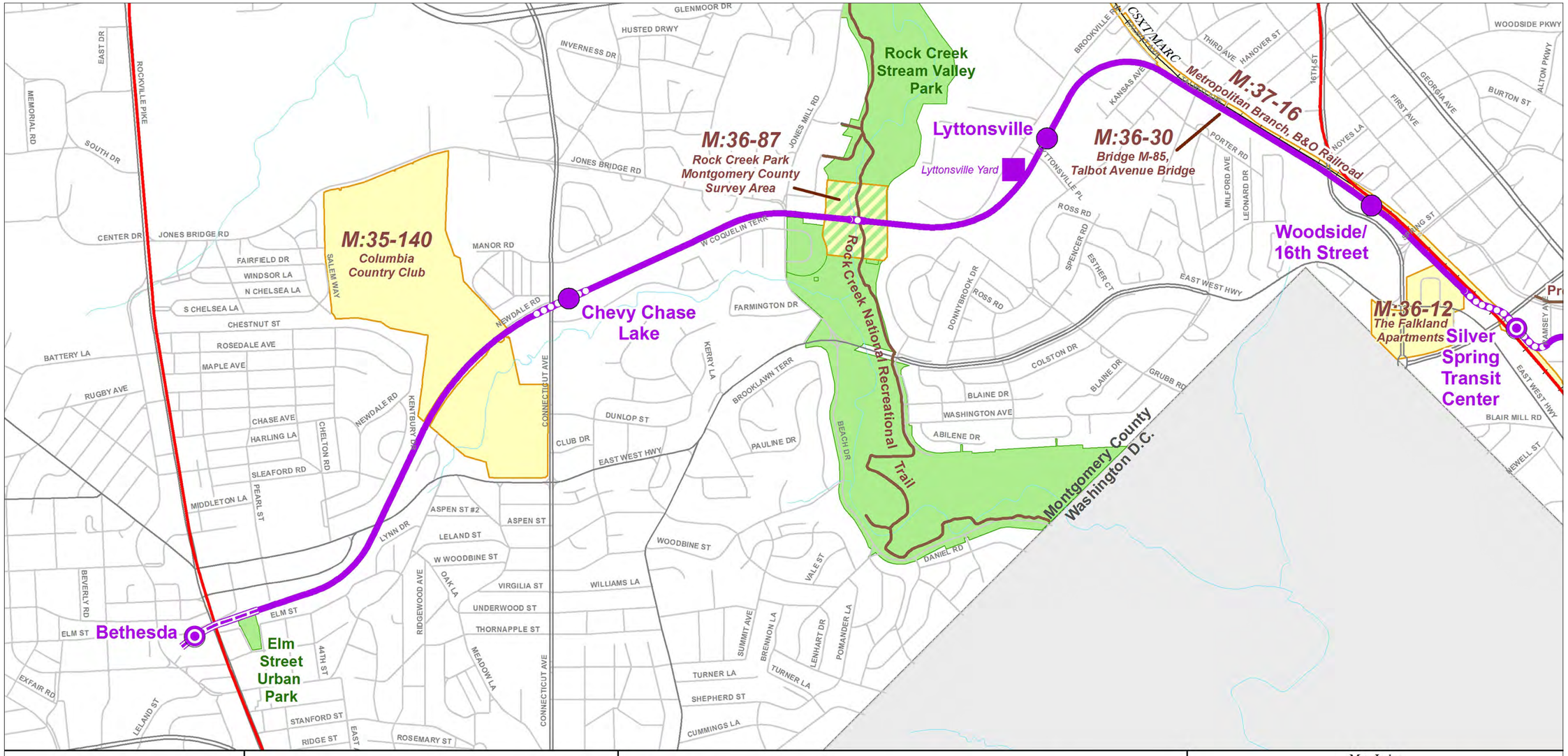
Table 6-5 is a comprehensive list of Section 4(f) properties from west to east in the study area that are evaluated in this chapter. Figure 6-15 shows the location of each identified property in relation to the Preferred Alternative. The subsections that follow describe each property and the determinations of the Section 4(f) evaluation.

Table 6-5. Section 4(f) Properties Evaluated in this Chapter

Prop #	Property Name	Classification	Address/Location	Official(s) with Jurisdiction	Features/Attributes
1	Elm Street Urban Park	Park	4600 Elm Street, Bethesda	M-NCPPC-Montgomery County Department of Parks	Playgrounds, a gazebo, picnic tables, benches, trails, and public art
2	Columbia Country Club (M: 35-140)	Historic Property	7900 Connecticut Avenue, Chevy Chase	MHT	Golf Course
3	Rock Creek Stream Valley Park *including:*		Olney-Laytonsville Road to Washington DC line	M-NCPPC-Montgomery County Department of Parks; NCPC	Trails, lakes, historic plantation, athletic fields, playgrounds, and picnic areas
	a) Rock Creek National Recreational Trail	Recreational Trail	Rockville south to Washington DC line		
	b) Rock Creek Park Montgomery County Survey Area (M:36-87)	Historic Property	Montgomery County portion of larger park at Georgetown Branch Interim Trail Crossing	M-NCPPC-Montgomery County Department of Parks; NCPC	Creek, trail, athletic field
4	Bridge M-85, Talbot Avenue Bridge (M: 36-30)	Historic Property	Talbot Avenue, Silver Spring	MHT	Historic Bridge
5	Metropolitan Branch, B&O Railroad (M: 37-16)	Historic Property	Union Station, Washington DC to Point of Rocks, Frederick County, MD	MHT	Historic Rail Corridor
6	Falkland Apartments (M: 36-12)	Historic Property	8305 16th Street, Silver Spring	MHT	Historic Apartment Complex; known in the FEIS as the Falkland Chase Apartments
7	Sligo Creek Stream Valley Park *including.*			M-NCPPC-Montgomery County Department of Parks; MHT; NCPC	Trail networks, playgrounds, softball fields, tennis courts, natural areas, and picnic amenities
	a) Sligo Creek National Recreational Trail	Recreational Trail	Hermitage Avenue to Montgomery County line		
8	b) Sligo Creek Parkway (M: 32-15; PG: 65-25)	Historic Property	University Boulevard south to New Hampshire Avenue in Takoma Park		Historic parkway
9	Long Branch Local Park	Park	8700 Piney Branch Road, Silver Spring	M-NCPPC-Montgomery County Department of Parks	Playground, community center, softball field, multi-use field, tennis courts, and picnic area.
10	Long Branch Stream Valley Park *including.*	Park	9500 Brunett Avenue, Silver Spring	M-NCPPC-Montgomery County Department of Parks	Playgrounds, athletic facilities, picnic areas, natural areas, and trails
	a) Long Branch Trail	Recreational Trail	Long Branch Local Park to south of Carroll Avenue		
11	New Hampshire Estates Neighborhood Park	Park	8825 Piney Branch Road, Takoma Park	M-NCPPC-Montgomery County Department of Parks	Playgrounds, athletic field, picnic area, and aesthetic features
12	Northwest Branch Stream Valley Park *including:*			M-NCPPC-Prince George's County Department of Parks and Recreation; NCPC	Trails, playgrounds, aquatic center, athletic fields and courts, picnic areas, recreational centers, and a duck pond
	a) Northwest Branch Trail	Recreational Trail	Armentrout Drive to south of Capital Beltway along Northwest Branch of the Anacostia River		
13	University of Maryland Historic District (PG: 66-35)	Historic Property	7965 Baltimore Avenue, College Park	MHT	Educational Facility/Campus
14	Anacostia River Stream Valley Park *including:*	Park	Prince George's County to Washington DC	M-NCPPC-Prince George's County Department of Parks and Recreation; NCPC	Playgrounds, athletic fields and courts, community centers, and trails
	a) Northeast Branch Trail	Recreational Trail	Lake Artemesia to Anacostia River		Trails—includes American Discovery Trail and East Coast Greenway
15	Baltimore-Washington Parkway	National Park/ Historic Property	Washington DC line at Tuxedo north to MD 175	NPS; MHT	Historic parkway
16	Glenridge Community Park	Local Park	5070 Flintridge Drive, Hyattsville	M-NCPPC-Prince George's County Department of Parks and Recreation	Playground, athletic fields and courts, trails, shelters, and picnic areas
17	West Lanham Hills Neighborhood Recreation Center	Recreation Area	7700 Decatur Road, Landover Hills	M-NCPPC-Prince George's County Department of Parks and Recreation	Playground, recreation center, athletic courts, trail, and picnic areas

M-NCPPC: Maryland-National Capital Park and Planning Commission; NCPC: National Capital Planning Commission; NPS: National Park Service; MHT: Maryland Historical Trust

Figure 6-15. Section 4(f) Properties within the Study Area



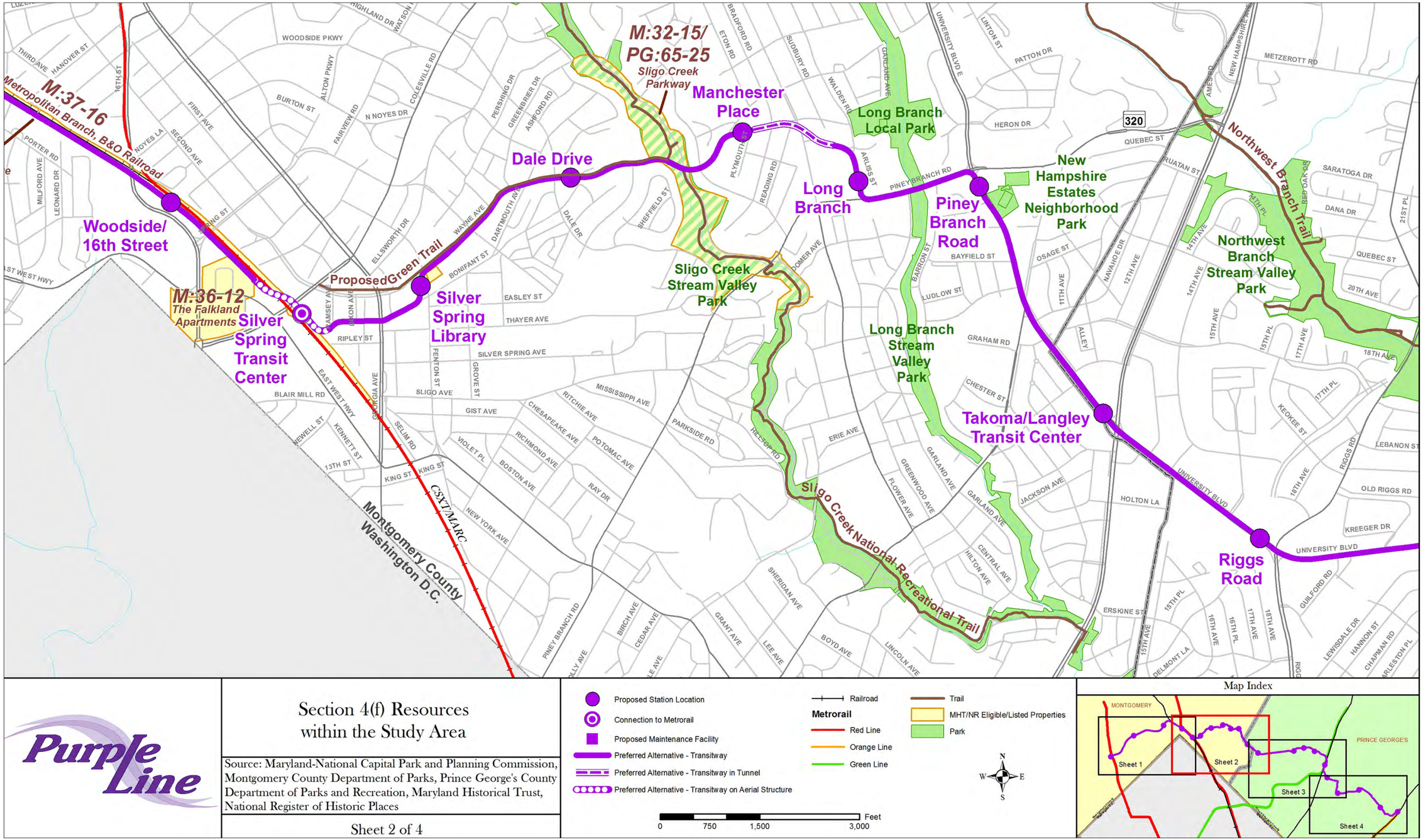
Purple Line

Section 4(f) Resources within the Study Area

Source: Maryland-National Capital Park and Planning Commission, Montgomery County Department of Parks, Prince George's County Department of Parks and Recreation, Maryland Historical Trust, National Register of Historic Places

Sheet 1 of 4

Figure 6-15. Section 4(f) Properties within the Study Area (continued)



Purple Line

Section 4(f) Resources within the Study Area

Source: Maryland-National Capital Park and Planning Commission, Montgomery County Department of Parks, Prince George's County Department of Parks and Recreation, Maryland Historical Trust, National Register of Historic Places

Sheet 2 of 4

- Proposed Station Location
- Connection to Metrorail
- Proposed Maintenance Facility
- Preferred Alternative - Transitway
- Preferred Alternative - Transitway in Tunnel
- Preferred Alternative - Transitway on Aerial Structure
- Railroad
- Metrorail
  - Red Line
  - Orange Line
  - Green Line
- Trail
- MHT/NR Eligible/Listed Properties
- Park

0 750 1,500 3,000 Feet

Map Index

Figure 6-15. Section 4(f) Properties within the Study Area (continued)

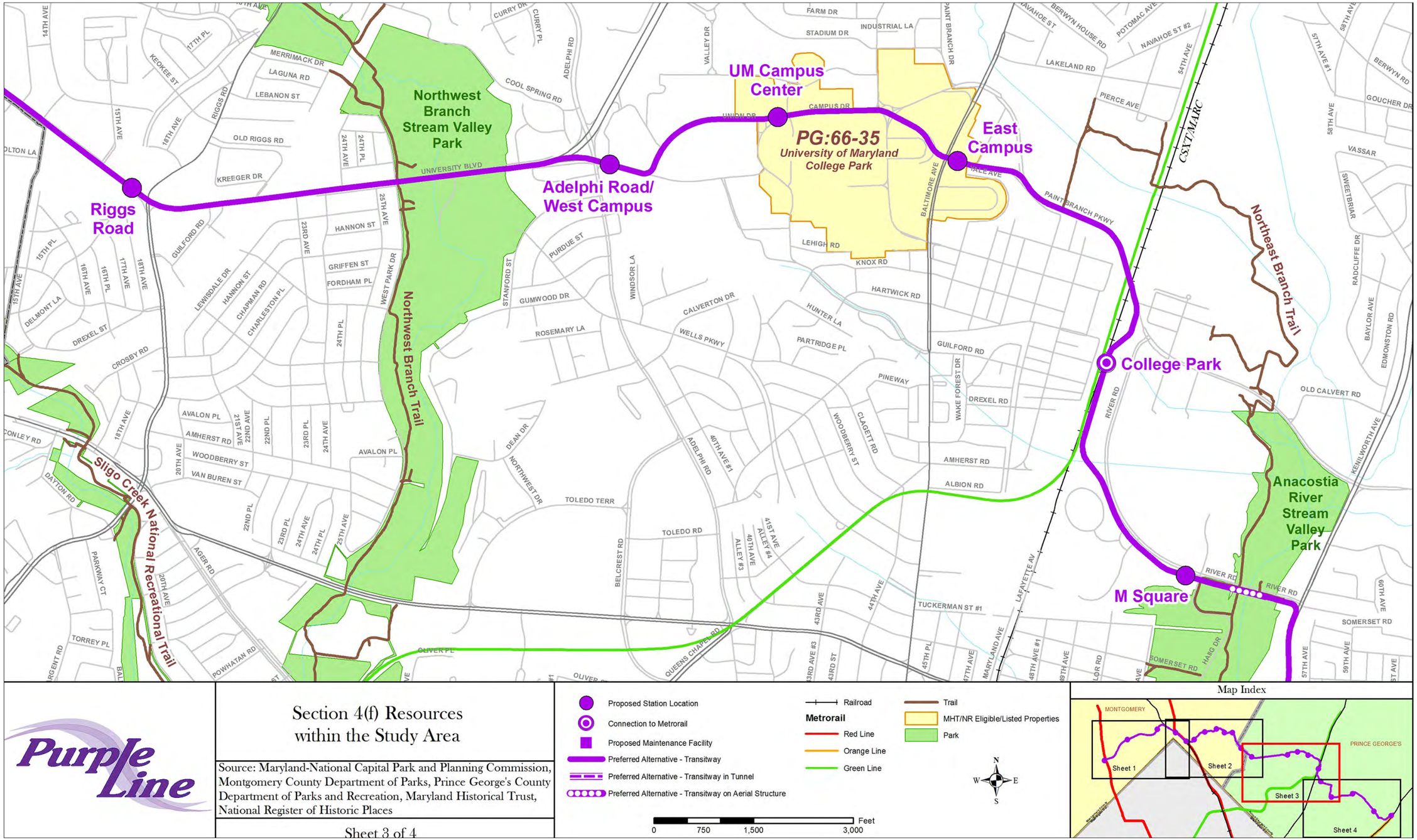
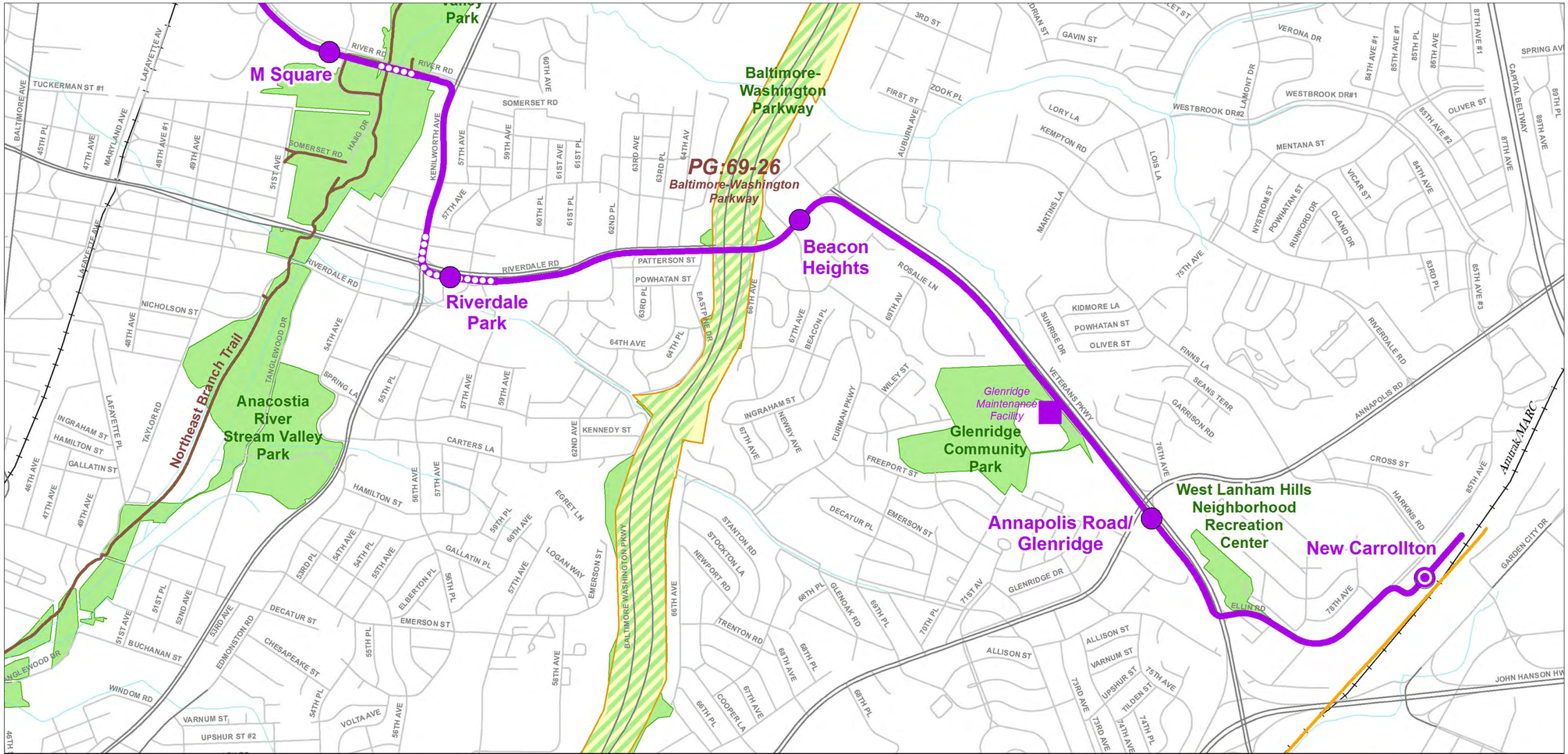


Figure 6-15. Section 4(f) Properties within the Study Area (continued)



Purple Line

Section 4(f) Resources within the Study Area

Source: Maryland-National Capital Park and Planning Commission, Montgomery County Department of Parks, Prince George's County Department of Parks and Recreation, Maryland Historical Trust, National Register of Historic Places

Sheet 4 of 4

- Proposed Station Location
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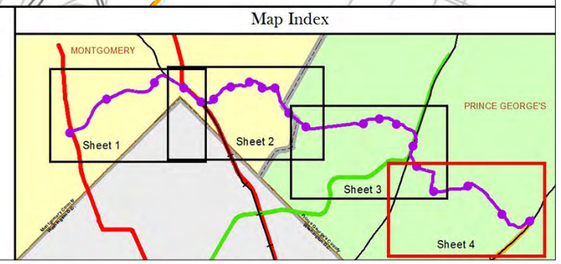
N W E S

0 750 1,500 3,000 Feet

Map Index



6.4.1 Publicly Owned Parks and Recreational Areas

The Preferred Alternative would use portions of eight parks and recreational areas. Of these eight properties, a permanent use would occur at two properties and FTA is proposing *de minimis* use determinations for six properties. The Preferred Alternative would occupy portions of three parks and recreation areas during construction in a manner that meets the Section 4(f) exception criteria for temporary occupancy.

The results of the FEIS assessment (Chapter 4.0) conclude that the Preferred Alternative would not cause noise, vibration, or visual effects on parks protected by Section 4(f) that would constitute a constructive use; the Preferred Alternative would not substantially impair the activities, features or attributes that qualify each park for protection under Section 4(f).

Table 6-6 summarizes the proposed uses. Supporting discussions of each park and recreational area are provided below.

Elm Street Urban Park

Section 4(f) Property Description

Elm Street Urban Park is 2.1 acres in size and is located in the Town of Chevy Chase. This park is bounded by the Georgetown Branch Interim Trail to the north, 47th Street to the west, Willow Lane to the south, and 46th Street to the east. The park includes playgrounds, a gazebo, several picnic tables, benches, trails, and public art (Figure 6-16). The park is owned and maintained by the Maryland-National Capital Park and Planning Commission (M-NCPPC)-Montgomery County Department of Parks, which plans to reconstruct the entire park within the next few years as a requirement of a nearby development. Although the schedule is currently uncertain, these improvements are being designed in coordination with Bethesda, M-NCPPC's Montgomery County Department of Parks, and the National Capital Planning Commission (NCPC). The park is accessible by the roadways previously mentioned, as well as from the Georgetown Branch Interim Trail.

Table 6-6. Summary of Preferred Alternative Park Uses/Impacts

Section 4(f) Property	Permanent Use, Not *De minimis*	Permanent Use, *De minimis*	No Use	Existing Property Acreage	Permanent Use Acreage	Percent of Property Permanently Used
Elm Street Urban Park			•	2.1	0.00	0.00
Rock Creek Stream Valley Park and Rock Creek National Recreational Trail			•	3,960.0	0.00	0.00
Sligo Creek Stream Valley Park and Sligo Creek National Recreational Trail		•		543.0	0.25 (0.03*)	0.05
Long Branch Local Park	•			14.0	0.02	0.14
Long Branch Stream Valley Park and Long Branch Trail		•		41.0	0.11	0.27
New Hampshire Estates Neighborhood Park		•		4.7	0.20	6.81
Northwest Branch Stream Valley Park and Northwest Branch Trail		•		510.0	0.80	0.11
Anacostia River Stream Valley Park and Northeast Branch Trail		•		794.0	1.36	0.15
Baltimore-Washington Parkway		•		1,353.0	0.61	0.04
Glenridge Community Park	•			53.5	5.32 (2.04*)	6.13
West Lanham Hills Neighborhood Recreation Center			•	9.0	0.00	0.00

Figure 6-16. Elm Street Urban Park Playground

Temporary Occupancy Exception

The Preferred Alternative transitway would be aligned under the Air Rights Building, located directly to the north of Elm Street Urban Park (Figure 6-17). The existing connection between Elm Street Urban Park and Georgetown Branch Interim Trail would be reconstructed to provide access to the proposed Capital Crescent Trail. The trail connection would include a bridge over the transitway. As designed in coordination with the M-NCPPC-Montgomery County Department of Parks, MTA would construct the Capital Crescent Trail connection with Elm Street Urban Park, using approximately 0.02 acres of temporary construction easements on a pathway within the park. The construction of the access connection as part of Preferred Alternative would not adversely affect the activities, features or attributes—playgrounds, gazebo, picnic tables, benches, trails and public art—of the park in its existing or proposed future configuration. Memoranda of MTA meetings with M-NCPPC-Montgomery County Department of Parks and NCPC are provided in Appendix I.

FTA proposes a temporary occupancy exception determination for the construction easements, as they satisfy the five criteria for temporary occupancy set forth in 23 CFR 774.13(d), as discussed in Section 6.1.1. Specifically, (1) the duration of the proposed work is temporary, less than the overall project construction period and no change in property ownership would occur; (2) the work is confined to a small area of the park and would result in minimal changes to the park; (3) no permanent adverse impacts to the park and no interference with the protected activities, features, or attributes of the park would occur; (4) the disturbed land would be fully restored to at least as good condition; and (5) the officials with jurisdiction are providing documented agreement to these findings. As such, the temporary construction easements do not constitute a use of Elm Street Urban Park.

The Preferred Alternative would not permanently use any part of Elm Street Urban Park. The FEIS Chapter 4.0 assessment of effects indicates that the Preferred Alternative would not cause noise, vibration, or visual effects on Elm Street Urban Park that would constitute a constructive use; no substantial impairment of the activities, features or attributes—playgrounds, gazebo, picnic tables, benches, trails and public art—that qualify the park for protection under Section 4(f) would occur.

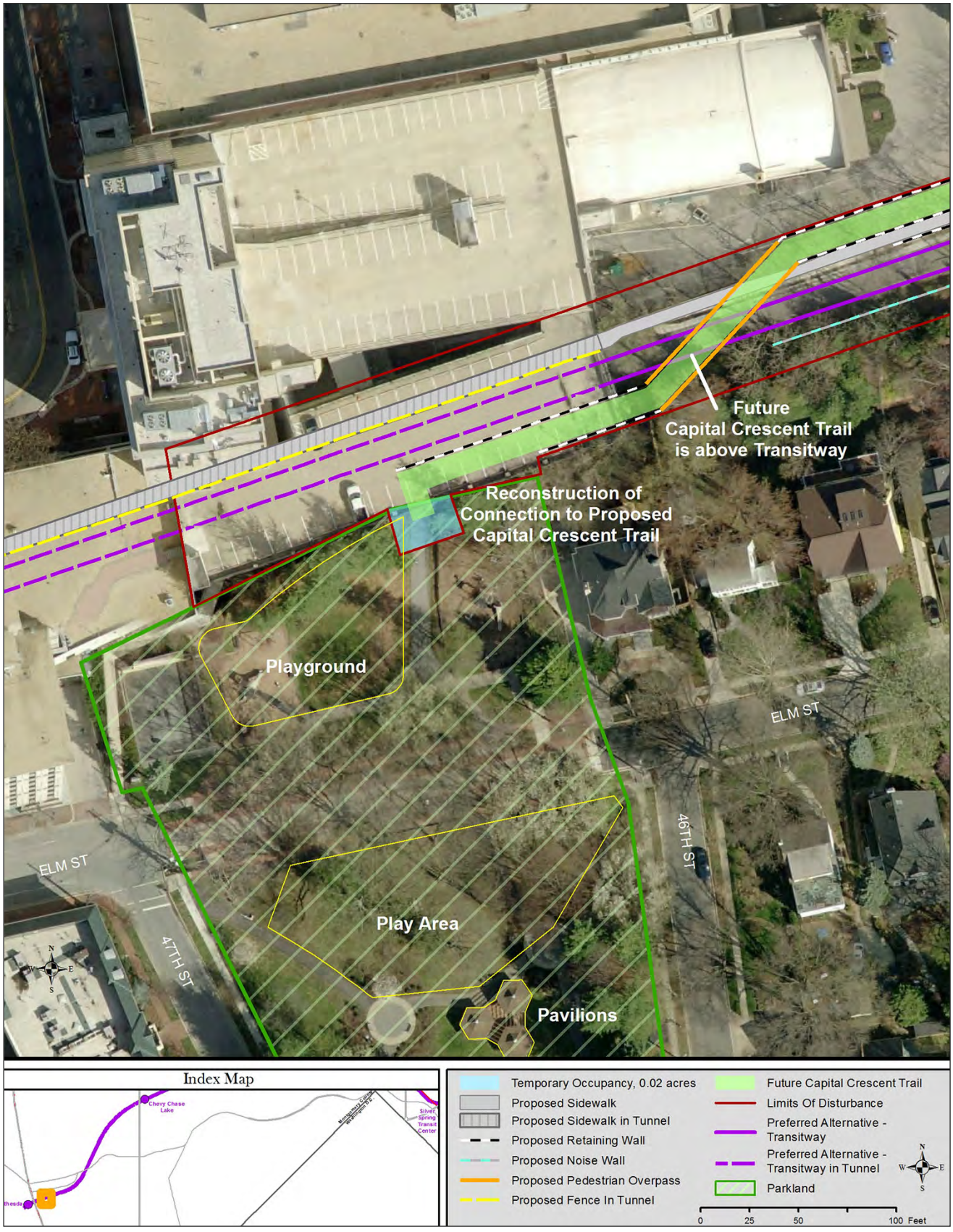
Rock Creek Stream Valley Park and Rock Creek National Recreational Trail

Section 4(f) Property Description

Rock Creek Stream Valley Park is a natural stream valley park along Rock Creek. The park is approximately 3,960 acres in size, extending from Olney-Laytonsville Road (MD 108) in Montgomery County to the Washington DC boundary. The park follows the length of Rock Creek. Rock Creek Stream Valley Park amenities include trails, lakes, a historic plantation, boating and a ropes course, an interpretive area in the farm park, numerous athletic fields, a scenic parkway road, playgrounds, and picnic areas. This park is owned and maintained by M-NCPPC-Montgomery County Department of Parks, funded in part by Maryland Program Open Space funds.

Rock Creek Stream Valley Park includes an extensive trail system. Rock Creek National Recreational Trail is a 19-mile, paved surface, shared use trail. The trail includes numerous natural-surface spur trails and paved connector trails and numerous natural areas.

Figure 6-17. Elm Street Urban Park



Use of Section 4(f) Property

The Preferred Alternative would be aligned completely within the Georgetown Branch right-of-way through Rock Creek Stream Valley Park (Figure 6-18). As currently designed, the project would remove the existing bridge that currently carries the Georgetown Branch Interim Trail over Rock Creek and the Rock Creek National Recreational Trail. MTA, working in consultation with M-NCPPC-Montgomery County Department of Parks and the NCPC, proposes to build two new bridges in the same area for the Purple Line project, one for the transitway and one for the Capital Crescent Trail. Memoranda of MTA meetings with M-NCPPC-Montgomery County Department of Parks and NCPC are provided in Appendix I.

Temporary Occupancy Exception

During construction of the bridges, the portion of Rock Creek National Recreational Trail in the immediate vicinity of the bridges would be temporarily detoured for short periods of time. When trail detours occur, the detour route would begin to the north of the proposed project area and use Susanna Lane to Jones Mill Road, south to East-West Highway, then east to Meadowbrook Lane, where the Rock Creek National Recreational Trail would be accessed to the south of the proposed project area.

The Preferred Alternative would improve connections to the Rock Creek National Recreational Trail as the Capital Crescent Trail bridge would lead to a ramp to the existing trail. Memoranda of MTA meetings with M-NCPPC-Montgomery County Department of Parks and NCPC are provided in Appendix I. The Preferred Alternative would not adversely affect activities, features or attributes—trails, lakes, historic plantation, athletic fields, playgrounds and picnic areas—of the park.

Tree removal would be required within the Montgomery County right-of-way for the construction of the proposed transitway and trail structures. Since all tree removal would be completely within Montgomery County right-of-way and would not encroach onto park property, these activities would not be a use of a Section 4(f) property.

FTA proposes a temporary occupancy exception determination for the trail detour, as it satisfies the five criteria for temporary occupancy exception set forth in 23 CFR 774.13(d), as discussed in Section 6.1.1 above. Specifically, (1) the duration of the proposed work is temporary, less than the overall project construction period and no change in property ownership would occur; (2) the work is confined to a small area of the park and would result in minimal changes to the park; (3) no permanent adverse impacts to the park and no interference with the protected activities, features or attributes of the park would occur; (4) the disturbed land would be fully restored to at least as good condition; and (5) the officials with jurisdiction are providing documented agreement to these findings. As such, the temporary construction easements do not constitute a use of Rock Creek Stream Valley Park and Rock Creek National Recreational Trail.

Constructive Use

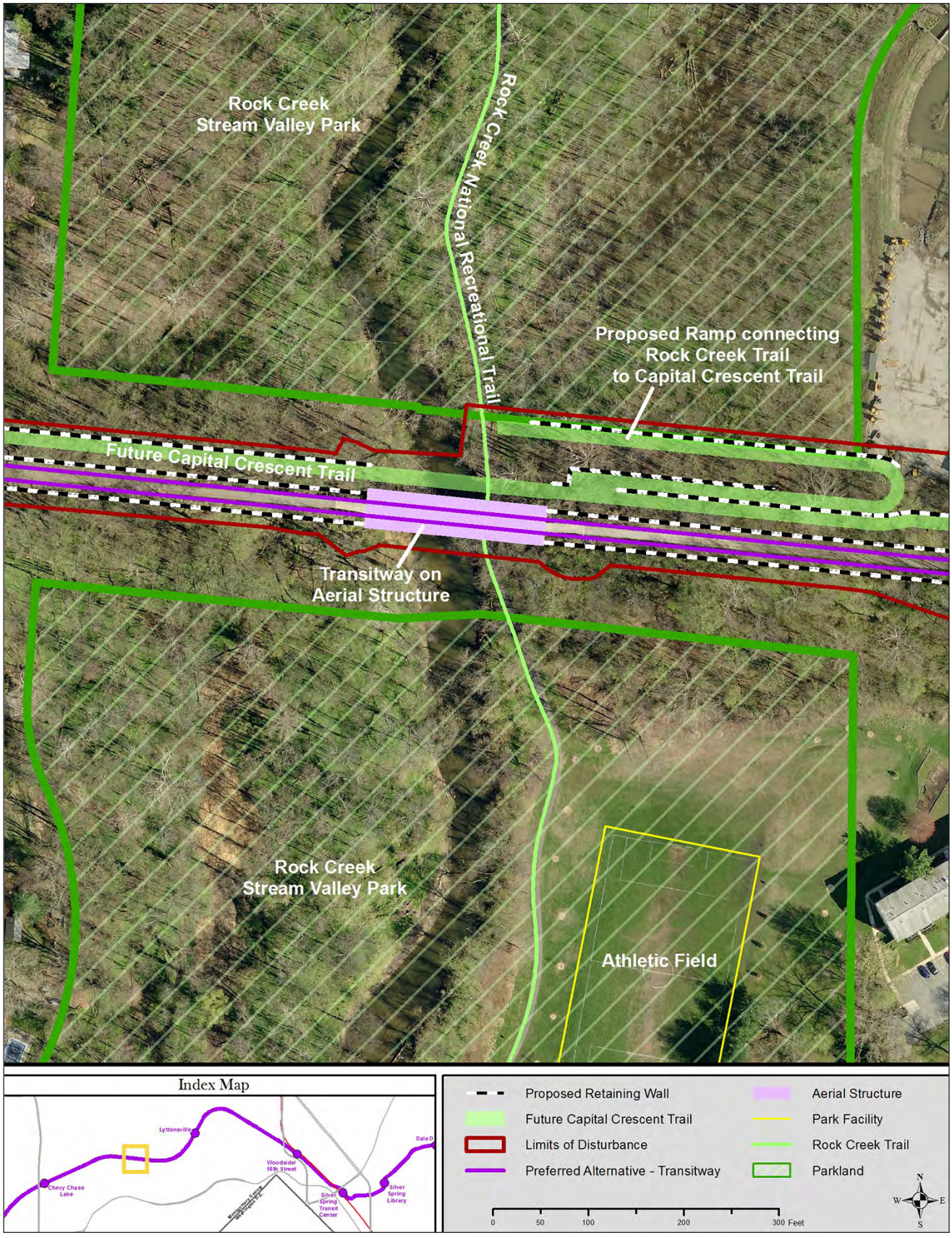
The Preferred Alternative would not permanently use any part of Rock Creek Stream Valley Park and Rock Creek National Recreational Trail. The FEIS Chapter 4.0 assessment of effects indicates that the Preferred Alternative would not cause noise, vibration, or visual effects on Rock Creek Stream Valley Park and Rock Creek National Recreational Trail. Therefore, the Preferred Alternative would not substantially impair the activities, features, or attributes—trails, lake, interpretive area, athletic fields, playgrounds and picnic areas—that qualify the park for protection under Section 4(f); no constructive use would occur.

Sligo Creek Stream Valley Park and Sligo Creek National Recreation Trail

Section 4(f) Property Description

Sligo Creek Stream Valley Park is 543 acres in size, consists of seven different units, and encompasses the Sligo Creek floodplain. Units 1 and 2 of the park are within the project study area. Unit 1 is 36.7 acres in size and extends from Chaney Drive northwest to Piney Branch Road in Takoma Park. Unit 2 is 39.4 acres in size and extends from Piney Branch

Figure 6-18. Rock Creek Stream Valley Park and Rock Creek National Recreational Trail



Road northwest to MD 29 in Four Corners. It includes Sligo Cabin Neighborhood Park, which is located directly north of Dale Drive. Sligo Creek Stream Valley Park was acquired in 1932 and is one of the oldest parks owned and maintained by M-NCPPC-Montgomery County Department of Parks. This park includes playgrounds, softball fields, tennis courts, a picnic area, natural areas, and the Sligo Creek National Recreational Trail (Figure 6-19).

Figure 6-19. Sligo Creek Stream Valley Park Playground

Sligo Creek National Recreational Trail is a paved shared use trail that follows the Sligo Creek floodplain through Prince George's and Montgomery Counties. The trail is approximately 10 miles long and is one of the oldest in Montgomery County. The trail is connected to a countywide trail system. The trail is the most heavily used facility within Sligo Creek Stream Valley Park system. To the south the trail terminates at the Northwest Branch Trail.

The Sligo Creek National Recreational Trail is part of Sligo Creek Stream Valley Park and was purchased using Capper-Cramton Act funding. Within the project area, the trail parallels the north side of Wayne Avenue for approximately 200 feet before crossing over Wayne to continue south-bound between Sligo Creek and the Parkway.

Use of Section 4(f) Property — *De minimis* Use

The Preferred Alternative would share the two center lanes of Wayne Avenue where the roadway crosses Sligo Creek Stream Valley Park (Figure 6-20).

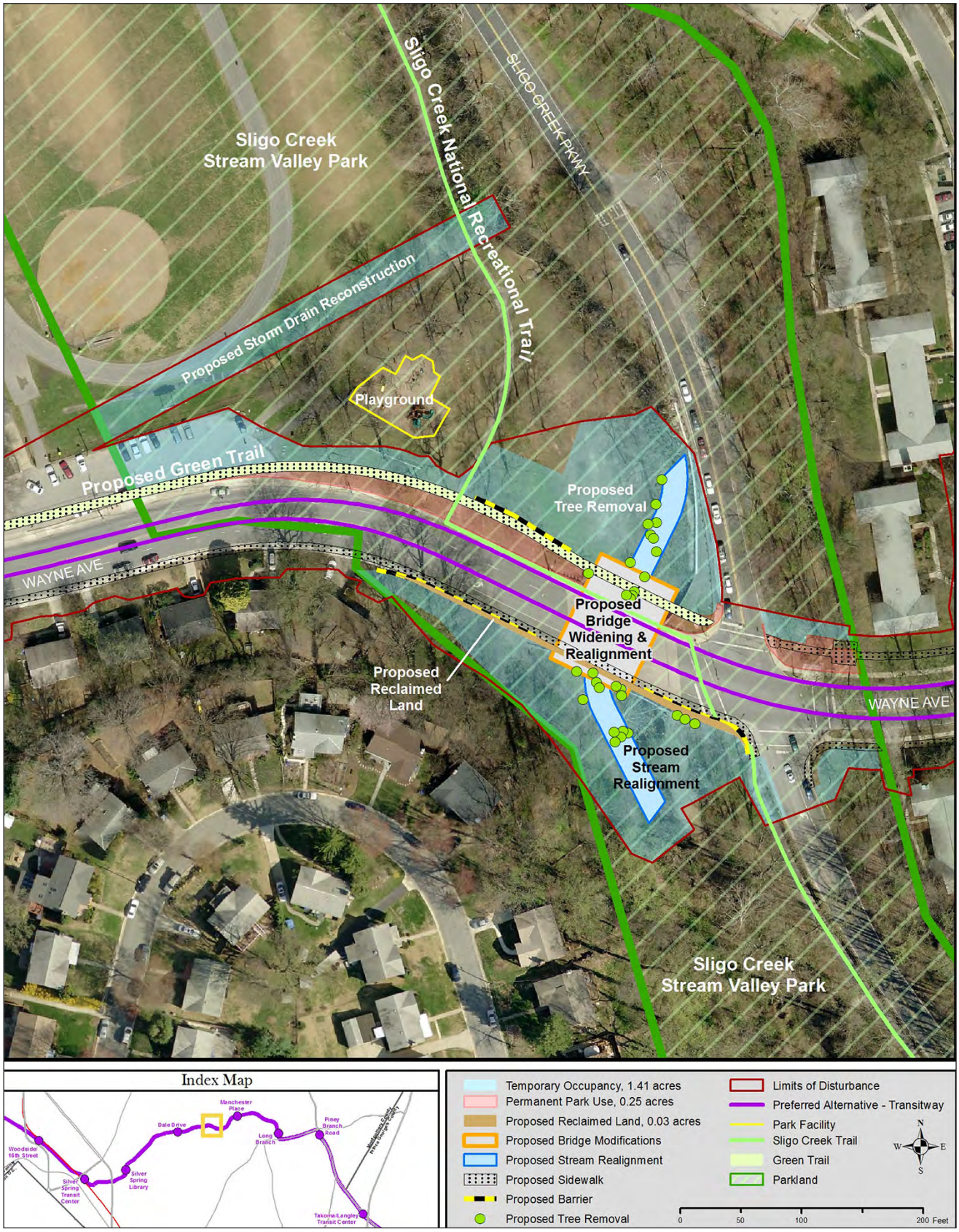
MTA would replace the existing Wayne Avenue bridge with a wider, single span structure to accommodate the transitway. As part of the Purple Line project and in coordination with the M-NCPPC-Montgomery County Department of Parks and NCPC, MTA would make stream channel and floodplain improvements in the immediate vicinity of the bridge to alleviate the existing tendency for flooding and overtopping the roadway at the crossing.

Specifically, the Sligo Creek stream channel would be realigned to provide a more perpendicular crossing at the roadway. This change, in conjunction with removing the existing, skewed bridge pier, would eliminate existing constrictions to creek water flow. As part of this work, a portion of an existing drainage pipe currently conveying stormwater from Wayne Avenue in the vicinity of Silver Spring International Middle School to Sligo Creek would be replaced with a new, larger pipe to increase drainage capacity in the immediate area. The floodplain in the bridge area would be re-graded to improve its ability to manage flood water volume, stabilize slopes, and install permanent vegetation.

MTA would permanently use 0.25 acre of park property to implement these project-related elements. The Preferred Alternative would not use or affect other developed recreational facilities associated with the park or affect the retaining walls along Sligo Creek Parkway. No use of the Sligo Creek National Recreational Trail would occur.

MTA is coordinating with the M-NCPPC-Montgomery County Department of Parks to develop plans that minimize harm to the park and trail. The decision to operate the transitway in mixed-traffic lanes on Wayne Avenue was done to minimize impacts to the community, including the use of park property. Further, as part of the project, MTA will address pre-existing drainage issues associated with Sligo Creek. MTA has also committed a number of other strategies to minimize park impacts. These include constructing retaining walls to limit the land area required for grading and vegetation removal, selective tree clearing to minimize tree loss, and stream bank stabilization. Memoranda of MTA meetings with

Figure 6-20. Sligo Creek Stream Valley Park and Sligo Creek National Recreational Trail



M-NCPPC-Montgomery County Department of Parks are provided in Appendix I. MTA will work with M-NCPPC-Montgomery County Department of Parks as the project moves forward to identify significant or champion trees in the construction area. Trees to be preserved will be marked with protective fencing to avoid impacts or removal during construction.

While MTA intends to minimize tree removal during construction and implement selective clearing techniques, trees within the proposed work area would be impacted. Trees will be planted within Sligo Creek Stream Valley Park, where practical, to mitigate tree loss that occurs as a result of the proposed project. Upon completion of the Purple Line, approximately 0.03 acre of property currently owned by Montgomery County Department of Public Works will be conveyed to M-NCPPC-Montgomery County Department of Parks for inclusion in the park. The property to be conveyed to M-NCPPC-Montgomery County Department of Parks (shown on Figure 6-20 as "reclaimed land") is located directly south of Wayne Avenue within the existing roadway right-of-way and is currently used for transportation purposes; it is not Section 4(f)-protected property. Memoranda of MTA meetings with M-NCPPC-Montgomery County Department of Parks are provided in Appendix I.

MTA will also replace guardrail, signs, and any other existing structures in areas it disturbs with new structures designed to match the existing elements throughout the park. Likewise, MTA will restore plantings in cleared areas.

During construction, MTA would temporarily use 1.41 acres of Sligo Creek Stream Valley Park for equipment access, drainage upgrades, and work area. The temporarily used park land is primarily grassy or wooded and undeveloped. Approximately three of 25 parking spaces in the park parking lot west of the stream would be temporarily used by MTA for access and staging. Wayne Avenue would remain open to traffic during construction; no change in park access would occur.

FTA is proposing a *de minimis* use determination for the Preferred Alternative at the Sligo Creek Stream Valley Park and Sligo Creek National Recreational Trail. The proposed permanent and temporary uses by the proposed project would not adversely affect the features, attributes or activities—trails, playgrounds, ball fields, tennis courts, natural areas and picnic amenities—that qualify Sligo Creek Stream Valley Park and Sligo Creek National Recreational Trail for Section 4(f) protection.

Long Branch Local Park

Section 4(f) Property Description

Long Branch Local Park is located on the north side of Piney Branch Road in Silver Spring. The park is approximately 14 acres in size and includes the Long Branch Community Center, a playground, softball field, multi-use field, tennis courts, pool, and a picnic area (Figure 6-21). It was acquired by Montgomery County in 1948. The park is owned and maintained by M-NCPPC-Montgomery County Department of Parks, funded in part by Maryland Program Open Space funds.

Figure 6-21: Long Branch Community Center

Use of Section 4(f) Property — Permanent Use, Not *De minimis*

The Preferred Alternative transitway would be located in the median of Piney Branch Road, which abuts Long Branch Local Park to the south (Figure 6-22). The MTA would widen Piney Branch Road to accommodate two additional lanes for the transitway, extending the culvert that conveys Long

Figure 6-22. Long Branch Local Park

Branch Stream under Piney Branch Road, and adding a parallel drainage pipe adjacent to the culvert to address flooding in the area. The proposed roadway cross section would include two dedicated lanes for the transitway, an 11-foot wide vehicle lane and a 16-foot wide mixed-traffic lane for vehicle and bicycle use in each direction, and five-foot wide sidewalks on both sides of Piney Branch Road.

MTA would permanently use approximately 0.02 acre of Long Branch Local Park property to extend the culvert and reconstruct the sidewalk. The land where the culvert would be located is undeveloped and wooded; the proposed sidewalk area is a vegetated strip of land immediately north of the existing sidewalk along Piney Branch Road. In coordination with M-NCPPC, MTA determined that its activities would not result in the closure of Long Branch Local Park at any time during or after construction.

During construction, approximately 0.28 acre of temporary construction easements would be required within Long Branch Local Park to grade the land around the existing and proposed culvert and roadway, as well as provide access during construction. The land encompassed by temporary construction easements includes the existing wooded land around the proposed culvert location, the park entrance driveway, which is needed for access, and approximately two of 92 parking spaces in the park parking lot. Long Branch Local Park would remain open throughout construction.

Existing left-turn access to and from the park at Piney Branch Road would be eliminated by the Preferred Alternative as traffic cannot cross the transitway at an unsignalized intersection. As presently designed, park access would be limited to right turns into and out of the park. Patrons traveling to the community center from the west would make a U-turn at University Boulevard to access the community center. Eastbound patrons leaving the community center would turn right onto Piney Branch Road and make a U-turn at Arliss Street to proceed eastbound on Piney Branch Road.

Coordination is on-going between MTA and M-NCPPC regarding anticipated impacts to Long Branch Local Park that would result from implementing the Preferred Alternative. Memoranda of MTA meetings with M-NCPPC-Montgomery County Department of Parks are provided in Appendix I. The Preferred Alternative would not adversely affect the features, attributes or activities—playground, community center, ball fields, tennis courts and picnic areas—that qualify the park for protection under Section 4(f). FTA proposes a *de minimis* use determination for impacts to Long Branch Local Park. However, M-NCPPC-Montgomery County Department of Parks stated that they would not concur with a determination of *de minimis* use because while access would be maintained to the park and Long Branch Community Center, it would be modified to right-in/right out movements only. Since the agency with jurisdiction will not concur with a *de minimis* use determination, FTA proposes a use of Long Branch Local Park.

Avoidance Alternatives

Several avoidance options and alternatives were considered, including the potential for a transitway alignment on a new location, two sets of tunnel options ("A" and "B"), a surface alignment along Colesville Road, and the No Build Alternative. Each is described below. The transportation system management (TSM) alternative examined in the AA/DEIS was not considered to be a prudent avoidance alternative as it compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need (23 CFR 774.17(3)(i)).

New Alignment Location

Long Branch Local Park extends from just south of Pickwick Village Terrace, approximately 0.25 mile north of the proposed project area, to Piney Branch Road. There are several contiguous parks immediately north of Long Branch Local Park along the Long Branch stream valley including Long Branch-Arliss Neighborhood Park, Long Branch-Wayne Local Park, and Long Branch Stream Valley Park. A portion of Long Branch Stream Valley Park is located immediately south of Piney Branch Road and continues approximately one and a half miles southeast of the project area, ending at New Hampshire Avenue. Overall, Long Branch Local

Park and the contiguous parks form a nearly two-and-a-half mile stream valley park system that is nearly perpendicular to Piney Branch Road.

The long, linear nature of the Long Branch stream valley and associated park system, which is aligned from north to south, precludes a surface alignment that passes around and avoids the park. As shown on Figure 6-15, the University Boulevard corridor cannot be accessed from the Long Branch/Arliss area without crossing one of the Long Branch stream valley parks. All of the build alternatives evaluated in the AA/DEIS would have been aligned along Piney Branch Road, directly to the south of Long Branch Local Park. All of the build alternatives would have resulted in permanent and temporary uses of land within Long Branch Local Park, as they would all have added dedicated transit lanes in each direction.

The transportation system management (TSM) alternative examined in the AA/DEIS was not considered to be a prudent avoidance alternative as it compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need (23 CFR 774.17(3)(i)).

Tunnel — "A" Options

Two tunnel options "A" extended from Sligo Avenue near Piney Branch Road to Anne Street at University Boulevard just west of the planned Takoma/Langley Transit Center. The "A" options are shown on Figure 6-23. Both options would have been at grade along Sligo Avenue from downtown Silver Spring to Piney Branch Road. From there, they would enter a tunnel, resurfacing at the intersection of Anne Street and University Boulevard, where they would resurface and continuing eastbound on University Boulevard at grade.

One "A" option roughly followed in the direction of Park Valley Road and curved towards Anne Street staying under existing roadway rights-of-way as much as possible. The second "A" option would have tunneled in a straight line under the residential neighborhoods to reduce tunnel length, and therefore cost. The tunnels were approximately 0.8 mile long; tunnel profiles were deep enough to pass below Sligo Creek and Long Branch. A third tunnel option "A" was a variation of the longer tunnel option. The tunnel would begin in downtown Silver Spring, west of Georgia Avenue, run below Sligo Avenue, passing under Sligo Creek and Long Branch Stream and would surface on University Boulevard near the Takoma Langley Transit Center.

Each tunnel "A" option would bypass proposed stations at Manchester Place, Long Branch, and Piney Branch. The longer options would have a station near Columbia Union College and Washington Adventist Hospital in Takoma Park. The tunnel "A" options were dropped because they do not support the County Master Plans for economic redevelopment of the Long Branch/Flower Avenue station area, and they would be extraordinarily costly. There was little public support for a station near the college and the hospital.

While the tunnel "A" options would have avoided use of Long Branch Local Park and are considered feasible, none is considered prudent as each involves multiple factors in 23 CFR 774.17(3)(i) through 23 CFR 774.17(3)(vi), that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude: weak performance in meeting purpose and need by not providing connections to communities between activity centers; environmental impacts by not supporting local plans for economic and community revitalization of the Long Branch/Piney Branch commercial areas; and additional construction, maintenance, or operational costs of an extraordinary magnitude. In addition, the tunnel "A" options were not supported by the public.

Tunnel — "B" Options

The tunnel "B" options evaluated would have provided longer tunnels connecting to Piney Branch Road. The tunnel "B" options are shown on Figure 6-23. The tunnel "B" options included a long tunnel under Wayne Avenue. It would start in downtown Silver Spring, travel under Wayne Avenue, under Sligo Creek, continue generally below Manchester Road and Piney Branch Road, under Long Branch, and would surface near the intersection of Piney Branch Road and Barron Street. The tunnel "B" options were approximately two miles long and the tunnel profiles were deep enough to pass under both Sligo Creek and Long

Branch. The tunnel "B" options would not have served the Long Branch neighborhood due to the cost of an underground station.

While the tunnel "B" options would have avoided use of Long Branch Local Park and are considered feasible, neither is considered prudent as each involves multiple factors in 23 CFR 774.17(3)(i) through 23 CFR 774.17(3)(vi), that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude: weak performance in meeting purpose and need by not providing connections to communities between activity centers; environmental impacts by not supporting local plans for economic and community revitalization of the Long Branch/Piney Branch commercial areas; and additional construction, maintenance, or operational costs of an extraordinary magnitude. In addition, the tunnel "A" options were not supported by the public.

Surface Alignment — Colesville Road

A surface alignment option using Colesville Road from the Silver Spring Transit Center to University Boulevard was considered early in the project. This surface alignment would join University Boulevard in Four Corners and turn south to Takoma/Langley Crossroads at New Hampshire Avenue. Colesville Road is six lanes wide with a reversible center lane. It is a heavily used major arterial. Surrounding land uses are generally single-family residential except in downtown Silver Spring. University Boulevard is likewise a major arterial and a six-lane roadway. The extremely heavy traffic on Colesville Road would make it very difficult to implement dedicated or exclusive lanes for transit (Figure 6-24).

In April 1996 the Maryland State Highway Administration (SHA) conducted a feasibility study for a busway on US 29[2]. After this study, both the Montgomery County Council and M-NCPPC - Montgomery County Department of Parks recommended that US 29 not be considered for either a busway or light rail route because of the extremely high traffic volume and lack of ability to add capacity. The surface alignment was not supported by the public or local jurisdiction for the reasons above. Because the surface alignment extends north outside the general Purple Line corridor and then comes south again, it adds travel distance to the Purple Line alignment and, therefore, lengthens the trip time. The alignment would also add cost as well as potential environmental and community impacts associated with accommodating a corridor along Colesville Road.

While the surface alignment would have avoided use of Long Branch Local Park and is considered feasible, it is not considered prudent by a combination of the Section 4(f) criteria: it compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need (23 CFR 774.17(3)(i)); and it involves multiple factors, that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude (23 CFR 774.17(3)(vi)).

No Build Alternative

The No Build Alternative is an avoidance alternative considered in this Draft Section 4(f) Evaluation. The No Build Alternative would cause no use of the park. However, the No Build Alternative compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need. Therefore, while the No Build Alternative is feasible, it is not prudent (23 CFR 774.17(3)(i)).

Property-specific Least Overall Harm Analysis

FTA applied the Section 4(f) criteria to determine the build alternative with the least overall harm to Long Branch Local Park. In this analysis, the Preferred Alternative and each of the build alternatives in the AA/DEIS were evaluated. In addition, the ability to provide left-turn lanes at the signalized intersection of the park was examined.

Like the Preferred Alternative, each of the AA/DEIS alternatives would be aligned in the median of Piney Branch Road and would require widening the roadway to accommodate the transitway. Each of the alternatives would require two dedicated travel lanes, one in each direction. The amount of widening would be the same among the alternatives, and the reasons for widening to the south would be the same among the alternatives.

[2] *US 29 Busway Feasibility Study*, Montgomery County Department of Transportation, April 1996

Figure 6-23. Long Branch Local Park Avoidance Alternatives—Tunnel Options

Purple Line

Long Branch Local Park Avoidance Alternatives Tunnel Options

Source: Maryland Transit Administration

Sheet 1 of 1

Alternative A
- Transitway
- Transitway in Tunnel
- Limits of Disturbance

Alternative B
- Transitway in Tunnel
- Limits of Disturbance

Preferred Alternative
- Proposed Station Location
- Connection to Metrorail
- Transitway
- Transitway in Tunnel
- Transitway on Aerial Structure
- Limits of Disturbance

- Park
- Metrorail Red Line
- CSXT/MARC

N W E S

0 500 1,000 2,000 Feet

Map Index

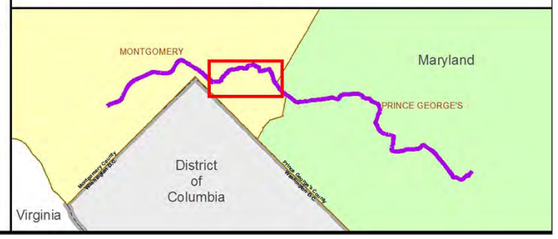
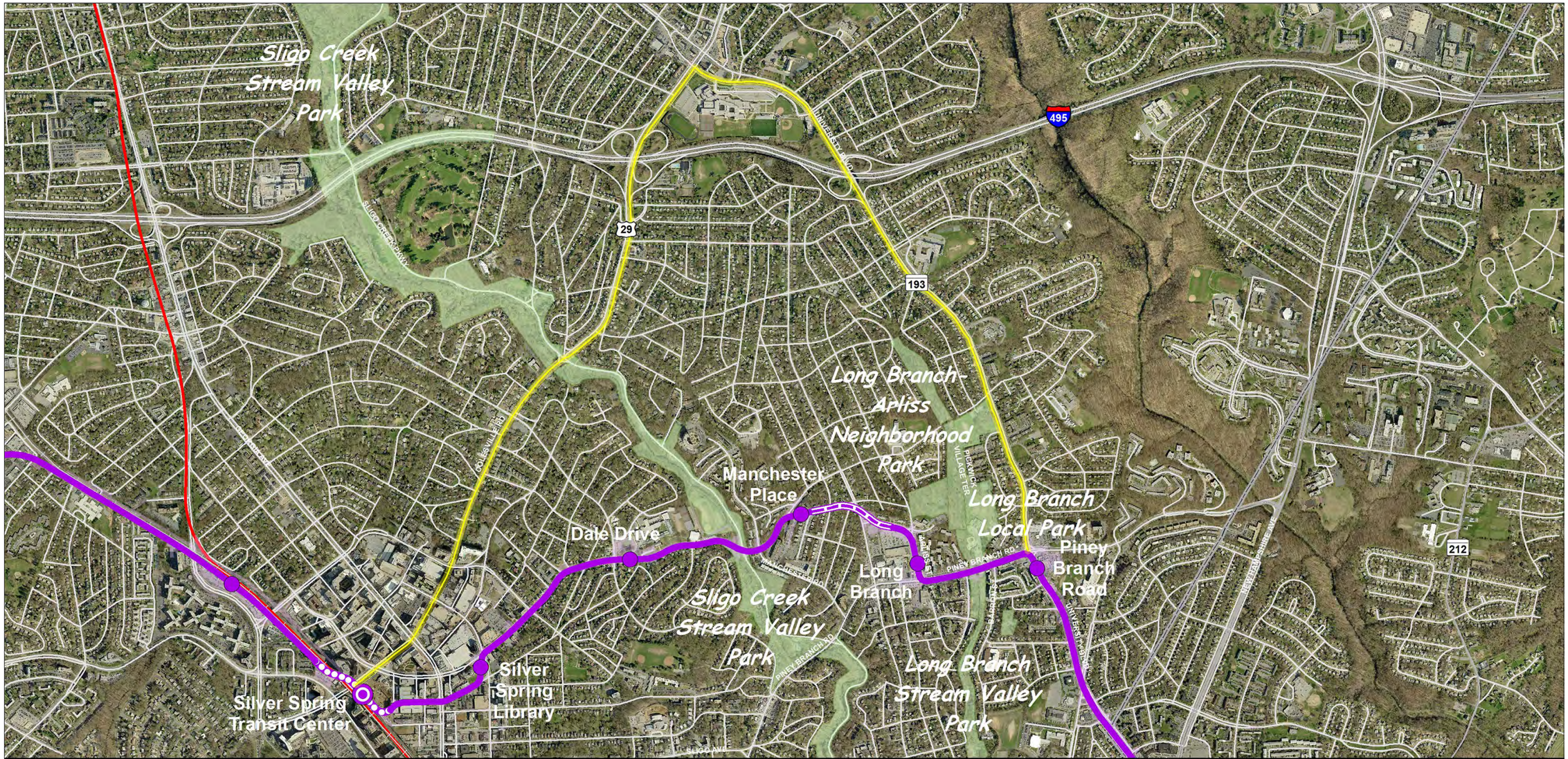


Figure 6-24. Long Branch Local Park Avoidance Alternatives—Surface Option



The amount and location of Long Branch Local Park use would be the same for each alternative, the ability of MTA to mitigate adverse impacts to the property, and the relative severity of the remaining harm to the property after mitigation are the same (23 CFR 774.3(c)(1)(i) and (ii)). Among the alternatives, the Preferred Alternative most strongly meets the project purpose and need (23 CFR 774.3(c)(1)(v)). The magnitude of adverse impacts to properties not protected by Section 4(f) is similar among the alternatives (23 CFR 774.3(c)(1)(vi)).

The feasibility of providing left-turn lanes at a signalized park intersection with Piney Branch Road was considered. Providing left-turn lanes on Piney Branch Road would necessitate acquiring additional right-of-way and widening the road to provide sufficient room for the lanes. Roadway widening would use more Long Branch Local Park land as well as land from Long Branch Stream Valley Park across the roadway.

For these reasons, and despite the Preferred Alternative being more costly than all but the High Investment LRT Alternative (23 CFR 774.3(c)(1)(vii)), the Preferred Alternative is the alternative with the least overall harm to parks protected by Section 4(f).

Section 6.4.3 presents a corridor-wide least overall harm analysis that considers all Section 4(f) properties.

All Possible Planning to Minimize Harm

As defined in 23 CFR 774.17, FTA and MTA are coordinating with the officials with jurisdiction to evaluate and incorporate into the Preferred Alternative all possible planning to minimize harm. In terms of design, the primary means of minimizeing park use is aligning the Preferred Alternative on Piney Branch Road, an existing road and bridge crossing the park. MTA minimized the width of proposed roadway widening to that which is needed to accommodate the Preferred Alternative, the roadway cross section, and the drainage improvements. Other strategies MTA has incorporated into the Preferred Alternative design to minimize park use include retaining walls to limit the area of grading and vegetation removal, selective tree clearing to minimize tree loss, and stream bank stabilization.

Enhanced pedestrian and bicycle connections to the park are included in the Preferred Alternative design. The design of Piney Branch Road includes bicycle lanes enhancing bike access to Long Branch Local Park and facilities, as well as the Long Branch Trail. In addition, there is a proposed new traffic signal with a pedestrian phase at Garland Avenue. The signal will facilitate safe crossing for people traveling between the Long Branch Trail, Long Branch Local Park and local trail/path systems. Improved pedestrian crossings would also be provided on Piney Branch Road at Barron Street.

In addition, as part of the proposed roadway widening, sidewalks on both the north and south sides of Piney Branch Road would be reconstructed. The *Draft Long Branch Sector Plan* (December 2012) indicates that wider sidewalks are proposed throughout the area to provide pedestrian-friendly development that would increase community connectivity. Along Piney Branch Road, the Long Branch Sector Plan ultimately proposes 15-foot wide sidewalks. The Preferred Alternative includes the replacement of the existing five-foot wide sidewalks; however the proposed extension/ expansion of the existing culvert under Piney Branch Road is being designed with a higher head-wall so that when wider sidewalks are implemented in the future by Montgomery County there is sufficient space and no additional structural modifications of the culvert would be required at Long Branch Stream.

While the proposed project would not restrict pedestrian and bicycle access to Long Branch Local Park and amenities located within the park, as currently designed, the Preferred Alternative would modify vehicular access to the park, as described above. Since maintaining full vehicular access to the Long Branch Community Center is a priority of M-NCPPC-Montgomery County Department of Parks, MTA is committed to continue to evaluate options to allow left turns and/or facilitate more convenient access to the site.

During construction, potential use of park land would be minimized by MTA's commitment to complete as much construction as possible from the Piney Branch Road right-of-way rather than using park property. Prior to the start of construction,

MTA will work with M-NCPPC-Montgomery County Department of Parks to identify significant or champion trees in the construction area. Trees to be preserved will be marked with protective fencing to avoid impacts or removal during construction. While MTA intends to minimize tree removal during construction and implement selective clearing techniques, tree removal cannot be avoided completely. To compensate for tree loss, new trees will be planted within Long Branch Local Park, particularly along the stream if appropriate. Long Branch Local Park currently has problems with invasive vegetation species. Within the immediate project area, MTA will remove invasive species and replant the disturbed area with native species. In addition, MTA will restore all areas it has cleared along the Long Branch Stream as a result of its construction activities.

MTA will also replace guardrail, signs, and other existing structures disturbed or removed within its construction area with new structures designed to match the existing elements throughout the park.

Long Branch Stream Valley Park

Section 4(f) Property Description

Long Branch Stream Valley Park is approximately 41 acres in size. The park extends from Franklin Avenue to the confluence with Sligo Creek near the Montgomery County-Prince George's County Line north to Piney Branch Road along Long Branch stream. Amenities within Long Branch Stream Valley Park include playgrounds, athletic fields, athletic courts, picnic areas, natural areas, and a paved recreational/commuter trail. The park is owned and maintained by M-NCPPC-Montgomery County Department of Parks, funded in part by Maryland Program Open Space funds. Within the project study area, the park is an undeveloped forested area that includes the Long Branch Trail.

Use of Section 4(f) Property — *De minimis* Use

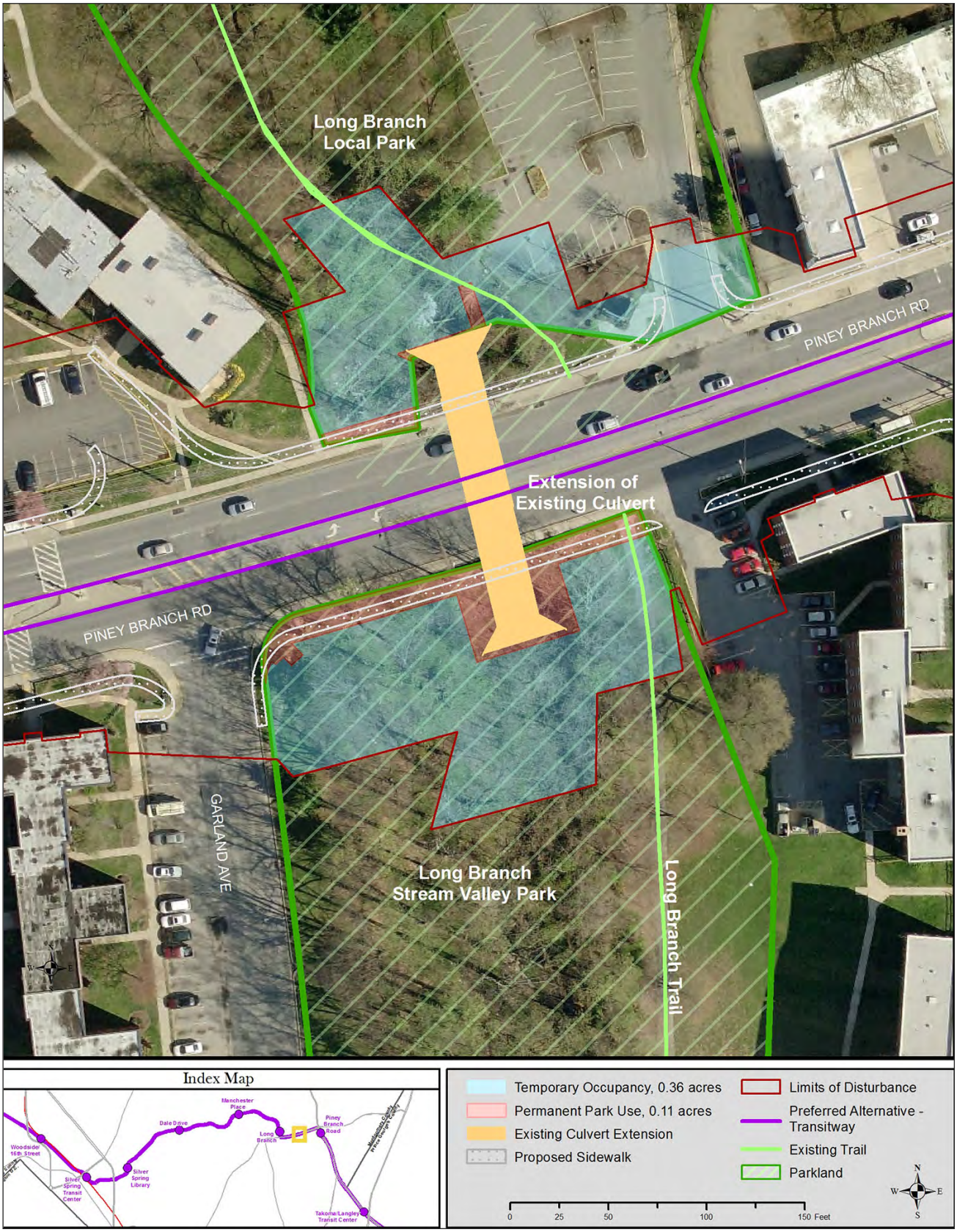
The Preferred Alternative would be aligned within the median of Piney Branch Road between Long Branch Stream Valley Park to the south and Long Branch Local Park to the north (Figure 6-25). In its coordination with the M-NCPPC-Montgomery County Department of Parks, MTA determined it would use approximately 0.11 acre of property from Long Branch Stream Valley Park to widen Piney Branch Road to accommodate the Preferred Alternative, lengthen the existing culvert conveying Long Branch under Piney Branch Road and reconstruct sidewalks along the roadway. The road cross section would include two dedicated lanes for the transitway, one in each direction, an 11-foot wide vehicle lane and a 16-foot wide mixed-traffic lane for vehicle and bicycle use in each direction. Five-foot wide sidewalks would be provided on both north and south sides of Piney Branch Road. The Preferred Alternative would include improved signalized pedestrian crossings along Piney Branch Road, which would benefit trail users wanting to cross Piney Branch Road.

During construction, approximately 0.36 acre of temporary construction easements would be required for access to the work area along Piney Branch Road. Specifically, the work area is needed to enable construction of the widened roadway and culvert extension. The area of proposed temporary easements is currently wooded and undeveloped. Long Branch Stream Valley Park and Long Branch Trail would remain open throughout construction.

MTA is coordinating closely with the M-NCPPC-Montgomery County Department of Parks, the officials with jurisdiction over the park, to minimize use of park property. Specifically, roadway widening is primarily to the south to minimize impacts to the access driveway of Long Branch Local Park to the north, the portion of the Long Branch Trail within the park, and the businesses east and west of the park. The portion of the park to be permanently used is undeveloped and wooded. Memoranda of MTA meetings with M-NCPPC-Montgomery County Department of Parks are provided in Appendix I.

The proposed permanent and temporary uses by the Preferred Alternative would not adversely affect the features, attributes or activities—playgrounds athletic fields, picnic areas, natural areas and trails—that qualify the park for Section 4(f) protection. FTA is proposing a *de minimis* use determination for the Preferred Alternative at Long Branch Stream Valley Park.

Figure 6-25. Long Branch Stream Valley and Long Branch Local Parks

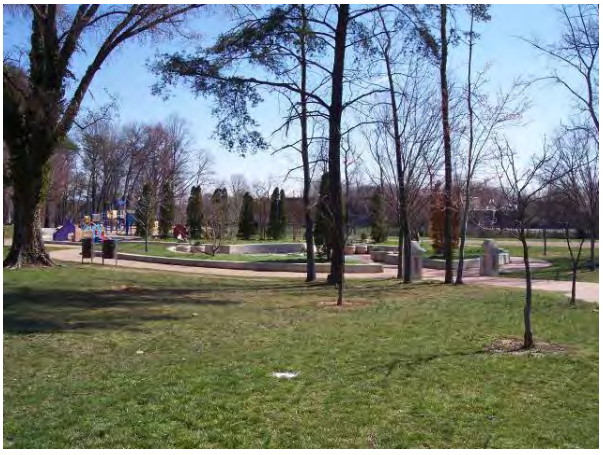


New Hampshire Estates Neighborhood Park

Section 4(f) Property Description

New Hampshire Estates Neighborhood Park is located along University Boulevard near Piney Branch Road. The property was purchased in 1976 by M-NCPPC-Montgomery County Department of Parks for use as a park (Figure 6-26). The park is 4.7 acres in size and features two playgrounds, a football/soccer field, and a picnic area. The park is owned and maintained by M-NCPPC-Montgomery County Department of Parks, funded in part by Maryland Program Open Space funds. M-NCPPC-Montgomery County Department of Parks is planning to redevelop the park in the future.

Figure 6-26. New Hampshire Estates Neighborhood Park Playground



Use of Section 4(f) Property — *De minimis* Use

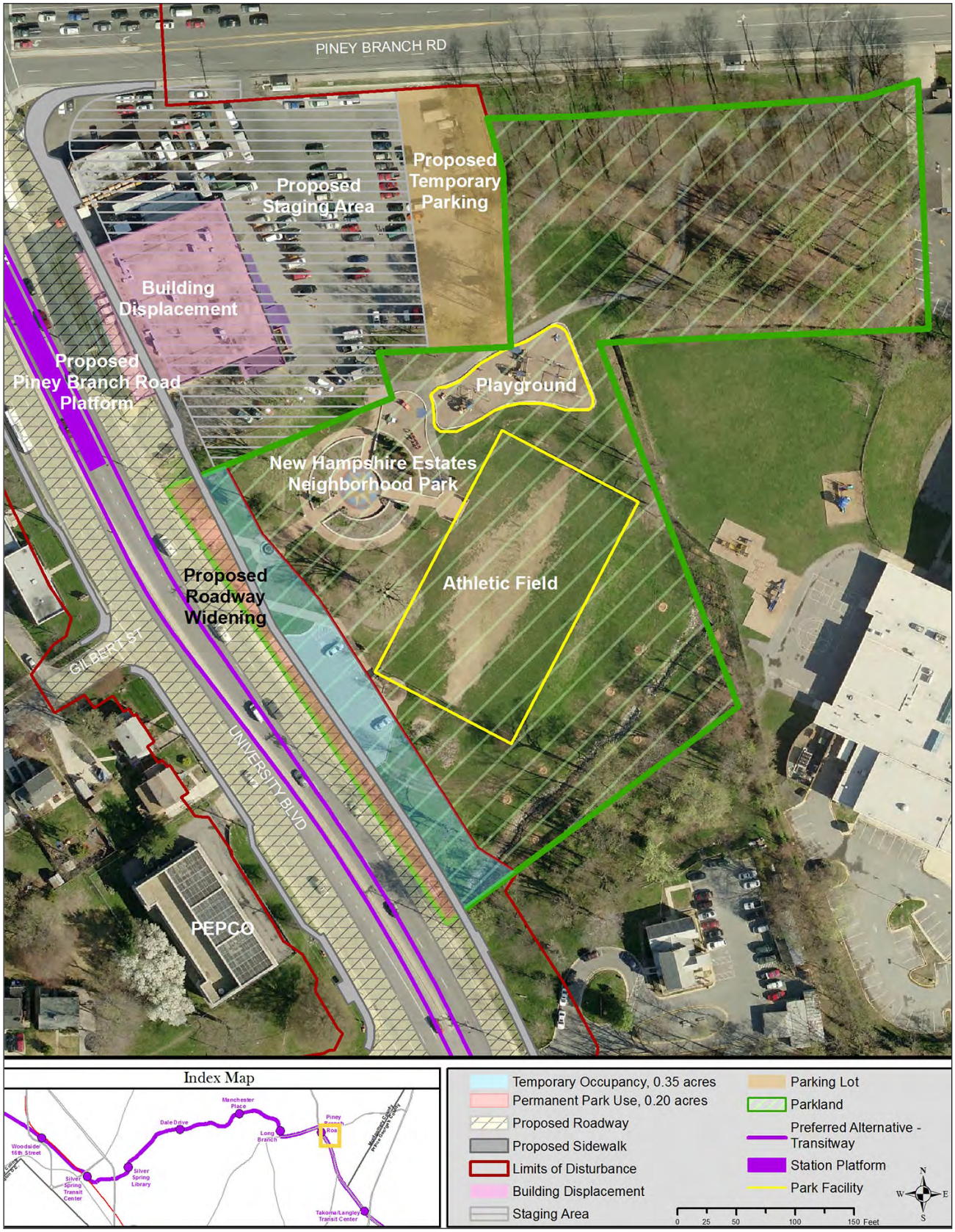
The Preferred Alternative would be aligned through the median of Piney Branch Road, turning southeast into the median of University Boulevard (Figure 6-27). The proposed Piney Branch Road Station would be located on University Boulevard directly south of the intersection with Piney Branch Road. University Boulevard would be widened to accommodate the dedicated transitway and station, while maintaining two lanes of traffic in each direction, as well as turn lanes, and sidewalks.

Initially, MTA considered widening University Boulevard toward and/or away from the park. However, widening away from the park would result in substantial residential and business displacements. In addition, it would require the displacement of an existing Potomac Electric Power Company (Pepco) station located along University Boulevard, directly west of the southern portion of New Hampshire Estates Neighborhood Park. For these reasons and the substantially high impacts of the relocations, particularly the Pepco station, MTA aligned the transitway in the median of University Boulevard, and initiated discussions with M-NCPPC-Montgomery County Department of Parks regarding potential use of a portion of the park if acceptable minimization and mitigation strategies could be provided. Widening University Boulevard would result in the permanent use of 0.20 acre of New Hampshire Estates Neighborhood Park, directly adjacent to University Boulevard. Park amenities affected by the use would include some sitting and grassy areas, landscaped structures, artwork, decorative brick paving adjacent to University Boulevard, and an existing parking lot.

In coordination with the M-NCPPC-Montgomery County Department of Parks regarding measures to minimize harm to the park, MTA agreed to eliminate the space between the expanded roadway curb and sidewalk and implement a closed drainage system. In addition, MTA would address a drainage issue on the eastern edge of the park by upgrading an existing stormwater culvert and grading the associated stream for a short distance. Memoranda of MTA meetings with M-NCPPC-Montgomery County Department of Parks are provided in Appendix I.

As mitigation for its use of park property, MTA will provide replacement land on property it would acquire adjacent to New Hampshire Estates Neighborhood Park. The land would be used by MTA during Purple Line construction for temporary parking and construction staging, then provided to the park as permanent replacement land after construction is completed. M-NCPPC-Montgomery County Department of Parks would accommodate the replacement land in their future redevelopment plan for the park. MTA will continue to coordinate with the M-NCPPC-Montgomery County Department of Parks as the Purple Line project advances regarding the replacement property as well as additional minimization and mitigation strategies, particularly related to the affected park amenities.

Figure 6-27. New Hampshire Estates Neighborhood Park



During construction, MTA would temporarily use 0.35 acre of the park to undertake the roadway widening, and stream and culvert upgrades. The park land used temporarily includes grassy and landscaped areas, paved walkways, and an existing parking lot. However, MTA would provide temporary parking, and would not adversely affect most activities, features or attributes of the park—playgrounds, athletic field, picnic area, and aesthetic features. MTA will coordinate with the M-NCPPC-Montgomery County Department of Parks as the Purple Line project advances regarding temporary construction effects.

FTA is proposing a *de minimis* use determination for the Preferred Alternative at the New Hampshire Estates Neighborhood Park. The proposed permanent and temporary uses of the Preferred Alternative would not adversely affect activities or features, attributes or activities—playgrounds, athletic field, picnic areas and aesthetic features—that qualify the New Hampshire Estates Neighborhood Park for Section 4(f) protection.

Northwest Branch Stream Valley Park and Northwest Branch Trail

Section 4(f) Property Description

Northwest Branch Stream Valley Park is 510 acres in size and is located along the Northwest Branch of the Anacostia River, north and south of University Boulevard (MD 193), between Riggs Road and Adelphi Road in Prince George's County. The park was purchased in part using Capper-Cramton Act funding. In the vicinity of the Preferred Alternative, the park also includes Lane Manor Community Recreation and Aquatic Center, Adelphi Manor Community Recreation Center, and University Hills Neighborhood Park. Northwest Branch Stream Valley Park and all of the related facilities are owned and maintained by M-NCPPC-Prince George's County Department of Parks and Recreation, funded in part by Maryland Program Open Space funds.

Northwest Branch Trail (Figure 6-28) is located in southeastern Montgomery County and northeastern Prince George's County. It is 16 miles in length and extends north and south of the Capital Beltway. North of the Capital Beltway, approximately ten miles of the trail's surface is natural surface. The hard surface portion of the trail is part of the Prince George's County's Anacostia Tributary Trail System, while the natural surface portion is used for hiking and extends to Wheaton Regional Park. Heading southeast, the trail

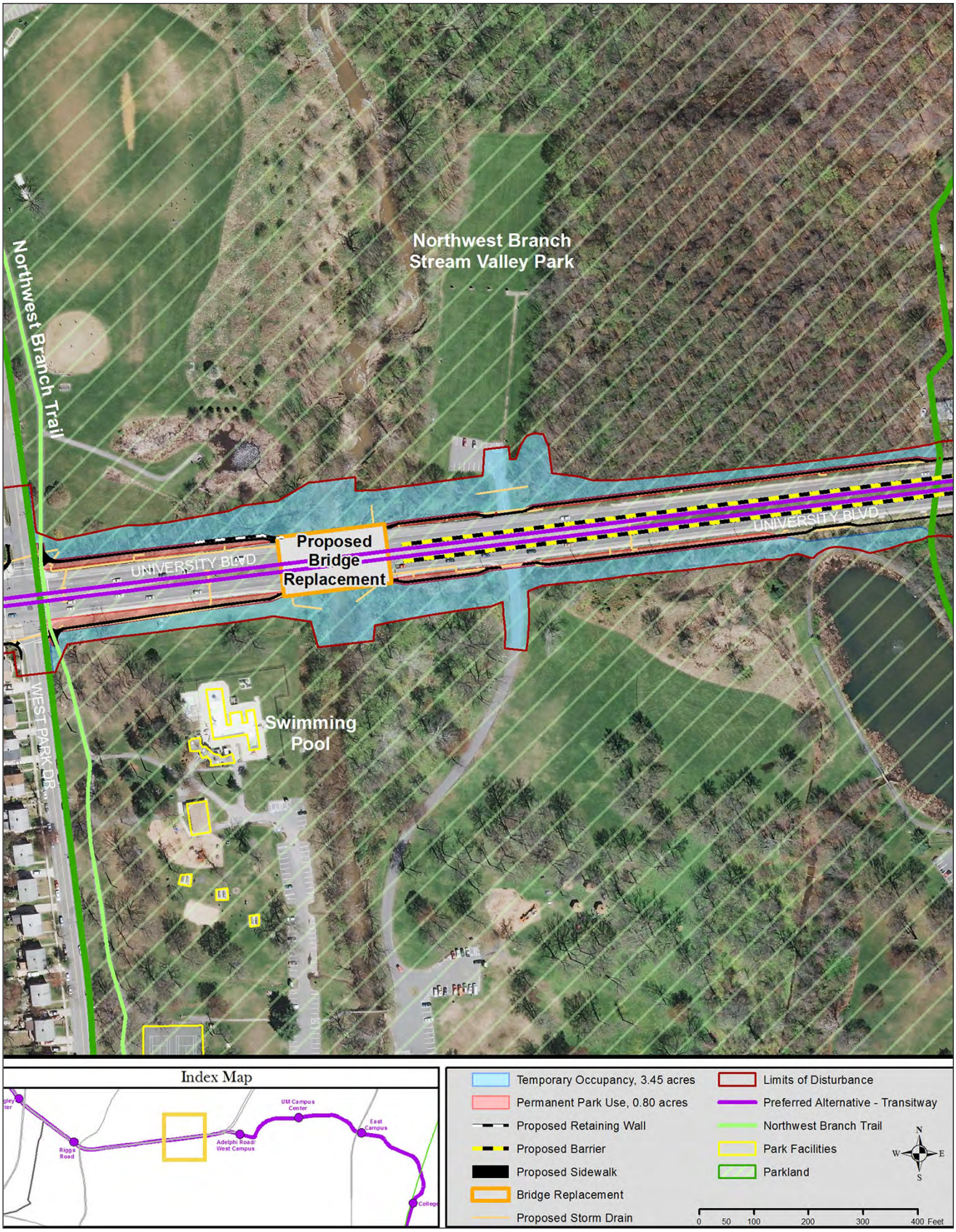
Figure 6-28. Northwest Branch Trail

extends into Prince George's County, ending at the confluence of the Northwest and Northeast branches of the Anacostia River in Hyattsville. The trail has a paved asphalt surface at University Boulevard and in the immediate vicinity.

Use of Section 4(f) Property — *De minimis* Use

The Preferred Alternative transitway would be aligned through the median of University Boulevard, which crosses Northwest Branch Stream Valley Park perpendicularly (Figure 6-29). The Preferred Alternative includes widening University Boulevard to accommodate the proposed Purple Line and replacing the existing bridge over the Northwest Branch of the Anacostia River with a new, wider bridge to match the wider roadway. MTA would permanently use approximately 0.80 acre of property from Northwest Branch Stream Valley Park. The parkland to be used is grassy or wooded and undeveloped. MTA would not permanently use any facilities associated with Northwest Branch Stream Valley Park.

Figure 6-29. Northwest Branch Stream Valley Park and Northwest Branch Trail



In consultation with the M-NCPPC-Prince George's County Department of Parks and Recreation and NCPC on measures to minimize harm, MTA has agreed to address several drainage and water quality issues along University Boulevard. Taking this action would require additional temporary construction easements; however, land used for upgrading the existing drainage system would be returned to the park upon completion of the construction of the project. In particular, both north and south of University Boulevard, between West Park Drive and Temple Street, the existing drainage ditches directly adjacent to University Boulevard would be relocated to convey discharge toward the Northwest Branch of the Anacostia River. A retaining wall would be constructed near the eastern end of an existing drainage ditch located directly east of West Park Drive to maintain the ditch and avoid disturbing the embankment that supports the existing pond, located to the north of the proposed wall.

Access to the park would change with the permanent closure of the median on University Boulevard between West Park Drive and Adelphi Road, eliminating left-turning movements. The median closure is necessitated by the Purple Line using the median and the prohibition of unsignalized turns across the transitway. Vehicles traveling west on University Boulevard would have to make a U-turn at West Park Drive to access the existing playground within Northwest Branch Stream Valley Park, east of Lane Manor Community Recreation and Aquatic Center. Eastbound vehicles would have to make a U-turn at Adelphi Road to access the archery range located to the north of University Boulevard and west of Temple Street. Memoranda of MTA meetings with M-NCPPC-Prince George's County Department of Parks Recreation and NCPC are provided in Appendix I.

MTA would temporarily use approximately 3.45 acres of Northwest Branch Stream Valley Park during construction to access work areas and address drainage issues. The Northwest Branch of the Anacostia River would be temporarily impacted approximately 125 feet upstream to 125 feet downstream of University Boulevard to temporarily divert the stream while the new University Boulevard Bridge is built and grading refinements are made to the stream channel north of University Boulevard. These refinements would provide positive drainage to the Northwest Branch of the Anacostia River and the existing swale that conveys stormwater from University Boulevard to the stream. These activities are intended to improve the water quality of and drainage flows to the Northwest Branch of the Anacostia River. The temporarily used park lands would be returned to M-NCPPC-Prince George's County Department of Parks and Recreation when construction is complete. The Northwest Branch Trail would be temporarily relocated from the eastern side to the western side of West Park Drive during construction. Full access to the trail and park facilities would be maintained during construction.

In coordination with M-NCPPC-Prince George's County Department of Parks and Recreation and NCPC, MTA determined that the Preferred Alternative would not adversely affect the features, attributes or activities—trails, playgrounds, aquatic center, athletic fields and courts, picnic and recreational areas and a duck pond—that qualify the park for Section 4(f) protection. FTA is proposing a *de minimis* use determination for the Preferred Alternative at Northwest Branch Stream Valley Park.

Anacostia River Stream Valley Park and Northeast Branch Trail

Section 4(f) Property Description

Anacostia River Stream Valley Park encompasses 794 acres of land and includes the following features and attributes: playgrounds, athletic fields, community centers, various courts, and trails (Figure 6-30). The park is owned and maintained by M-NCPPC-Prince George's County Department of Parks and Recreation, funded in part by Maryland Program Open Space funds. In the vicinity of the Preferred Alternative, the park was purchased in part using Capper-Cramton Act Funding. Two national bicycle routes, the American Discovery Trail and the East Coast Greenway, converge on the Northeast Branch Trail in the proposed project area and cross the Preferred Alternative alignment.

The Northeast Branch Trail is part of the Anacostia Tributary Trail system. It is owned and maintained by M-NCPPC-Prince George's County Department of Parks and Recreation. The Northeast Branch Trail is 3.4 miles in length and runs northeast from near US 1 in Hyattsville to Lake Artemesia. Several disconnected sections of trail were constructed prior to the 1990s. Beginning in the early 1990s additional sections were constructed to form one continuous trail.

Figure 6-30. Anacostia River Stream Valley Park

Use of Section 4(f) Property — *De minimis* Use

MTA, in coordination with M-NCPPC-Prince George's County Department of Parks and Recreation and NCPC, determined that the Preferred Alternative transitway would be aligned parallel to and immediately south of River Road on Anacostia River Stream Valley Park land. Whereas MTA initially considered an alignment within River Road, design factors led MTA to pursue the Preferred Alternative alignment. First, the roadway curve at the M Square station location does not meet design requirements which prescribe a 300 foot straight section. Second, MTA would have had to widen River Road to accommodate the transitway, thereby using park property and incur additional project cost.

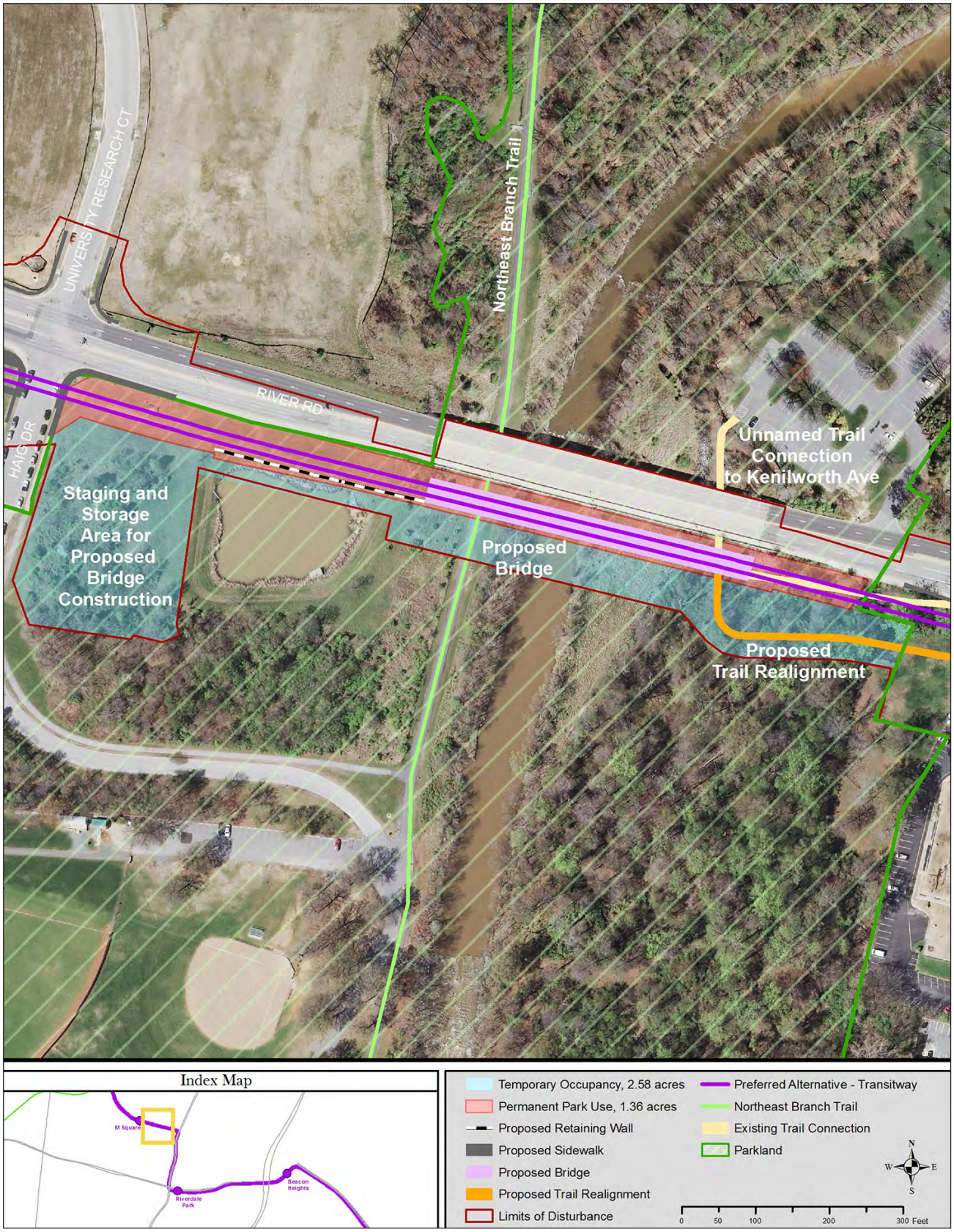
The transitway would cross Northeast Branch Trail perpendicularly. The transitway would be built on a permanent embankment for most of its length through the park, while it would be on its own structure over Northeast Branch Trail, the Northeast Branch of the Anacostia River, and the unnamed trail connection to Kenilworth Avenue (Figure 6-31). The transitway would be at approximately the same elevation as River Road. The portions of the park that would be temporarily used are grassy or wooded and undeveloped.

MTA would permanently use approximately 1.20 acres of Anacostia River Stream Valley Park owned by M-NCPPC-Prince George's County Department of Parks and Recreation. Property that would be permanently used abuts River Road to the south and extends from Haig Drive to the end of M-NCPPC-Prince George's County Department of Parks and Recreation property, just west of Kenilworth Avenue and east of the Northeast Branch of the Anacostia River. The land to be permanently used is partly grassy and partly wooded and undeveloped.

In consultation with the M-NCPPC-Prince George's County Department of Parks and Recreation and NCPC on measures to minimize harm, MTA has agreed to permanently relocate the unnamed trail connection to Kenilworth Avenue that is currently located east of the stream on the south side of River Road. Specifically, the trail would be shifted to the south, outside of the transitway alignment. In addition, where Haig Drive and University Research Court intersect with River Road, MTA would remove the traffic circle and replace it with a signalized intersection prior to construction to allow for safe pedestrian access and vehicular traffic crossing the Preferred Alternative transitway. The replacement of the traffic circle with a signalized intersection would also serve to avoid the queuing of traffic when trains are moving through. Memoranda of MTA meetings with M-NCPPC-Prince George's County Department of Parks Recreation and NCPC are provided in Appendix I.

Overall, MTA would temporarily use approximately 2.58 acres of the Anacostia River Stream Valley Park during construction. Construction activities would occur primarily to the south of River Road for the proposed transitway, and relocation of the unnamed trail connection to Kenilworth Avenue, including a staging and storage area for bridge construction. MTA would use a currently undeveloped parcel of park land at the southeast

Figure 6-31. Anacostia River Stream Valley Park and Northeast Branch Trail



quadrant of the River Road-Haig Drive/University Research Court intersection as the temporary construction staging area. MTA is coordinating with M-NCPPC-Prince George's County Department of Parks and Recreation regarding the long-term use of this parcel. Upon completion of construction, MTA will clear and grade the parcel, enabling M-NCPPC-Prince George's County Department of Parks and Recreation to construct a futsal[3] court on the site at a later date. Full access to the park would be maintained during construction.

The Northeast Branch Trail would be temporarily detoured to Haig Drive during Preferred Alternative construction. The detoured trail would cross River Road at grade to University Research Court, and through the M Square property, where it would reconnect to Northeast Branch Trail. Full access to the trail would be maintained during construction. Upon completion of the project, the trail would be returned to its existing configuration.

The proposed permanent and temporary uses by the Preferred Alternative would not adversely affect the features, attributes or activities—playgrounds, athletic fields, and courts, community centers and trails—that qualify the park for Section 4(f) protection. FTA is proposing a *de minimis* use determination for the Preferred Alternative at Anacostia River Stream Valley Park. No permanent use of Northeast Branch Trail or the unnamed trail connection to Kenilworth Avenue would occur.

Baltimore-Washington Parkway

Section 4(f) Property Description

The Baltimore-Washington Parkway (MD 295) (PG: 69-26) was listed in the National Register of Historic Places in 1991. The Baltimore-Washington Parkway (Gladys Noon Spellman Parkway) is a 32-mile divided highway that extends from the US 50/MD 201 interchange at the Washington DC border, north to I-95 in Baltimore (Figure 6-32). For most of its length the roadway is four lanes wide. Built between 1950 and 1954 and opened in 1954, the parkway has a variable-width median and is bounded by a buffer of natural forest and cultivated vegetation. The roadway follows gently rolling terrain and has modest vistas. The median varies between 15 to 200 feet wide and the right-of-way ranges from 400 to 800 feet wide. The median vegetation ranges from mown grass to dense woodland. In the study area, the parkway passes over Riverdale Road on two bridges separated by a wide median. The land around the bridges consists of sparsely treed and grassed slopes within the interchange, with a denser, forested median to the north and south of the interchange and denser forests along the eastern and western boundaries of the parkway to the north of Riverdale Road. Denser forests exist along the eastern and western boundaries of the parkway to the south of Riverdale Road with residential development abutting both sides of the park property.

Figure 6-32. Baltimore-Washington Parkway Bridge

The parkway was originally designed as a defense highway and alternate commuter route. Nineteen miles of the Baltimore-Washington Parkway are owned and maintained by the National Park Service (NPS). The NPS-owned portion of the parkway extends from the eastern border of Washington DC northeast through Prince George's County and into Anne Arundel County to the MD 175 (Jessup Road) interchange, where the SHA jurisdictional boundary begins. The parkway's appended name commemorates Gladys Noon Spellman, a local educator and former congresswoman who died in 1988. The portion of the parkway in the study area is owned by the US government and operated by the NPS.

[3] Futsal is a variant of soccer that is played on a smaller hard surface pitch.

Use of Section 4(f) Property — *De minimis* Use

The Preferred Alternative would be aligned directly south of Riverdale Road (MD 410) on two dedicated transitway lanes (Figure 6-33). As the existing parkway bridges over Riverdale Road are insufficiently long to span Riverdale Road and the new transitway, MTA would replace the existing Baltimore-Washington Parkway bridges with longer bridge spans.

The alignment of the Preferred Alternative along the southern side of Riverdale Road would require permanent use of approximately 0.61 acre of property from the Baltimore-Washington Parkway. MTA has coordinated closely with the NPS during refinement of the Preferred Alternative, including the application of strategies to minimize harm to the parkway. Prior to selecting the southern alignment of the transitway, MTA considered several alignment options that would not cause bridge impacts and replacement, and would minimize the amount of new right-of-way needed. Among these, single track options and mixed-traffic lanes on Riverdale Road proved to cause undesirable conflicts with traffic movements to and from the parkway ramps. In both cases, these options would share lanes on Riverdale Road, resulting in substantial traffic delays and queuing on Riverdale Road as well as on the parkway ramps. A tunnel option was determined to be infeasible due to the terrain, the bridge foundations, and community impacts.

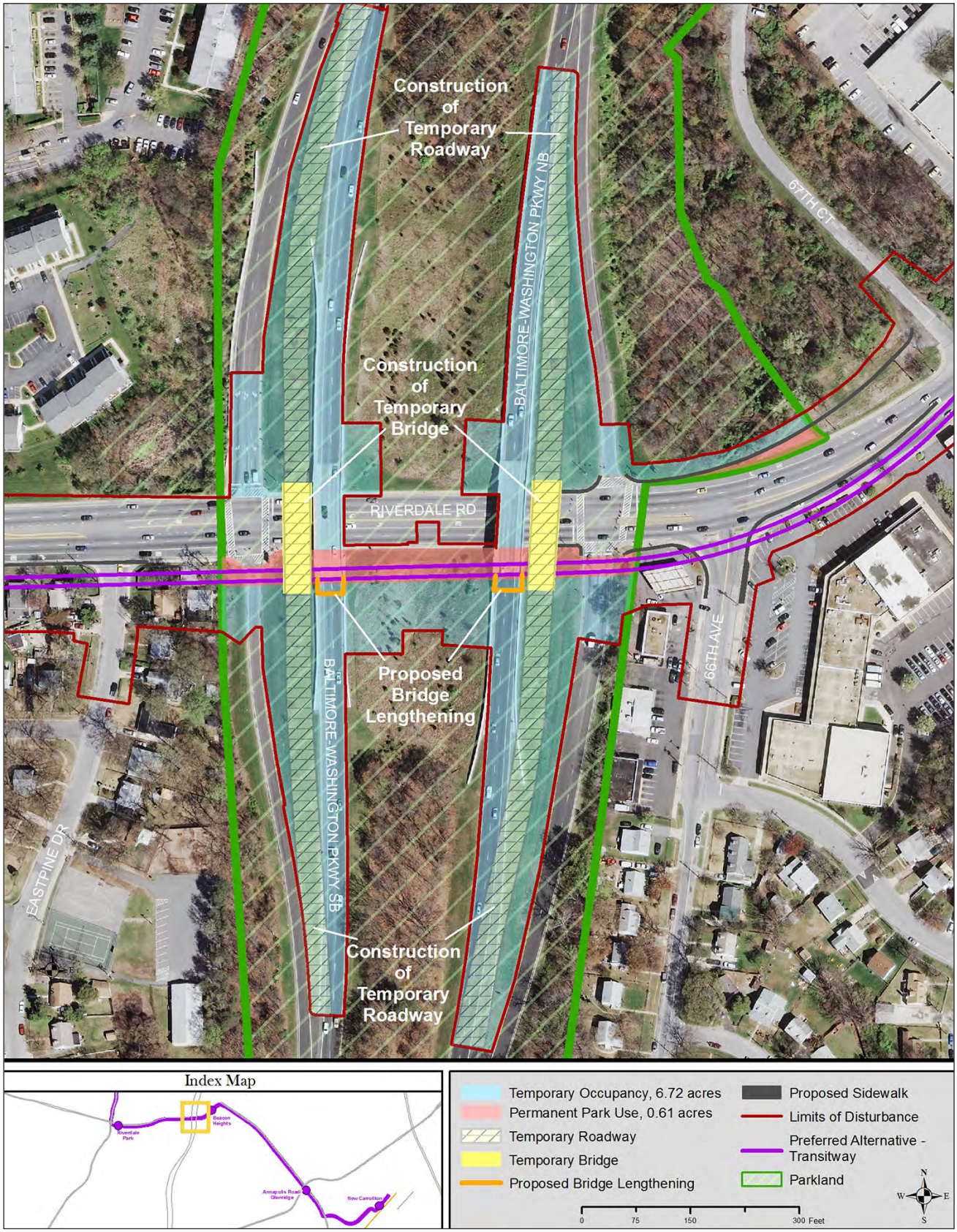
Other strategies MTA has applied to minimize harm to the parkway include aligning the Preferred Alternative along the existing alignment of Riverdale Road at the parkway as opposed to a new alignment. MTA developed and evaluated numerous construction staging and maintenance of traffic concepts in consultation with the NPS. Ultimately, the selected option aligns two two-lane temporary parkway bridges and approaches to the outside of the existing bridges to avoid impacts to the forested areas and an archeological site located within the median. The bridges would enable normal traffic operations on the parkway during construction. MTA evaluated the traffic effects and determined that traffic would not back up onto the parkway ramps during project construction or operation.

MTA developed the new, permanent bridge design in consultation with the NPS. The design complements the appearance of the existing bridges along the parkway by incorporating the gentle arch span. The new structures would be located along the same horizontal alignment as the existing parkway roadways and would be the same width as the existing bridges. During construction, MTA will dismantle the stone façade of the existing bridge abutments and reuse the material on the new, permanent bridges to ensure consistency of materials. If additional stone is required, it would come from the same source, if possible, or would be selected in consultation with NPS to complement the existing stone.

MTA also developed overhead contact wire shielding in consultation with the NPS that would be integrated into the new, permanent bridge structures to have a low visual impact to views of and from the parkway. The design of the shields would match the arch of the existing bridge structure, blending in visually as vehicles approach on Riverdale Road. The shields would not extend above the bridge railings so as to maintain view from the parkway to the adjacent landscape. The overhead contact wires would be attached to the bridges to minimize the number of poles used.

MTA would require a temporary easement on the park property of approximately 6.72 acres to provide contractor access and work area. The construction phase of the Preferred Alternative would not require the closure of Baltimore-Washington Parkway at any time during or after construction. Prior to construction, MTA will identify features, such as trees and archeological sites, outside the work area to protect them during construction. Resources would be identified and marked. MTA is coordinating with the NPS to develop landscape plans using native and approved species. Sidewalks in the immediate vicinity of the parkway would be improved to address ADA requirements. Memoranda of MTA meetings with NPS are provided in Appendix I.

Figure 6-33. Baltimore-Washington Parkway Park Use



MTA would require approximately 6.72 acres of temporary construction easements on parkway property to install the temporary bridges, realign the parkway approaches to the temporary bridges, construct the new bridges, and construct the transitway. Approximately 4.26 acres of park property and 2.60 acres of parkway roadway would be temporarily used by MTA to build the Preferred Alternative. The park land that would be temporarily used is grassy with scattered trees or wooded areas. Throughout the duration of bridge construction, full access to the Baltimore-Washington Parkway from Riverdale Road would be maintained.

Through coordination with NPS, FTA determined that the proposed permanent and temporary uses by the Preferred Alternative would not adversely affect the features, attributes or activities—historic parkway—that qualify the Baltimore-Washington Parkway for Section 4(f) protection. FTA is proposing a *de minimis* use determination for the Preferred Alternative at the Baltimore-Washington Parkway because of the mitigation measures proposed and the coordination undertaken with NPS to minimize harm.

Glenridge Community Park

Section 4(f) Property Description

Glenridge Community Park is located directly southwest of MD 410 (Veterans Parkway), the Northern Area Maintenance Glenridge Service Center, and Glenridge Elementary School, north of Freeport Avenue, east of Trinidad and Greenland Streets, and south of Rosalie Lane in Glenridge, Prince George's County (Figure 6-34). The M-NCPPC-Prince George's County Department of Parks and Recreation owns 62 acres of land, of which the park encompasses approximately 53.5 acres and the remaining 8.5 acres of land is the Northern Area Maintenance Glenridge Service Center. The park was funded in part with Maryland Program Open Space funds. The service center has no recreational facilities, is not part of Glenridge Community Park and is not open to the public. For these reasons, the Service Center property is not considered a Section 4(f) property and is not evaluated in this chapter.

Figure 6-34. Glenridge Community Park Picnic Area

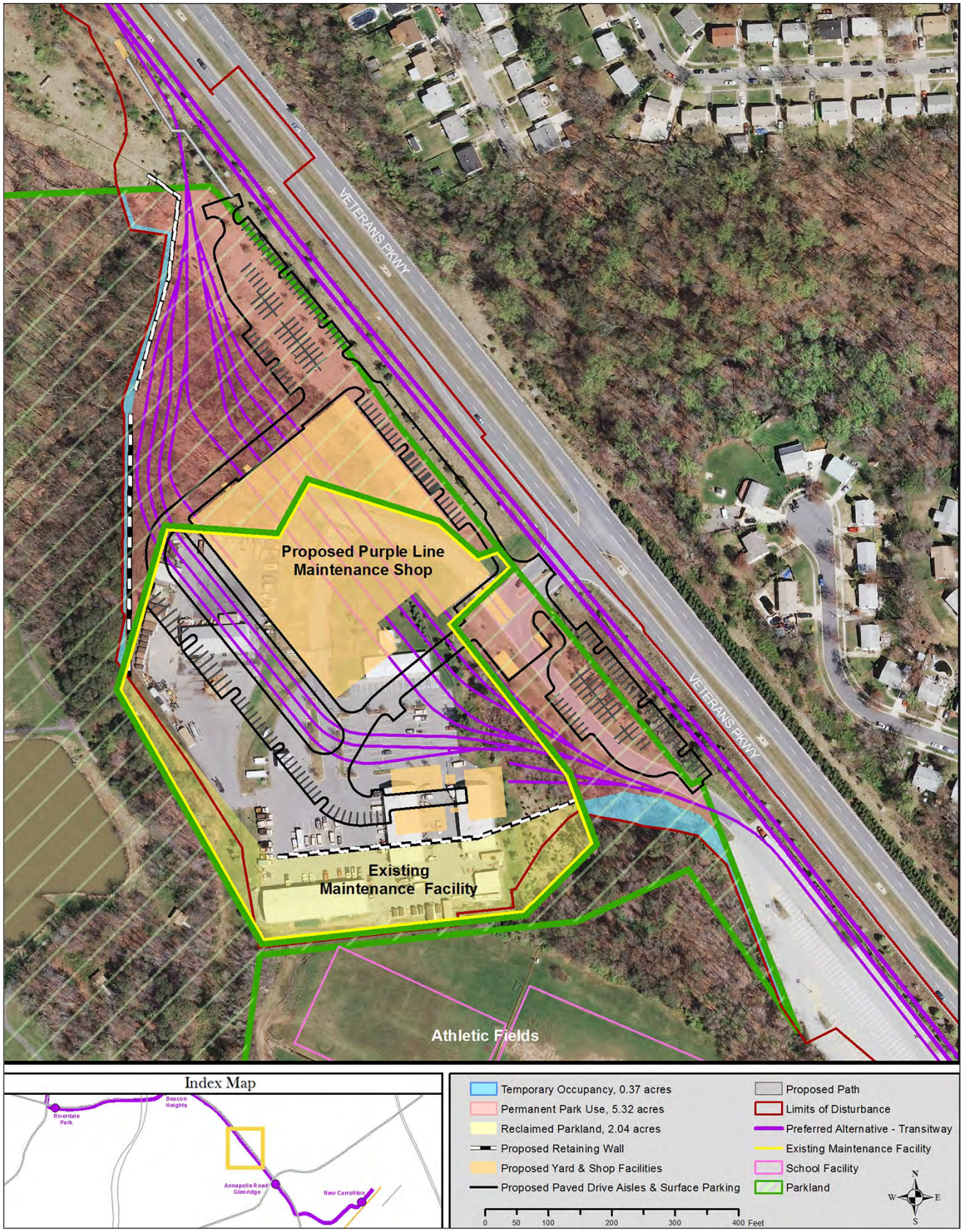
Facilities at the park include a playground, athletic fields, basketball courts, tennis courts, a trail network, shelters, picnic areas, and parking. All of the recreational facilities within the park are located within the western half of the park. The remaining park property is wooded, undeveloped, and designated a Woodland Conservation Area by M-NCPPC-Prince George's County Department of Parks and Recreation according to their ordinance and Maryland's Forest Conservation Act.

From Veterans Parkway (MD 410), Glenridge Community Park is accessible from Annapolis Road to Gallatin Street or Annapolis Road to Greenvale Parkway to 70th Place to Flintridge Drive. Parking for Glenridge Community Park is provided at both the Flintridge Drive and Gallatin Street access points.

Use of Section 4(f) Property — Permanent Use, Not *De minimis*

MTA, through coordination with M-NCPPC-Prince George's County Department of Parks and Recreation, determined its Purple Line Glenridge Maintenance Facility would be constructed primarily on the M-NCPPC's Northern Area Maintenance Glenridge Service Center property (Figure 6-35). However, MTA would use a portion of undeveloped and wooded park property, primarily north of the Service Center property. The Preferred Alternative would not impact existing, developed park facilities.

Figure 6-35. Glenridge Community Park



The proposed maintenance facility would include a large maintenance building, rail tracks for access from the mainline transitway as well as on-site vehicle storage, motor vehicle parking and access driveways to Veterans Parkway. MTA would permanently use approximately 5.32 acres of park property, including 4.1 acres within the existing forest conservation area. In addition, MTA would temporarily use approximately 0.37 acre of park land to provide work areas to build the project.

The proposed configuration of the Purple Line Glenridge Maintenance Facility would avoid the adjacent Glenridge Elementary School property and associated fields. The Preferred Alternative would not necessitate closure of Glenridge Community Park at any time during or after construction.

Avoidance Alternatives

The avoidance analysis focuses on alternative locations for the maintenance facility. Early in the planning process, MTA determined that there was no single, suitable site large enough to contain a full storage yard, maintenance facility and operations center for the Purple Line. Therefore, MTA sought two sites, preferably one in each county towards either end of the corridor.

When MTA evaluated potential locations for a storage yard and shop facility, several criteria were considered including the proximity of the site to the transitway, the size of the site, the ability to grade the site to level conditions, the ability to provide vehicular access to the site, existing zoning and land use, and adjacent land uses.

MTA performed a search for sites throughout the Prince George's County portion of the study area and assessed their feasibility. Limitations to finding suitable sites included the developed character of the corridor, the presence of large land areas devoted to stream valley parks and the Baltimore-Washington Parkway, land use, and populations. Properties considered include the Pepco utility right-of-way on University Boulevard, three sites south of the College Park Metrorail station, a site near the intersection of Riverdale Road and Veterans Parkway, two sites on the north side of Veterans Parkway, and sites east of the WMATA Orange Line tracks and US 50 in New Carrollton (Figure 6-36). Ultimately, each site was determined to be not prudent and feasible based on engineering, environmental, suitability, or cost factors as explained below.

Pepco Site

MTA considered the Pepco utility right-of-way on University Boulevard; however, Pepco was concerned about the potential for conflicts between the Preferred Alternative overhead contact system, maintenance facility power system, and the overhead high voltage Pepco transmission lines. Ultimately, Pepco was unwilling to agree to MTA using their right-of-way. For this reason, the Pepco site was determined not prudent (23 CFR 774.17(3)(v)).

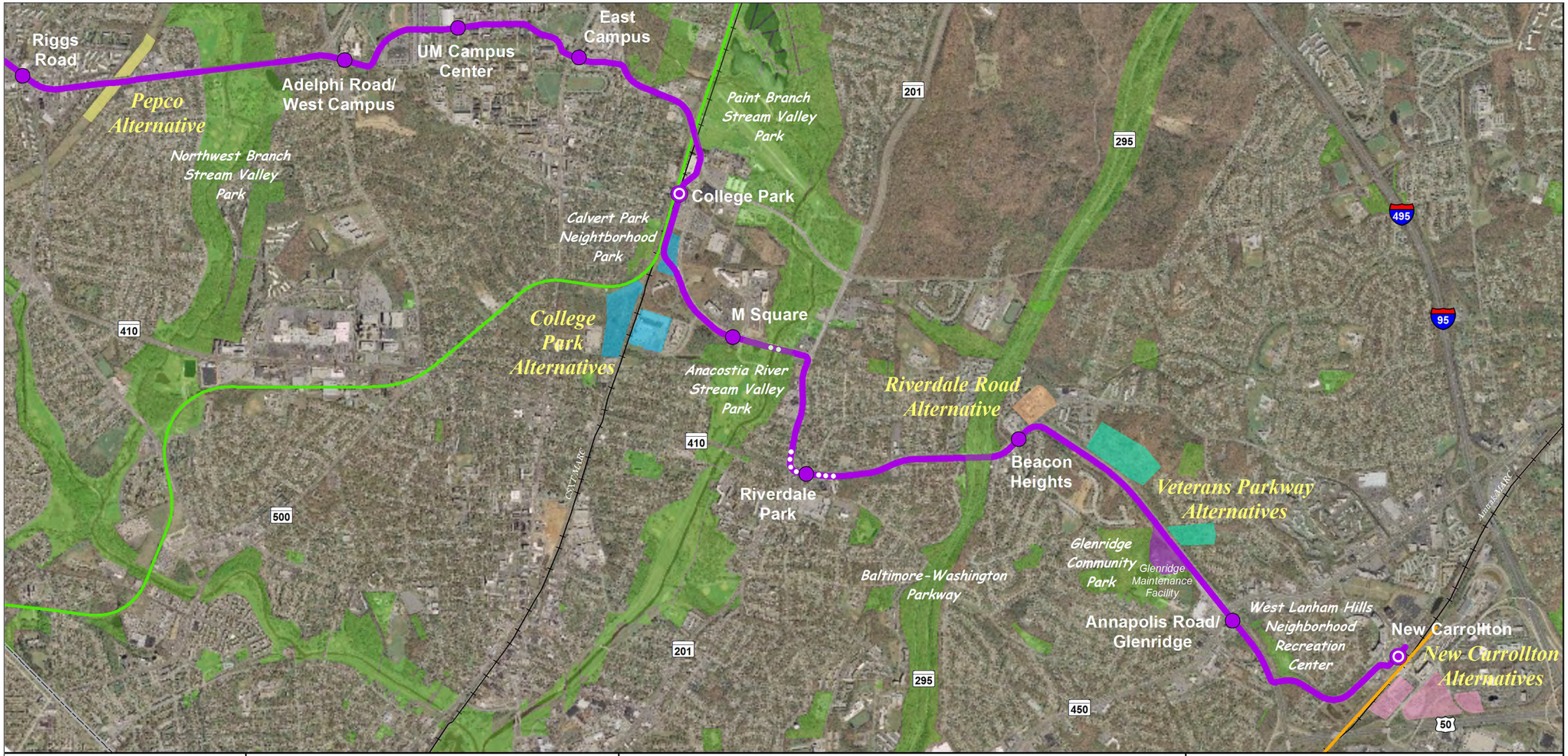
Sites South of College Park Metrorail Station

MTA considered sites south of the College Park Metrorail station, but found each difficult the access through forest and wetland areas. One site was infeasible as it is not large enough for the facility. The second site would result in additional construction, maintenance, or operational costs of an extraordinary magnitude to cross the CSXT tracks. This site is now undergoing rezoning for a major proposed mixed-use development (23 CFR 774.17(3)(iii)(A), (3)(iv), and (3)(vi)). The final site south of the College Park Metrorail station is a federal government-owned property that MTA initially thought was vacant and available. MTA's further investigation determined that using the site would cause severe social, economic, or environmental impacts as it is slated for redevelopment and is unavailable for consideration as a potential location for a maintenance facility (23 CFR 774.17(3)(iii)(A)).

Site Near the Intersection of Riverdale Road and Veterans Parkway

The site near the intersection of Riverdale Road and Veterans Parkway is developed with an apartment and townhouse community. It is surrounded by other residential areas. At the time the site was initially identified, MTA thought that it was underutilized. However, since that time new property managers have made improvements and the complex provides affordable housing for a diverse

Figure 6-36. Glenridge Community Park Avoidance Alternatives



Purple Line

Glenridge Community Park Avoidance Alternatives

Source: Maryland Transit Administration

Sheet 1 of 1

Avoidance Alternatives Groups
- Pepco Alternative
- College Park Alternatives
- Riverdale Road Alternative
- Veterans Parkway Alternatives
- New Carrollton Alternatives

Preferred Alternative
- Proposed Station Location
- Connection to Metrorail
- Proposed Glenridge Maintenance Facility
- Transitway
- Transitway on Aerial Structure

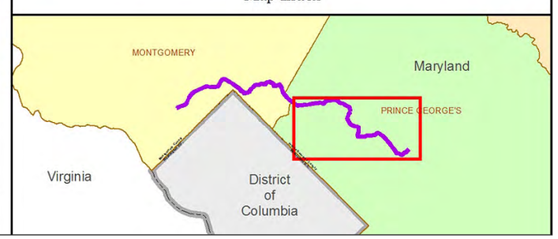
- Park
- Railroad

Metrorail
- Orange Line
- Green Line

0 0.25 0.5 1 1.5 Miles

N W E S

Map Index



community within a portion of the project area that has a majority of minority population. MTA would displace all residents in the complex and cause disproportionately high and adverse impacts to minority or low income populations if it were to use the site. In terms of Section 4(f), use of the site is not prudent because it would involve multiple factors in 23 CFR 774.17(3)(i) through 23 CFR 774.17(3)(v), that while individually minor, cumulatively cause unique impacts of extraordinary magnitude.

Sites on the North Side of Veterans Parkway

The sites on the north side of Veterans Parkway are densely forested areas with streams, wetlands and steep and uneven topography. These characteristics make the sites difficult to develop, particularly as a nearly level transit vehicle maintenance facility. One site is not prudent as it is not large enough for a maintenance facility, does not meet the purpose and need (23 CFR 774.17(3)(i)).

Sites East of the WMATA Orange Line Tracks and US 50

Finally, the sites east of the WMATA Orange Line and US 50 would require the Purple Line to cross the Amtrak and WMATA tracks as well as US 50. Using the sites would result in additional construction, maintenance, or operational costs of an extraordinary magnitude as it would be a very costly grade-separated crossing on an alignment that is not needed for the project. Further, these parcels are slated for TOD development around the New Carrollton Metrorail station (23 CFR 774.17(3)(iii)(A), (3)(iv) and (3)(vi)).

Using the criteria of Section 4(f), none of the alternative sites considered is a feasible and prudent avoidance alternative site for the Purple Line maintenance facility in Prince George's County.

The No Build Alternative is an avoidance alternative as it would cause no use of the park. However, the No Build Alternative compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need. Therefore, while the No Build Alternative is feasible, it is not prudent (23 CFR 774.17(3)(i).

Property-specific Least Overall Harm Analysis

MTA applied the Section 4(f) criteria to determine the build alternative with the least overall harm to Glenridge Community Park. In this analysis, the Preferred Alternative and each build alternative in the AA/DEIS was evaluated. MTA assumed that the refinements to the facility layout it has done for the Preferred Alternative in consultation with the M-NCPPC would have occurred if any of the other light rail transit build alternatives had been advanced. Regarding the BRT alternatives, a maintenance facility site would be required of similar size although MTA would have greater flexibility in applying the facility layout design criteria. However, for the purposes of the FEIS and Section 4(f) analyses, MTA's facility site evaluation process assumed no difference in site needs.

The amount and location of use of Glenridge Community Park would be the same for each alternative, the ability of MTA to mitigate adverse impacts to the property, and the relative severity of the remaining harm to the property after mitigation are the same (23 CFR 774.3(c)(1)(i) and (ii)). Among the alternatives, the Preferred Alternative most strongly meets the project purpose and need (23 CFR 774.3(c)(1)(v)). The magnitude of adverse impacts to properties not protected by Section 4(f) is similar among the alternatives (23 CFR 774.3(c)(1)(vi)). For these reasons, and despite the Preferred Alternative being more costly than all but the High Investment LRT Alternative (23 CFR 774.3(c)(1)(vii)), the Preferred Alternative is the alternative with the least overall harm to Glenridge Community Park.

Section 6.4.3 presents a corridor-wide least overall harm analysis that considers all Section 4(f) properties.

All Possible Planning to Minimize Harm

At the time of the AA/DEIS, MTA envisioned splitting the fleet as well as the maintenance and operations activities equivalently between the Glenridge and Lyttonsville facilities. The AA/DEIS concept of the Glenridge Yard and Shop would have used portions of Glenridge Community Park and the recreational facilities at the Glenridge Elementary School.

Several factors influenced the design of the maintenance facility at the Glenridge site since the publication of the AA/DEIS. Updated ridership and transit travel time estimates increased the total projected fleet size, increasing Purple Line maintenance and storage needs. While this data indicated the need to enlarge the facility layout to accommodate the increased fleet size, MTA responded by reprogramming use of the Glenridge and Lyttonsville sites to reduce redundant activities, reduce costs, and ultimately reduce the size of the facilities. As currently reprogrammed, the Lyttonsville Yard would be used primarily for storage, daily cleaning/servicing, and the operations center. The Glenridge Maintenance Facility would be used primarily for maintenance activities.

In making this change, MTA also reconsidered the proposed facility layout. During the AA/DEIS, a "loop" configuration was envisioned. As currently reprogrammed, the proposed Glenridge facility would have a linear configuration, which was developed in coordination with the Prince George's County Parks Department. The linear configuration is better suited to moving trains to and from the main line transitway, as well as through the maintenance facility building, than the loop configuration. While the linear configuration would permanently use approximately two additional acres of park land, it avoids impacts to the developed recreational facilities within the park including the path and pavilions. During MTA's coordination with the County regarding the park and the maintenance facility property, the County agreed that the linear configuration would have less impact to the recreational properties of the park and school than the AA/DEIS layout and is preferred. Memoranda of MTA meetings with M-NCPPC-Prince George's County Department of Parks Recreation are provided in Appendix I.

The linear configuration of the current facility design would make approximately 2.04 acres of land from the Glenridge Service Center property available to be transferred to the park and/or school. In consultation with Prince George's County, this additional land would benefit the park and school by enabling development of a second full size field, drainage improvements, and visual screening. With this transfer, the net use would be approximately 3.28 acres of protected park/recreational land.

To minimize the overall size of the maintenance facility, underground stormwater management facilities are proposed. Retaining walls will be installed to minimize land area needs and to avoid impacts to an existing stream located on the northwestern side of the proposed maintenance facility. The walls will reduce the area of grading needed, thereby maximizing the land area available for future recreational activities on the expanded Glenridge Elementary School property.

Topographically, the maintenance facility would be at a lower elevation than the school and adjacent park, thereby reducing visual effects. MTA will also plant trees as a mitigation measure to offset tree removal.

Focusing maintenance activities at the Glenridge facility requires a larger maintenance building than envisioned during the AA/DEIS, enabling most maintenance activities at the site to occur indoors. This refinement reduces visual, light, and noise effects to impact adjacent properties.

Coordination between MTA and the M-NCPPC-Prince George's County Department of Parks and Recreation is ongoing regarding minimization and mitigation strategies at Glenridge Community Park as a result of the Preferred Alternative.

West Lanham Hills Neighborhood Recreation Center

Section 4(f) Property Description

West Lanham Hills Neighborhood Recreation Center is approximately nine acres in size, located in Landover Hills, and owned and maintained by M-NCPPC-Prince George's County Department of Parks and Recreation, and funded in part by Maryland Program Open Space funds (Figure 6-37). The park is bounded by Veterans Parkway to the west, Ellin Road to the south, Emerson Road and a residential development to the east, and a car dealership to the north. The park includes a playground, recreation center, basketball court, tennis court, trail and a picnic facility.

Figure 6-37. West Lanham Hills Recreational Building

Temporary Occupancy Exception

The Preferred Alternative would be aligned along the west side of Veterans Parkway (Figure 6-38). It would cross Veterans Parkway, onto Ellin Road where the transitway would be in a mixed-use lane. MTA would raise the elevation of Ellin Road approximately one to two feet to meet the transitway design criteria. The sidewalk along Ellin Road would be rebuilt. Due to the change in roadway elevation and the steep slopes alongside Ellin Road, MTA would re-contour the land immediately adjacent to Ellin Road to meet existing grades.

An existing culvert under Ellin Road would be extended to just beyond the re-graded area. As currently designed, MTA would require a temporary easement of 0.08 acre from West Lanham Hills Neighborhood Park to enable construction access to the work area. Through its coordination with M-NCPPC-Prince George's County Department of Parks and Recreation, MTA determined that constructing the proposed transitway would not adversely affect activities, features or attributes—playground, recreational center, athletic courts, trail, and picnic areas—of the park. Memoranda of MTA meetings with M-NCPPC-Prince George's County Department of Parks Recreation are provided in Appendix I.

The proposed project would not result in the closure of West Lanham Hills Neighborhood Recreation Center at any time during or after construction. The temporary construction easement meets the five criteria for temporary occupancy exception set forth in 23 CFR 774.13(d), as discussed in Section 6.1.1 above. Specifically, (1) the duration of the proposed work is temporary, less than the overall project construction period and no change in property ownership would occur; (2) the work is confined to a small area of the park and would result in minimal changes to the park; (3) no permanent adverse impacts to the park and no interference with the protected activities, features or attributes of the park would occur; (4) the disturbed land would be fully restored to at least as good condition; and (5) the officials with jurisdiction are providing documented agreement to these findings. As such, the temporary construction easement does not constitute a use of the West Lanham Hills Neighborhood Recreation Center.

6.4.2 Historic Properties

The Preferred Alternative has the potential to use portions of seven historic properties protected by Section 4(f). Table 6-7 lists these properties and their attributes; an evaluation of each is provided in the sections that follow.

For three historic properties the Preferred Alternative would result in a permanent Section 4(f) use, which would not be *de minimis*. For these three properties, this Draft Section 4(f) Evaluation includes an analysis of avoidance alternatives, minimization measures, and mitigation efforts, as well as coordination with officials having jurisdictional authority.

For the other four historic properties, FTA is proposing a *de minimis* use determination, based on findings of "no adverse effect" for those properties in the Section 106 consultation process. These proposed findings are described below.

MTA and MHT, in coordination with Consulting parties, are preparing a Programmatic Agreement that outlines commitments and mitigations concerning historic properties and archeological sites under Section 106. MTA will implement the project in accordance with the Section 106 Programmatic Agreement. Preliminary Section 106 mitigation concepts include:

Figure 6-38. West Lanham Hills Neighborhood Recreation Center

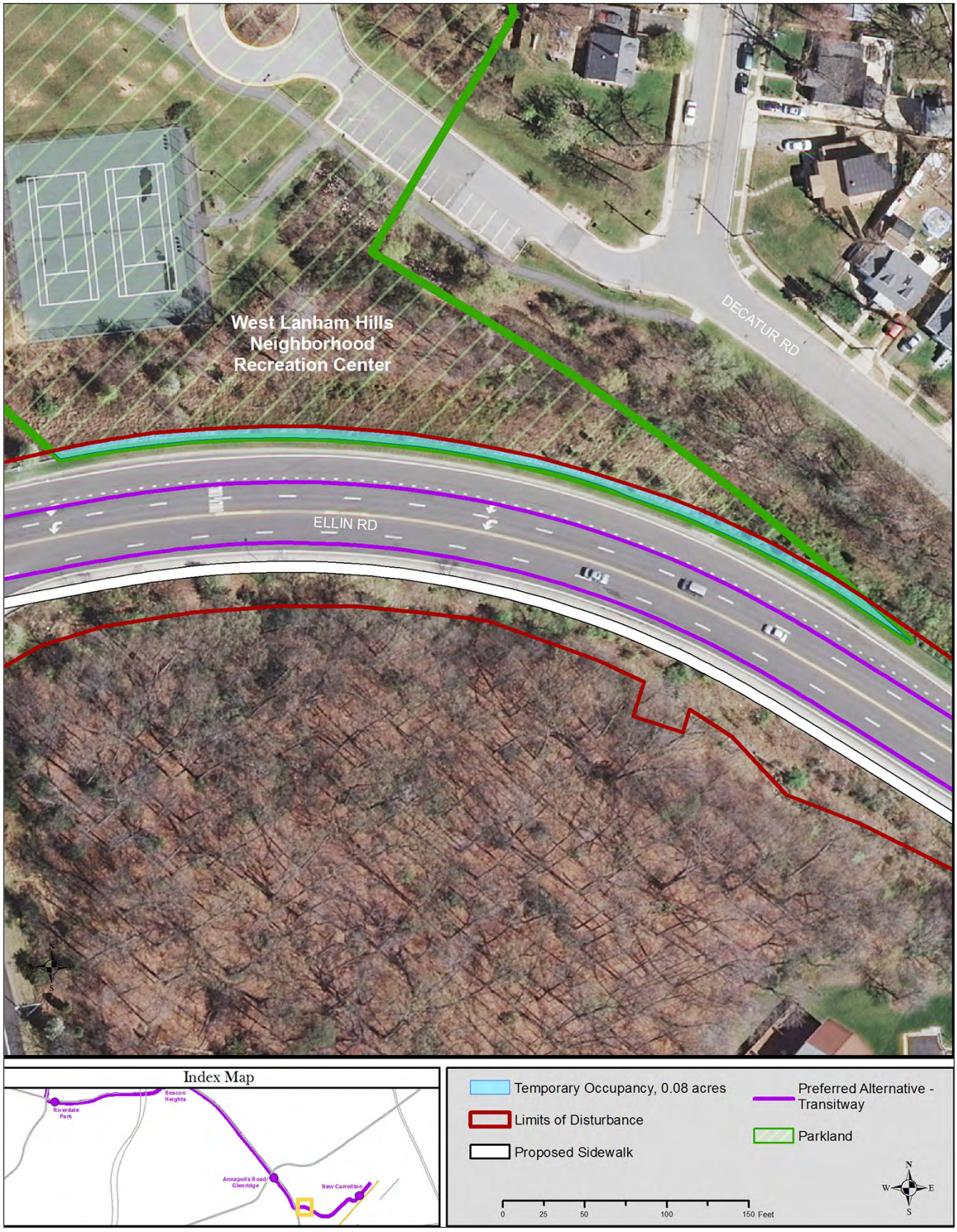


Table 6-7. Summary of Preferred Alternative Historic Sites Uses/Impacts

Section 4(f) Property	Section 106 Effect	Permanent Use, Not *De minimis*	Permanent Use, *De minimis*	Existing Property Acreage	Permanent Use Acreage	Percent of Property Permanently Used
M: 35-140 — Columbia Country Club	No Adverse Effect		•	146.00	0.55	<1%
M:36-87 – Rock Creek Park Montgomery County Survey Area	No Adverse Effect			500.00	0.00	0
PG: 69-26 — Baltimore-Washington Parkway (Gladys Noon Spellman Pkwy)/Riverdale Road Bridges	No Adverse Effect		•	1,353.00	0.54	<1%
M: 32-15 — Sligo Creek Parkway	No Adverse Effect		•	181.80	0.24	<1%
M: 36-30 — Bridge No. M-0085, Talbot Avenue Bridge	Adverse Effect	•		0.04	0.04	100%
M: 37-16 — Metropolitan Branch, B&O Railroad Corridor	Adverse Effect	•		3,960.00	2.40	<1%
M:36-12 — Falkland Apartments	Adverse Effect	•		19.61	0.52	<1%
PG:66-35 — University of Maryland Historic District	No Adverse Effect		•	1,250.00	14.19	<1%

- Prepare web-based map providing documentation and educational information on historic properties within the APE
- Develop an interpretive plan that will include historically themed signage or incorporation of historic images at stations
- Provide Consulting parties with the opportunity to review and comment on project plans during engineering design phases
- Develop a plan to monitor impacts to historic properties during construction
- Continue coordination with Consulting Parties throughout design and construction

Columbia Country Club (M: 35-140)

Section 4(f) Property Description

The Columbia Country Club (Club) (Figure 6-39) is historically significant for the period from its founding in 1911 through 1962. It is locally significant under NRHP Criterion A as an excellent example of a recreational and social complex in the suburban development of the surrounding Chevy Chase area and for its contributions, both directly and indirectly, to development of the Chevy Chase area. It is also locally significant under Criterion C for the landscape design of its golf course and the Spanish Revival-style design of its clubhouse.

Figure 6-39. Columbia Country Club Clubhouse

The boundaries of the Columbia Country Club as a National Register-eligible property generally follow the Club's existing property boundaries. The Club property is made up of two irregular parcels of land which are separated by the 100-foot-wide Georgetown Branch right-of-way. This 100-foot-wide right-of-way is the former Georgetown Branch of the B&O Railroad, which operated as a freight line from 1909 until 1985 between Silver Spring, Maryland and Georgetown, Washington DC. The Georgetown Branch predated the Columbia Country Club. The right-of-way was previously determined to be not eligible for the NRHP on April 11, 2002. An interim trail is now located in a

portion of the Georgetown Branch right-of-way, and a few of the Club's greens and tees have encroached upon the county-owned right-of-way on both sides of the right-of-way. A chain link fence lines both sides of the Georgetown Branch Interim Trail, creating a physical separation between the trail and the Columbia Country Club.

The Columbia Country Club was determined to be eligible for the NRHP in 2002 under Section 106 criteria A and C. The Columbia Country Club was re-evaluated in 2011 and remains eligible under the same criteria. As amended in 2012, the NRHP boundaries generally follow the current legal boundary, but have been expanded to include the portions of three golf holes located within the County-owned right-of-way.

Use of Section 4(f) Property — *De minimis* Use

The Locally Preferred Alternative, developed in 2009 after completion of the AA/DEIS, located the Purple Line transitway and the Capital Crescent Trail entirely within the County-owned Georgetown Branch right-of-way. The LPA would have impacted the greens and tees that extend into the Georgetown Branch right-of-way. The LPA would have required relocating those greens and tees.

In refining the LPA to develop the Preferred Alternative, and in response to Columbia Country Club concerns about impacts on views of the golf course from its clubhouse and about the need to relocate the greens and tees on the south side of the right-of-way, MTA agreed to shift the Preferred Alternative alignment slightly north. With the northward shift, the alignment of the transitway and trail would be within the northern portion of the county-owned Georgetown Branch right-of-way, with the northerly retaining wall partially on Club property. The northerly shift preserves the holes and tees on the south side of the right-of-way as well as certain landscaping, including mature trees protecting the viewshed from the Clubhouse (Figure 6-40).

The Club prefers the northward shift, even though it is located partially on Columbia Country Club property, because it causes less impact to views from the clubhouse and it reduces impacts to the greens and tees on the south side of the right-of-way. In particular, existing landscaping including mature trees are preserved.

Under the Preferred Alternative, existing golf course amenities and landscaping on the north side within the County right-of-way would be removed. The substantial difference in elevation between the transitway and the golf course necessitates the use of retaining walls on the north and south sides of the transitway. MTA, in consultation with the Columbia Country Club, developed a terraced retaining wall design on the north side featuring large planting areas for landscape and vegetative screening materials. MTA would provide a solid parapet noise panel approximately four feet in height along both sides of the transitway where it passes the Columbia Country Club property. Approximately eleven overhead contact wire poles would be placed along the transitway where it passes the Columbia Country Club property.

As part of the Preferred Alternative, MTA would reconstruct and lengthen the cart underpasses under the county-owned right-of-way. Golf course features within the existing County right-of-way would be relocated by the Columbia Country Club prior to the start of project construction. No stations or other large-scale, above-ground elements are proposed within the boundary of the Columbia Country Club or within the county-owned right-of-way at the Columbia Country Club frontage.

Through its coordination with the Columbia Country Club and in response to their concerns that the Preferred Alternative construction period be as short as possible within the Columbia Country Club property and along the Georgetown Branch trail, MTA developed a construction plan with a work area footprint large enough to allow multiple activities to occur simultaneously using larger equipment. This work area would comprise approximately 2.29 acres along the north side of the Georgetown Branch trail. The work area would include a temporary access road at the foot of the

Figure 6-40. Columbia Country Club

retaining wall in order to provide an efficient construction operation. The underpasses and landscape terrace work areas would also be accessed from this construction staging area. Upon project completion, MTA would restore the temporary access road area. In terms of Section 4(f), the Preferred Alternative would permanently use 0.55 acre and temporarily use 2.29 acres of the Columbia Country Club.

The Preferred Alternative would not alter the Columbia Country Club's historic integrity related to location, design, setting, materials, workmanship, feeling, and association. The proposed overhead wire system would not visually affect the property's setting, feeling, and association, and the view from the club house would not be adversely affected. As part of Section 106 consultation and subject to input from the Maryland Historical Trust and other consulting parties, FTA proposes that the Preferred Alternative would have no adverse effect on the historic Columbia Country Club. In addition, FTA, MTA and the MHT are preparing a Section 106 Programmatic Agreement that outlines commitments and mitigation concerning the Columbia Country Club. MTA will implement the project in accordance with the signed Section 106 Programmatic Agreement.

A Section 106 no adverse effect finding would automatically yield a *de minimis* use determination under Section 4(f). The proposed permanent and temporary uses by the Preferred Alternative would not affect the historic viewshed of the Clubhouse or the overall design and features of the golf course that qualify the Columbia Country Club for Section 4(f) protection.

Rock Creek Park Montgomery County Survey Area (M: 36-87)

Section 4(f) Property Description

Rock Creek Park Montgomery County Survey Area is a portion of historic Rock Creek, a linear corridor approximately 3,960 acres in size, extending from Olney-Laytonsville Road (MD 108) in Montgomery County to the Washington DC boundary. The Rock Creek Park Montgomery County Survey Area encompasses an area of 500 feet on either side of the Georgetown Branch Interim Trail. Park amenities in the survey area include the Rock Creek National Recreational Trail, the creek, and an athletic field. The park is owned and maintained by M-NCPPC-Montgomery County Department of Parks, funded in part by Maryland Program Open Space funds.

Use of Section 4(f) Property

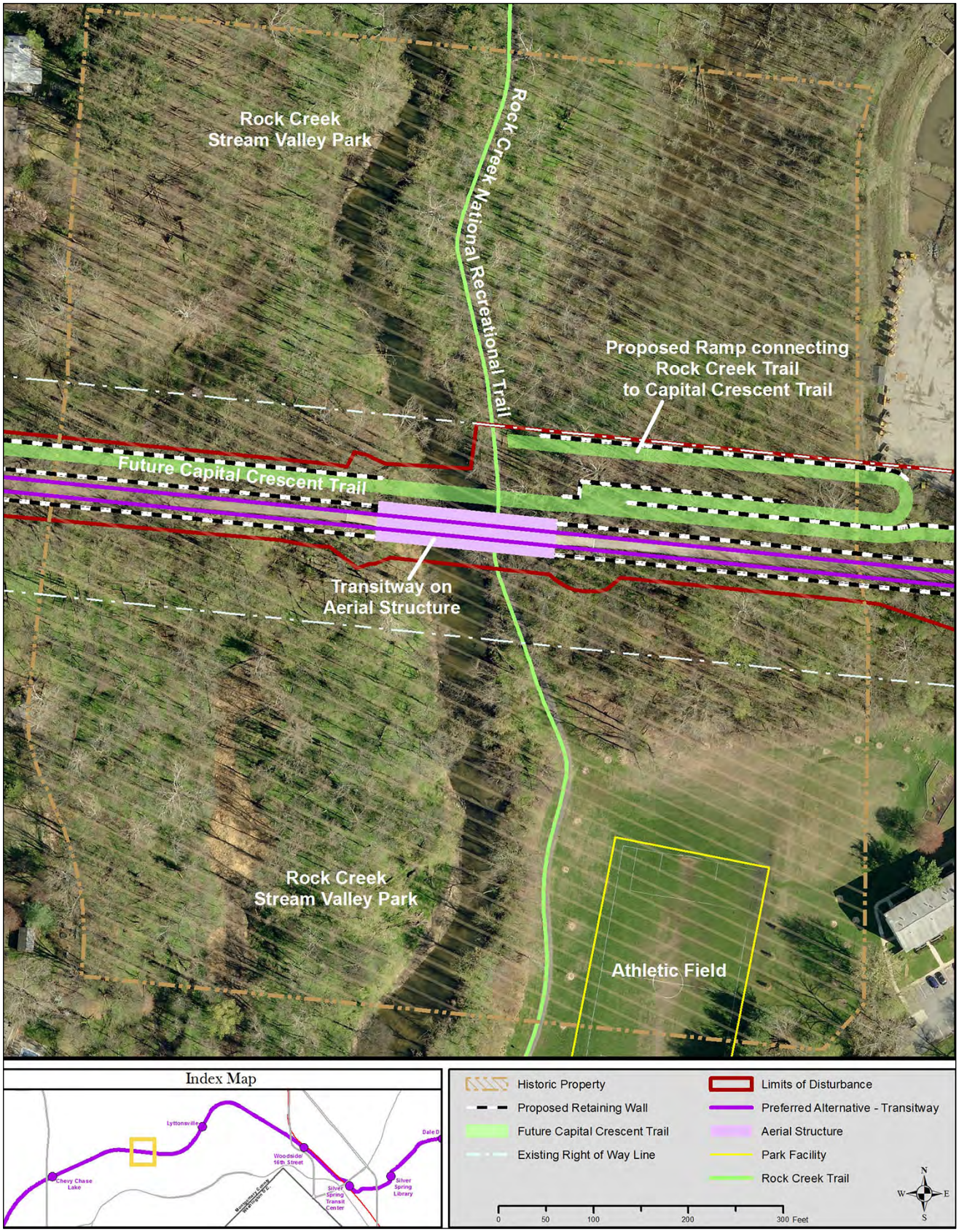
The Preferred Alternative would be aligned completely within the Georgetown Branch right-of-way through Rock Creek Park Montgomery County Survey Area (Figure 6-41). MTA would remove the existing bridge that currently carries the Georgetown Branch Interim Trail over Rock Creek and the Rock Creek National Recreational Trail. MTA, working in consultation with M-NCPPC-Montgomery County Department of Parks and the NCPC, proposes to build two new bridges in the same area for the Purple Line project, one for the transitway and one for the Capital Crescent Trail. Memoranda of MTA meetings with M-NCPPC-Montgomery County Department of Parks and NCPC are provided in Appendix I.

Temporary Occupancy Exception

During construction of the bridges, the portion of the Rock Creek National Recreational Trail in the immediate vicinity of the bridges would be temporarily detoured for short periods of time. When trail detours occur, the detour route would begin to the north of the proposed project area and use Susanna Lane to Jones Mill Road, south to East-West Highway, then east to Meadowbrook Lane, where the Rock Creek National Recreational Trail would be accessed to the south of the proposed project area.

The Preferred Alternative would improve connections to the Rock Creek National Recreational Trail as the Capital Crescent Trail bridge would lead to a ramp to the existing trail. Memoranda of MTA meetings with M-NCPPC-Montgomery County Department of Parks and NCPC are provided in Appendix I. Tree removal would be required within the Montgomery County right-of-way for the construction of the proposed transitway and trail structures. Since all tree removal would be completely within Montgomery County right-of-way and would not encroach onto the historic park property, these activities would not be a use of a Section 4(f) property.

Figure 6-41: Rock Creek Park Montgomery County Survey Area



The Preferred Alternative would not alter the Rock Creek Park Montgomery County Survey Area's historic integrity related to location, design, setting, materials, workmanship, feeling, and association. Although MTA would introduce new visual elements in the County right-of-way, the Preferred Alternative would not visually affect the historic property's setting, feeling, and association. As part of Section 106 consultation and subject to input from the Maryland Historical Trust and other consulting parties, FTA proposes that the Preferred Alternative would have no adverse effect on the historic Rock Creek Park Montgomery County Survey Area.

FTA proposes a temporary occupancy exception determination for the trail detour, as it satisfies the five criteria for temporary occupancy exception set forth in 23 CFR 774.13(d), as discussed in Section 6.1.1 above. Specifically, (1) the duration of the proposed work is temporary, less than the overall project construction period and no change in property ownership would occur; (2) the work is confined to a small area of the property and would result in minimal changes to the property; (3) no permanent adverse impacts to the property and no interference with the protected activities, features or attributes of the property would occur; (4) the disturbed land would be fully restored to at least as good condition; and (5) the officials with jurisdiction are providing documented agreement to these findings. As such, the temporary construction easements do not constitute a use of historic Rock Creek Park Montgomery County Survey Area.

Constructive Use

The Preferred Alternative would not permanently use any part of historic Rock Creek Park Montgomery County Survey Area. The FEIS Chapter 4.0 assessment of effects indicates that the Preferred Alternative would not cause noise, vibration, or visual effects on the historic Rock Creek Park Montgomery County Survey Area. Therefore, the Preferred Alternative would not substantially impair the activities, features, or attributes—trail, creek, and athletic field—that qualify the property for protection under Section 4(f); no constructive use would occur.

Baltimore-Washington Parkway (Gladys Noon Spellman Pkwy)/Riverdale Road Bridges (PG: 69-26).

Section 4(f) Property Description

Baltimore-Washington Parkway (MD 295) (PG: 69-26) was listed in the National Register of Historic Places in 1991 as part of the Parkways of the National Capital Region, 1913–1965 multiple property listing. The parkway is significant under Criterion A for its association with mid-twentieth century transportation planning in the Washington DC metropolitan area and under Criterion C for the design of its various components, including structures and landscape.

The Baltimore-Washington Parkway (Gladys Noon Spellman Parkway) is a 32-mile divided highway that extends from the US 50/MD 201 interchange at the Washington DC border, north to I-95 in Baltimore. Built between 1950 and 1954 (period of significance) and opened in 1954, the parkway has a variable-width median and is bounded by a buffer of forest and cultivated vegetation. The parkway follows gently rolling terrain and has modest vistas. The median varies between 15 to 200 feet wide and the right-of-way ranges from 400 to 800 feet wide. The median vegetation ranges from mown grass to dense woodland.

The Baltimore-Washington Parkway achieves state and local significance in the areas of transportation and landscape architecture. It exemplifies the last period of construction for this type of road and is the only fully developed parkway of its kind in Maryland. The enabling legislation justifies the Baltimore-Washington Parkway as a major scenic artery within the park and parkway system of the nation's capital; as a formal entrance to the city of Washington DC; as a defense and military route among suburban Federal installations and the city; and as a contributing element to the commercial and residential development of the Baltimore-Washington corridor. The parkway maintains original integrity of setting, design, and associations characteristic of the earliest parkways designed for pleasure motoring—the preservation of natural topography and vegetation for scenic purposes coupled with "high-speed" elements of modern freeway design.

Within the study area, two circa 1995 bridges (Riverdale Road bridges) each carry two lanes of Baltimore-Washington Parkway over six lanes of Riverdale Road. The original bridges over Riverdale Road were constructed between 1951 and 1952 and carried two travel lanes over the two travel lanes of Riverdale Road, spanning 60 feet. While the bridges are sympathetic to the stylistic attributes of the larger parkway system, the bridges are not original to the park, were constructed outside the parkway's period of significance, and were constructed using modern materials. As such, they do not have historic integrity of location, setting, design, feeling, and workmanship and are not contributing elements of the historic property.

No historically significant contributing structures are located within the immediate project area. The land around the bridges consists of grassed slopes and forests of varying densities within the median and along the outer boundaries of the interchange over Riverdale Road.

Use of Section 4(f) Property — *De minimis* Use

As shown on Figure 6-42, the Preferred Alternative would be aligned directly south of and parallel to Riverdale Road (MD 410) in a dedicated transitway. As the existing bridges over Riverdale Road are insufficiently long to span the roadway and the new transitway, MTA would replace the existing Baltimore-Washington Parkway bridges with longer structures. In coordination with the National Park Service—National Capital Parks East, MTA would install two temporary bridges, one in each direction, on the outside of the existing parkway, to maintain two lanes of traffic in each direction. The roadway approaches to the bridges would be temporarily shifted to align with the temporary bridges.

MTA has worked closely with the National Park Service and NCPC to minimize and mitigate physical and visual effects of the Preferred Alternative on the parkway property. By refining the transitway alignment along the south side of Riverdale Road, MTA would permanently use approximately 0.54 acre of land from the Baltimore-Washington Parkway.

The new bridges would be stylistically similar to other parkway bridges; MTA would reuse stone facing from the existing structures on the new bridges, or would use complementary stone selected in coordination with NPS (Figure 6-43). Protective screening of the overhead wire system would be incorporated into the bridge structures to eliminate the view of wires from the parkway. Wires would be attached to the bridge to minimize the number of poles used along the property. Although the new bridges would slightly change the setting and design of the roadway, the Preferred Alternative would have no adverse effect on the historic Baltimore-Washington Parkway in terms of Section 106.

Construction of the temporary roadway facilities and new, permanent bridge structures would require MTA to temporarily use approximately 6.61 acres of land within the historic boundaries of the parkway with temporary construction easements. The work areas are primarily grassy with scattered trees or paved roadways. During construction, access to the Baltimore-Washington Parkway from Riverdale Road would not be impeded. MTA would restore temporarily used property after construction.

FTA is coordinating with MHT and other consulting parties to complete Section 106 consultation; FTA is proposing a no adverse effect determination regarding the Baltimore-Washington Parkway. In addition, FTA, MTA and the MHT are preparing a Section 106 Programmatic Agreement that outlines commitments and mitigation concerning the Baltimore-Washington Parkway. MTA will implement the project in accordance with the signed Section 106 Programmatic Agreement.

In terms of Section 4(f), MTA would permanently use 0.54 acres and temporarily use 6.61 acres of the Baltimore-Washington Parkway. A Section 106 no adverse effect finding would automatically yield a *de minimis* use determination under Section 4(f). The proposed permanent and temporary uses by MTA would not adversely affect the features, attributes or activities that qualify the Baltimore-Washington Parkway for Section 4(f) protection.

Figure 6-42. Baltimore-Washington Parkway Historic Use

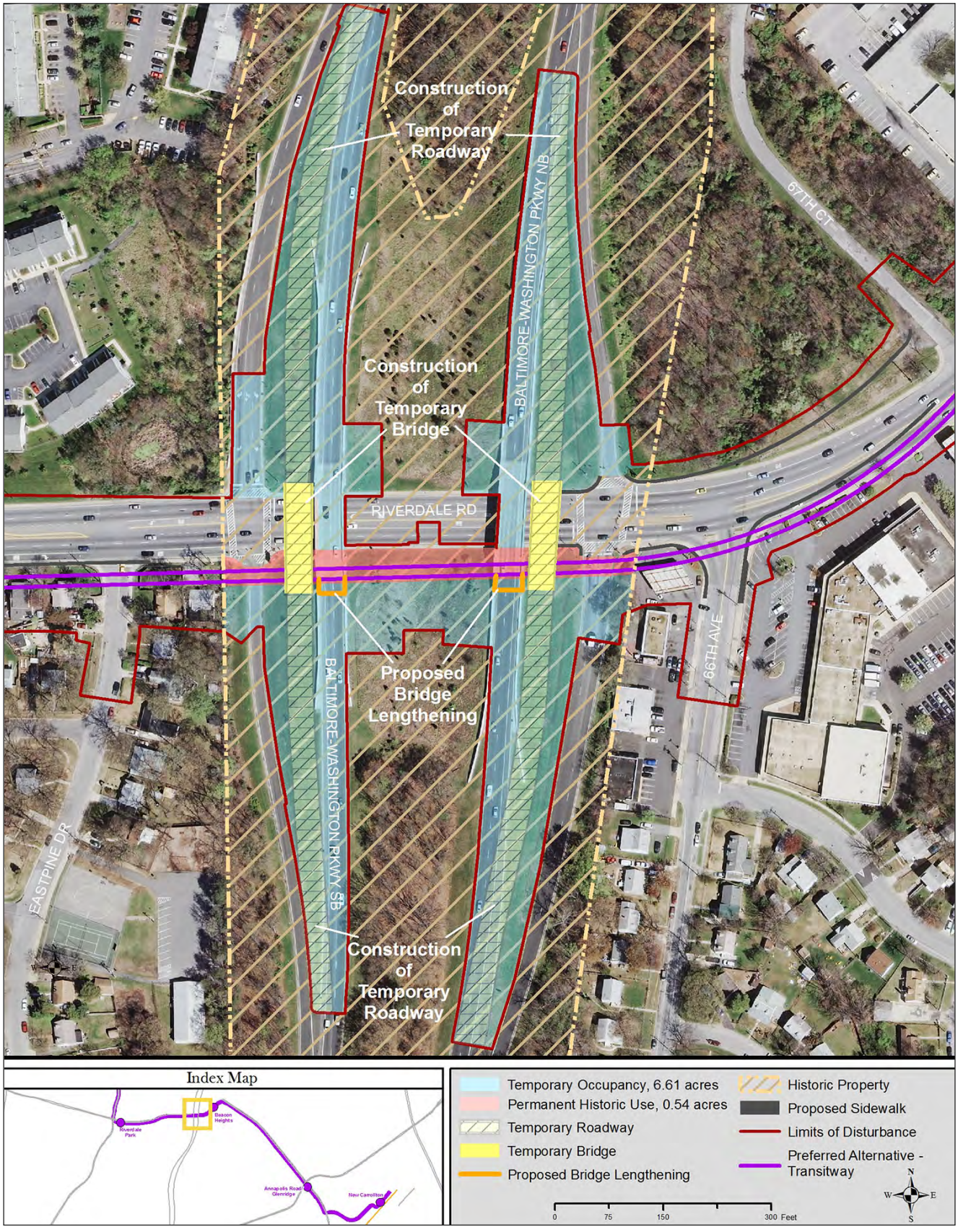


Figure 6-43. Baltimore-Washington Parkway Bridge Abutment

Sligo Creek Parkway (M: 32-15 and PG: 65-25)

Section 4(f) Property Description

Sligo Creek Parkway, located within Sligo Creek Stream Valley Park, is approximately five miles long with an average right-of-way width of 30 feet. The roadway commences at University Boulevard near Silver Spring in the north and winds southeastward to New Hampshire Avenue in Takoma Park. The parkway is significant under Criteria A and C as a roadway corridor that includes enhanced natural terrain and topography, existing and enhanced native vegetation, an articulated vegetative buffer, vistas, designed culverts, guard rails, and bridges, limited and well-distanced access, and roadside overlooks, parks, and parking areas.

The parkway was a project conceived by planning officials and developers to complement the boom in the construction of the Washington DC suburbs during 1929. Within the park, the two-lane undivided roadway meanders along Sligo Creek accessing numerous foot paths, bridges, picnic and playground areas and a golf course. The width of Sligo Creek Stream Valley Park generally buffers parkway road from adjacent development and provides a recreational driving experience. The parkway's road-related features include stone retaining walls and bridges, metal foot bridges, reinforced timber guardrails and parking areas.

Sligo Creek Parkway is significant as a component of the regional transportation routes and associated landscape and engineering features planned and constructed by the M-NCPPC-Montgomery County in the years spanning the First and Second World Wars.

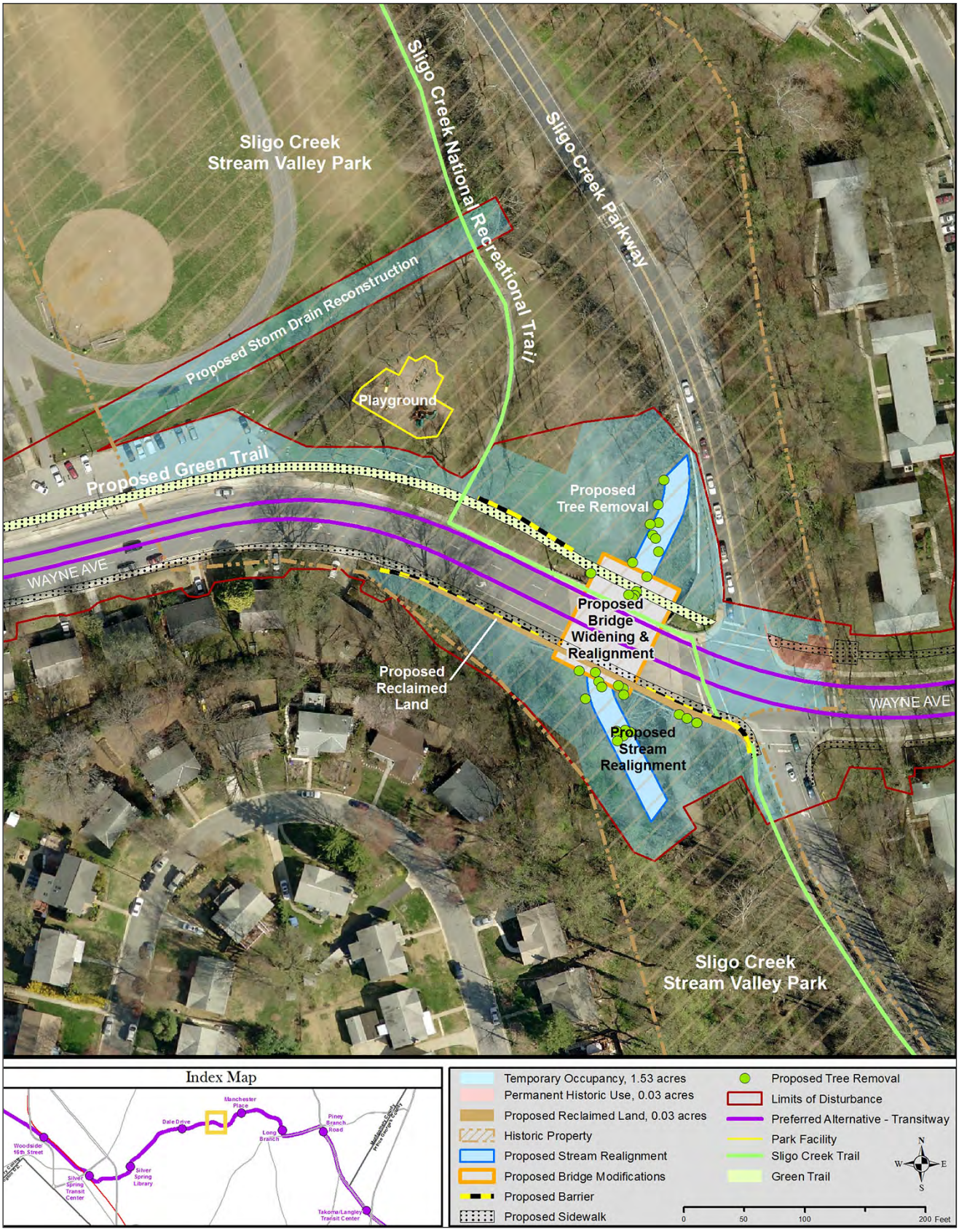
Use of Section 4(f) Property — *De minimis* Use

The Preferred Alternative would be located on Wayne Avenue across Sligo Creek Stream Valley Park, crossing the Sligo Creek Parkway at grade at the Wayne Avenue intersection (Figure 6-44). The Preferred Alternative elements in the parkway vicinity include the transitway and overhead contact system. The current setting of the parkway/Wayne Avenue intersection includes the two roadways and the park, consisting of mature trees, shrubs and the creek. The bridge carrying Wayne Avenue over Sligo Creek, upon which the transitway would run, was reconstructed in 2004 and is not a contributing element to the parkway. The Wayne Avenue bridge in this location would be widened to accommodate the transitway. As part of the construction of the new Wayne Avenue bridge, the stream would be realigned for a short distance.

FTA is coordinating with MHT and other consulting parties to complete Section 106 consultation; FTA is proposing a no adverse effect determination regarding the Sligo Creek Parkway. In addition, FTA, MTA and the MHT are preparing a Section 106 Programmatic Agreement that outlines commitments and mitigation concerning the Sligo Creek Parkway. MTA will implement the project in accordance with the signed Section 106 Programmatic Agreement.

In terms of Section 4(f), MTA would permanently use 0.24 acre and temporarily use 1.91 acres of the Sligo Creek Parkway. A Section 106 no adverse effect finding would automatically yield a *de minimis* use determination under Section 4(f). The proposed permanent and temporary uses by the Preferred Alternative would not adversely affect the features, attributes or activities—historic parkway—that qualify the Sligo Creek Parkway for Section 4(f) protection.

Figure 6-44. Sligo Creek Parkway



Metropolitan Branch, B&O Railroad (M: 37-16)

Section 4(f) Property Description

The Metropolitan Branch of the B&O Railroad extends from Union Station, Washington DC northwest to Point of Rocks, Frederick County, Maryland, where it connects with the principal line of the original B&O Railroad and becomes the primary rail route to Chicago and the west from the Washington-Baltimore area (Figure 6-45)

Figure 6-45. B&O Railroad

The Metropolitan Branch of the B&O Railroad was originally built between 1865 and 1873 and has been maintained and upgraded since construction, as it continues to serve as an active CSXT, WMATA, Amtrak and MARC transportation route. In the Purple Line FEIS, this corridor is referred to as the CSXT right-of-way. The Metropolitan Branch, B&O Railroad, is historically significant for its association with the transportation industry, as well as agricultural and residential development of Montgomery County (Criterion A) and for its extant stations and engineering structures (Criterion C).

Use of Section 4(f) Property — Permanent Use, Not *De minimis*

The Preferred Alternative would be aligned on and along the existing Metropolitan Branch, B&O Railroad right-of-way from just south of Brookville Road to Colesville Road (Figure 6-46). While the width of the railroad right-of-way would remain unchanged, MTA would use a portion of the property for the Preferred Alternative and MTA would replace the existing Talbot Avenue Bridge, a contributing element to the historic railroad property.

MTA would permanently use approximately 2.4 acres of property within the Metropolitan Branch, B&O Railroad property for the Preferred Alternative, and would temporarily use approximately 3.29 acres of the property during construction. The land area to be used is primarily ballast track bed with no aboveground railroad infrastructure. As the Preferred Alternative would intersect the southern abutment of the Talbot Avenue Bridge, MTA would remove the historic structure and build a new, longer bridge. The Talbot Avenue Bridge is the next property discussed in this section, which includes details regarding MTA's proposed use of the bridge. These two actions, removing the historic structure and building a new, longer bridge, would have an adverse effect on the Metropolitan Branch, B&O Railroad property.

If Montgomery County is able reach agreement on the use of CSXT property for the Capital Crescent Trail, the trail would result in the permanent use of approximately 0.4 acre of property within the Metropolitan Branch, B&O Railroad historic property boundary.

Avoidance Alternatives

Two avoidance alternatives were considered involving a southerly shift of the transitway ("A") and tunneling ("C"). Figure 6-47 shows these alternatives. The TSM alternative examined in the AA/DEIS was not considered in the analysis of avoidance alternatives as it compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need (23 CFR 774.17(3)(i)).

Southerly Alignment Shift ("A")

MTA considered shifting the transitway south of Talbot Avenue and the bridge to avoid impacting the bridge. A southerly alignment would displace eight single family residences, the Rosemary Hills Elementary School Building and some of its recreational spaces. While a southern shift may be feasible, it is not prudent as it would cause severe social, economic, or environmental impacts involving impacts to residences, the school and its outdoor recreational areas (23 CFR 774.17(3)(iii)(A)).

Tunnel Alternatives

MTA considered two alternatives involving tunneling. In Tunnel Alternative "C," the transitway would cross under the Metropolitan Branch, B&O Railroad property in a tunnel and emerge on the north side of the right-of-way. It would run parallel to the Metropolitan Branch, B&O Railroad property on the surface to Silver Spring Transit Center.

In the second tunneling alternative, the "under Talbot Avenue Bridge" tunneling alternative, the transitway would be aligned under the Metropolitan Branch, B&O Railroad property in a tunnel, passing under the Talbot Avenue Bridge abutment and continuing to the Silver Spring Transit Center. To avoid impacting the bridge, the tunnel would have to be deeper and longer than the tunnel considered in the AA/DEIS.

For each tunnel alternative, business displacements would occur along the surface portion of the alignments as each approaches the Silver Spring Transit Center, including a two-story professional office park and a large multistory (approximately 15 floors) office building. Neither tunnel alternative is considered prudent as each involves multiple factors that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude: existing development on both sides of the Metropolitan Branch corridor that substantially constrains access to the site during construction; severe social, economic, or environmental impacts due to the high number of property impacts; and additional construction, maintenance, or operational costs of an extraordinary magnitude due to the extraordinary construction cost (23 CFR 774.17(3)(vi).

No Build Alternative

The No Build Alternative is an avoidance alternative considered in this Draft Section 4(f) Evaluation. The No Build Alternative would cause no use of the historic property. However, the No Build Alternative does not achieve the project purpose and need. Therefore, while the No Build Alternative is feasible, it compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need (23 CFR 774.17(3)(i)).

Property-specific Least Overall Harm Analysis

MTA applied the Section 4(f) criteria to determine the build alternative with the least overall harm to the Metropolitan Branch, B&O Railroad property.

AA/DEIS Alternatives

During development of the AA/DEIS alternatives, MTA proposed using the Metropolitan Branch, B&O Railroad property because it is an existing transportation right-of-way that traverses the Purple Line corridor, and the portion of the right-of-way in the corridor is in a similar orientation to that of the Purple Line. Using the property would enable the Purple Line to operate faster and more reliably than on the existing roadway network, thereby responding to the project purpose and need.

The Low Investment BRT Alternative is the only build alternative that would not use the Metropolitan Branch, B&O Railroad property, as it would not be aligned along the Metropolitan Branch, B&O Railroad corridor.

With the exception of the Low Investment BRT Alternative, each of the alternatives considered in the AA/DEIS would use the same portion of the Metropolitan Branch, B&O Railroad property as the Preferred Alternative. Each of the AA/DEIS alternatives would be aligned in the Metropolitan Branch, B&O Railroad property and would use the Metropolitan Branch property. Each of the alternatives would require two dedicated travel lanes, one in each direction. The amount of right-of-way needed would be the same among the alternatives, and the reasons for the alignment on the south side of the Metropolitan Branch, B&O Railroad property would be the same among the alternatives.

The use of the Metropolitan Branch, B&O Railroad property would be the same for each AA/DEIS alternative, the ability of MTA to mitigate adverse impacts to the property, and the relative severity of the remaining harm to the property are the same (23 CFR 774.3(c)(1)(i) and (ii)). Among the alternatives, the Preferred Alternative most strongly meets the project purpose and need (23 CFR 774.3(c)(1)(v)). The magnitude of adverse impacts to properties not protected by Section 4(f) is

Figure 6-46. Metropolitan Branch, B&O Railroad

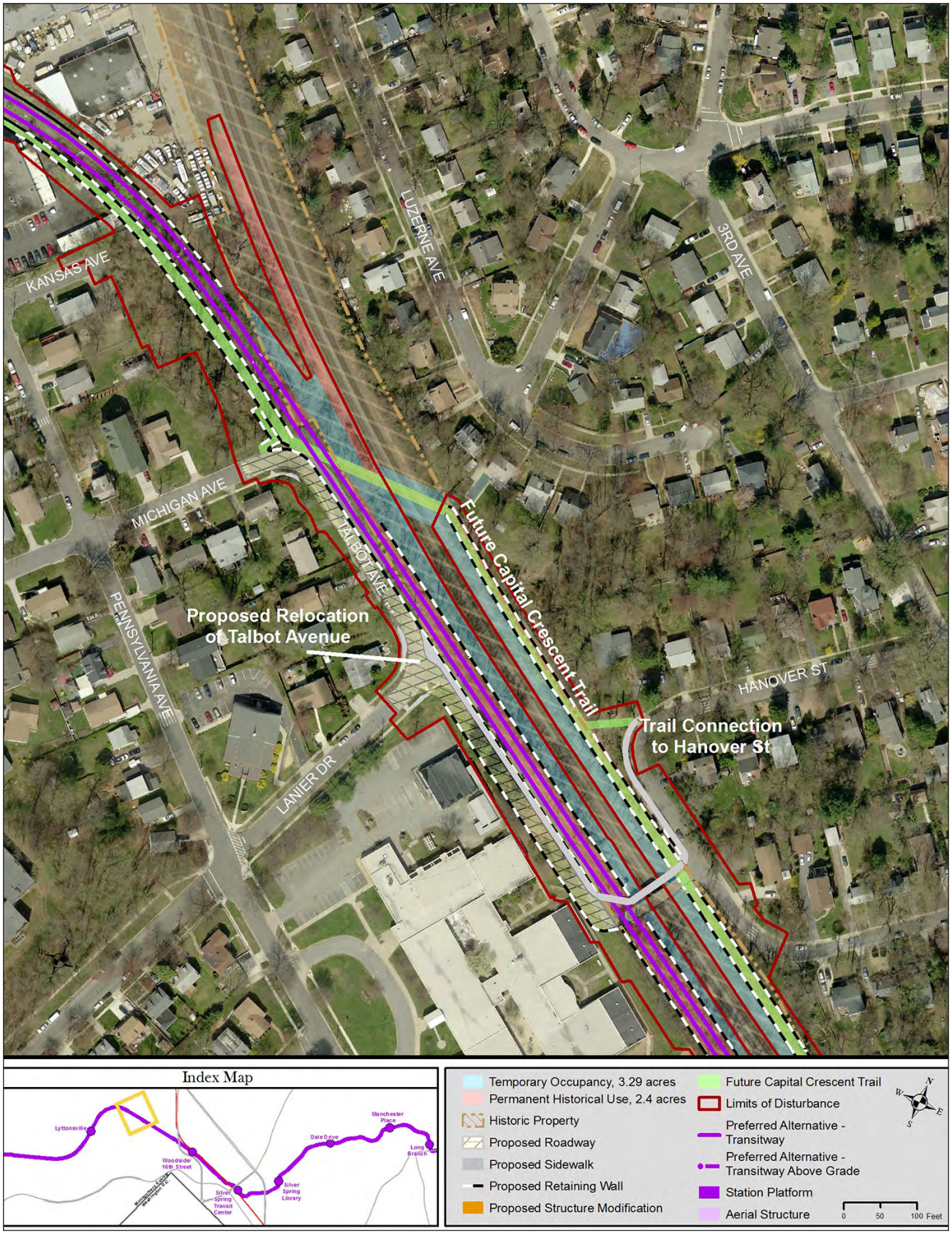


Figure 6-46. Metropolitan Branch, B&O Railroad (continued)

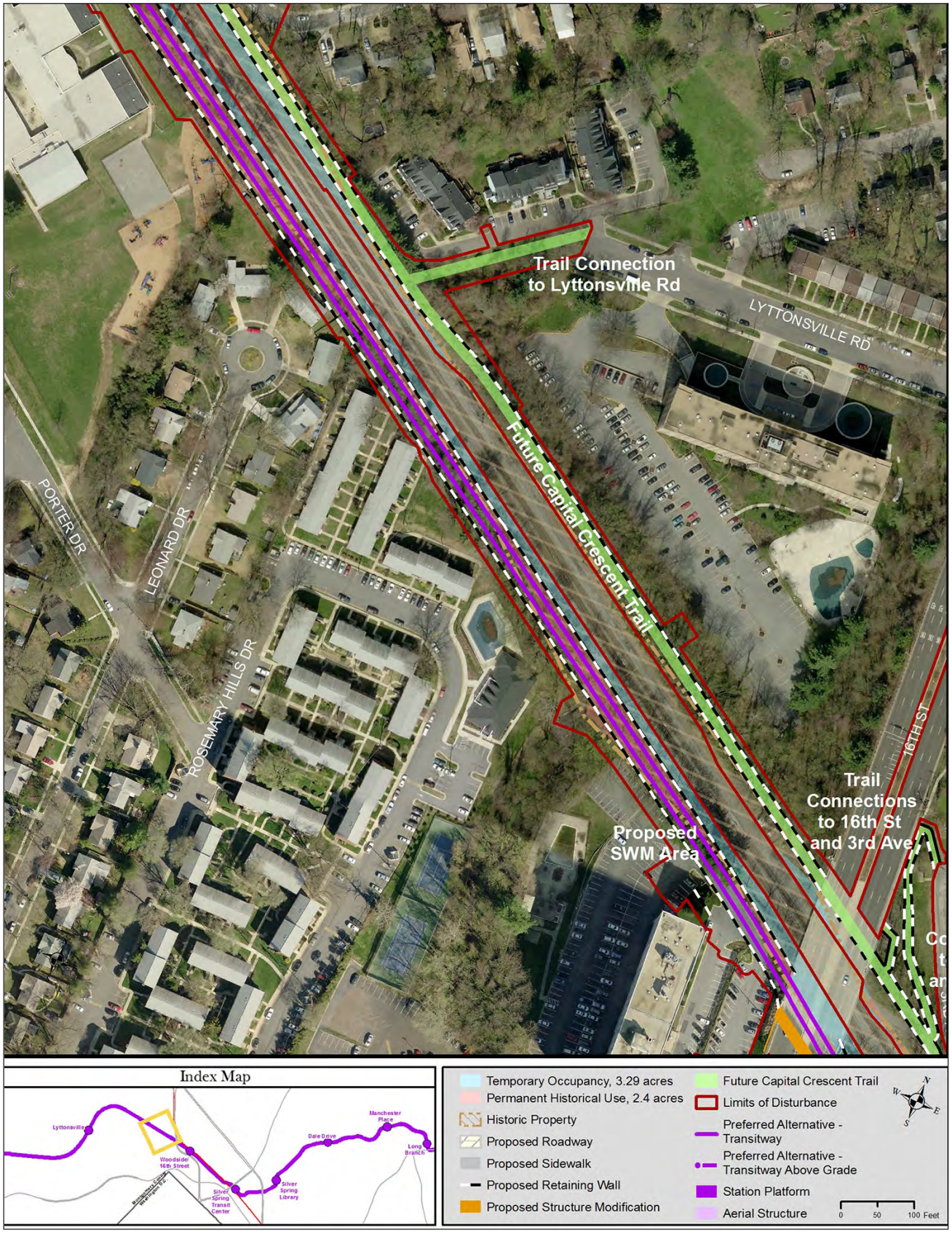


Figure 6-46. Metropolitan Branch, B&O Railroad(continued)

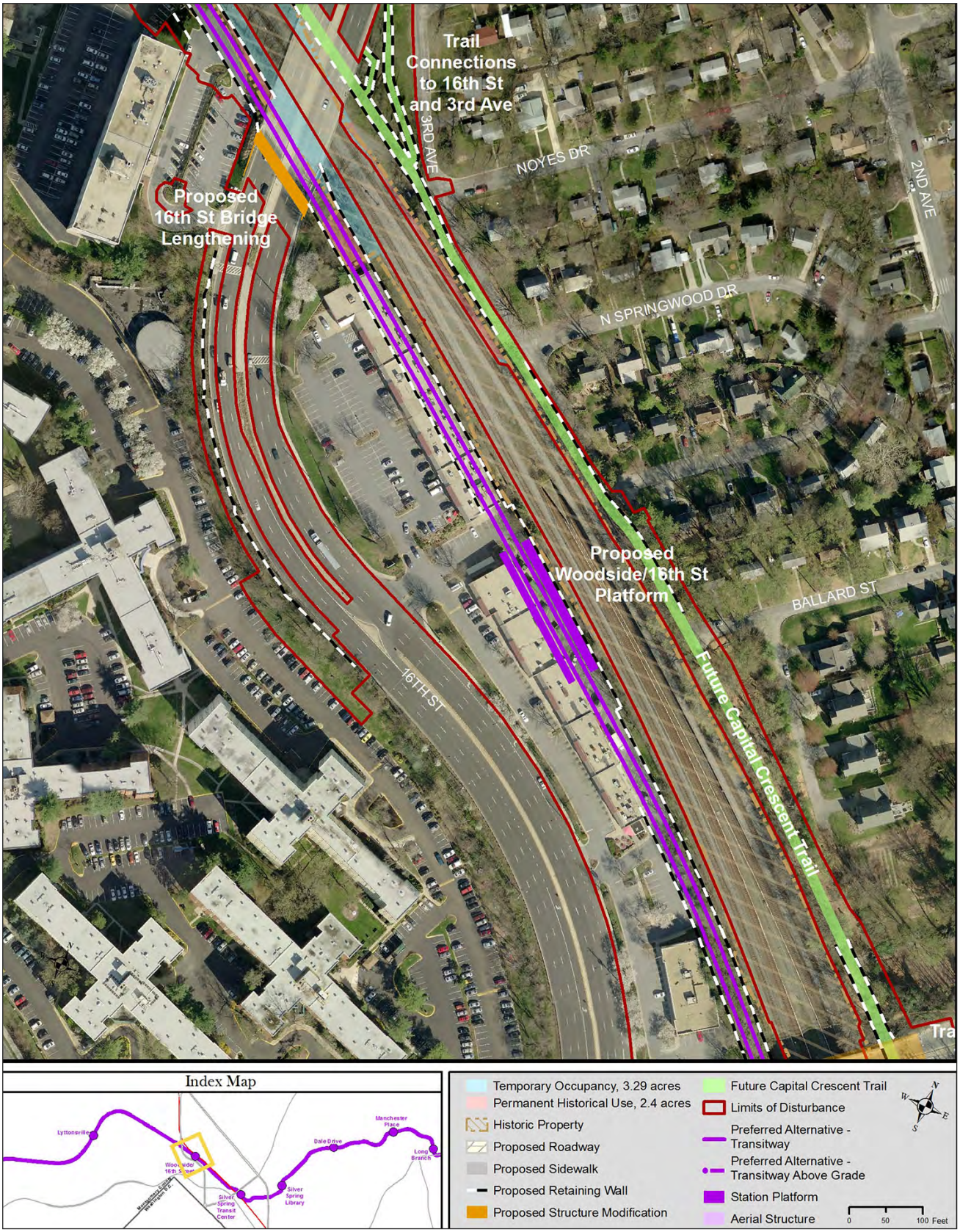


Figure 6-46. Metropolitan Branch, B&O Railroad (continued)

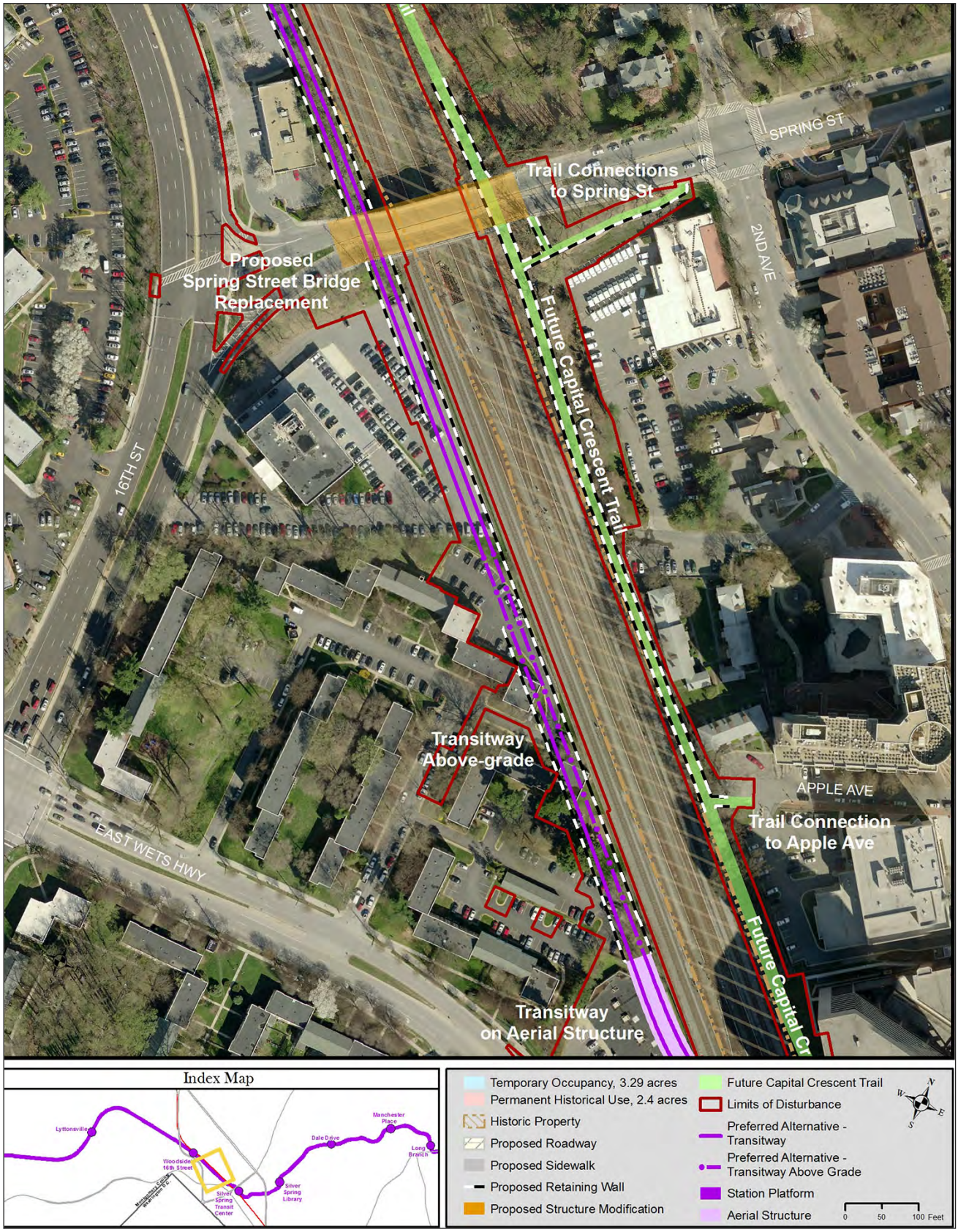


Figure 6-46. Metropolitan Branch, B&O Railroad (continued)

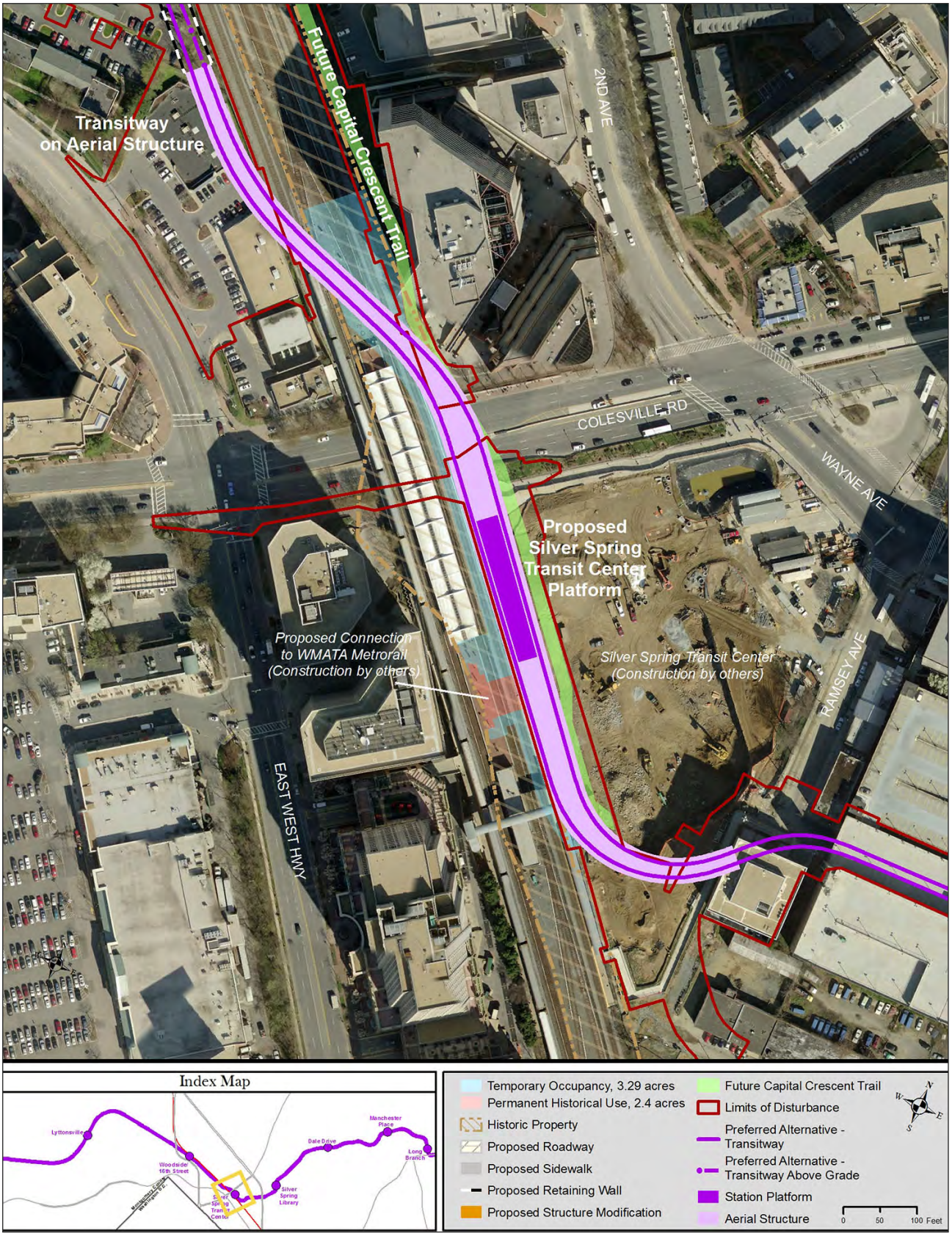
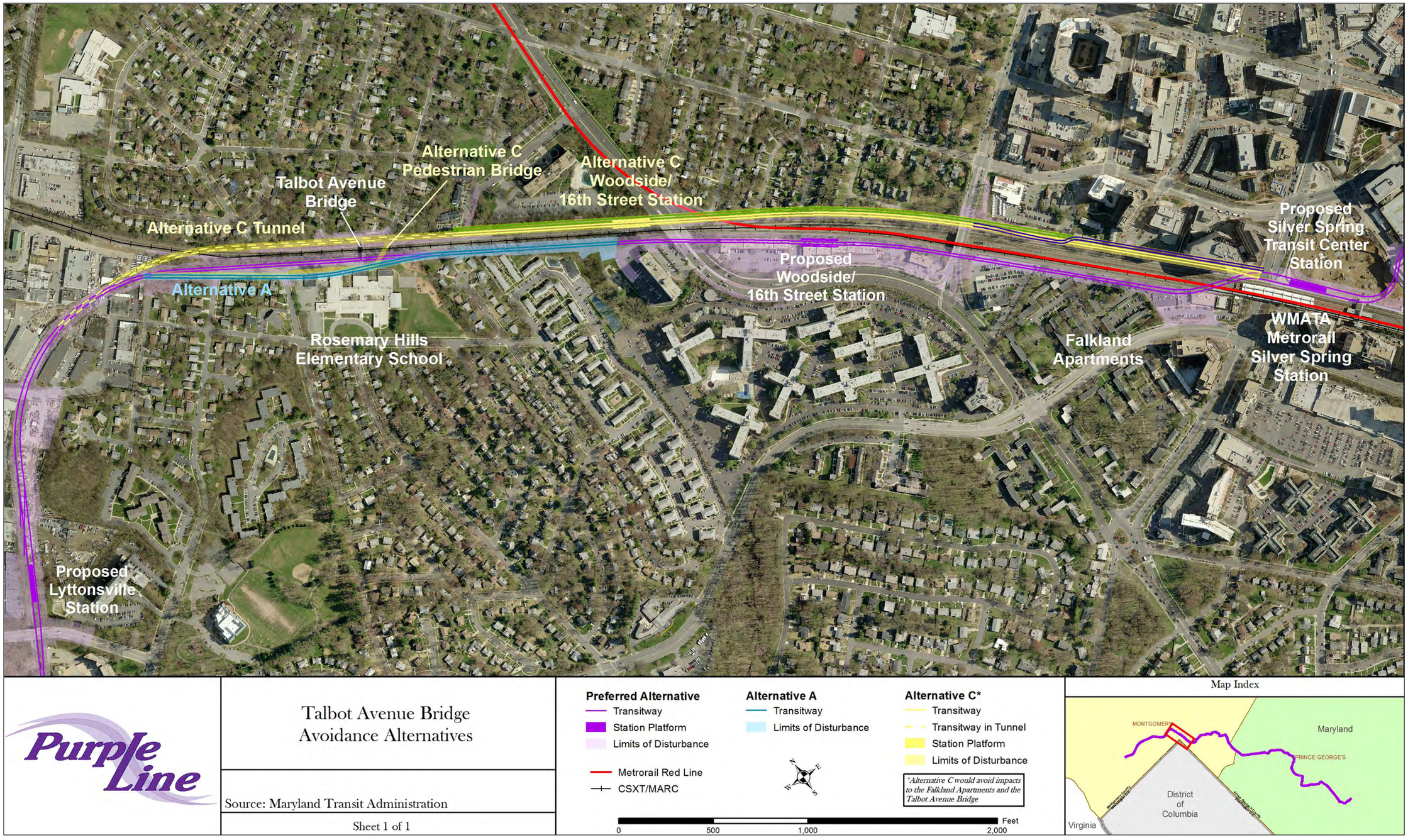


Figure 6-47. Metropolitan Branch and Talbot Avenue Bridge Avoidance Alternatives



similar among the alternatives (23 CFR 774.3(c)(1)(vi)). For these reasons, and despite the Preferred Alternative being more costly than all but the High Investment LRT Alternative (23 CFR 774.3(c)(1)(vii)), the Preferred Alternative is the least overall harm alternative with regard to the Metropolitan Branch, B&O Railroad property. Section 6.4.3 presents a corridor-wide least overall harm analysis that considers all Section 4(f) properties.

All Possible Planning to Minimize Harm

To minimize the effect of the Preferred Alternative on the Metropolitan Branch, B&O Railroad property, the Preferred Alternative would avoid physically impacting or altering the existing rail infrastructure and operations. In its alignment parallel to the existing railroad tracks, the Preferred Alternative would operate independently of existing operations. The presence of the Preferred Alternative on the Metropolitan Branch, B&O Railroad property is not incompatible with existing rail transportation and does not take away from the significance of the corridor and its transportation use. As design advances, MTA is committed to working with CSXT and other corridor operators to meet CSXT railroad clearance and operating requirements. Discussions with MHT and other consulting parties regarding mitigation measures for the Metropolitan Branch, B&O Railroad property and Talbot Avenue Bridge are ongoing; a Section 106 Programmatic Agreement is in development that will stipulate MTA's mitigation commitments (FEIS Appendix H).

Section 6.4.3 presents a corridor-wide least overall harm analysis that considers all Section 4(f) properties.

Bridge No. M-0085, Talbot Avenue Bridge (M: 36-30)

Section 4(f) Property Description

Bridge No. M-85, Talbot Avenue Bridge, is located on Talbot Avenue, west of Grace Church Road, north of Rosemary Hills Elementary School, and east of Lanier Drive in Silver Spring (Figure 6-48). The bridge crosses the CSXT Metropolitan Branch right-of-way. The bridge is a three-span structure that was constructed in 1918. The superstructure consists of a steel plate through-girder in the center span, rolled girders in the end spans, timber floor beams and a timber plank deck. The substructure consists of two concrete abutments and two steel pier column bents on concrete foundations. The structure is 18 feet wide. The traffic safety features consist of timber curbs, timber railings and metal guardrail. The bridge retains its original structural elements with the exception of the timber decking and portions of the steel pier column bents.

Figure 6-48. Talbot Avenue Bridge

The existing structure has severe structural deficiencies which include inadequate load-carrying capacity and areas of section loss in the main load-carrying members. Load rating calculations for this structure indicate that legal vehicle loads in Maryland exceed the carrying capacity of the bridge, as it is currently posted for a 10,000 pound gross weight limit.

A 2009 bridge inspection report indicates that the structure has a Bridge Sufficiency Rating of 27.2. The sufficiency rating is calculated using a formula that evaluates four separate factors of the bridge: structural adequacy and safety, serviceability and functional obsolescence, essentiality for public use and special concerns. The result is a percentage value that is indicative of the bridge sufficiency to remain in service. A bridge's sufficiency rating lower than 50.0 indicates that the bridge is structurally deficient, functionally obsolete, and a total replacement is warranted. In addition to Talbot Avenue Bridge being structurally deficient and functionally obsolete, traffic safety issues are present regarding the substandard approach

roadway geometry, sight distances in the vicinity of the structure and bridge clearance widths.

Talbot Avenue Bridge is individually eligible for listing in the NRHP and is a contributing element to the NRHP-eligible Metropolitan Branch, B&O Railroad. The bridge is eligible for the NRHP under Criterion C as a significant example of a metal girder bridge and is representative of the industrial modifications that occurred along the B&O Railroad corridor in the first quarter of the twentieth century, particularly as they relate to technological improvements in both materials and structural technology.

Use of Section 4(f) Property — Permanent Use, Not *De minimis*

As currently designed, the Preferred Alternative transitway would be located on and along the south side of the Metropolitan Branch, B&O Railroad right-of-way from just south of Brookville Road to Colesville Road (Figure 6-49). The Preferred Alternative would intersect the south abutment of the Talbot Avenue Bridge and approach roadway.

MTA would remove the bridge and construct a new, longer and wider bridge over the CSXT railroad tracks at the same location (Figure 6-47). The new bridge would accommodate two lanes of traffic, as well as an ADA-compliant sidewalk. The new abutment locations would provide sufficient horizontal clearance to accommodate the Preferred Alternative.

The Preferred Alternative would have an adverse effect on the Talbot Avenue Bridge in terms of Section 106 as the bridge would no longer be eligible for the NRHP as an individual property when it is removed; all integrity of location, design, setting, materials, workmanship, feeling, and association would be removed. In terms of Section 4(f), MTA would permanently use the Talbot Avenue Bridge, and the use would not be *de minimis*.

Avoidance Alternatives

It is not possible to shift the Preferred Alternative transitway within the Metropolitan Branch, B&O Railroad property to avoid the bridge abutment. As the CSXT tracks and infrastructure are immediately north of the alignment, MTA must comply with CSXT railroad clearance requirements, and Talbot Avenue is immediately to the south of the corridor.

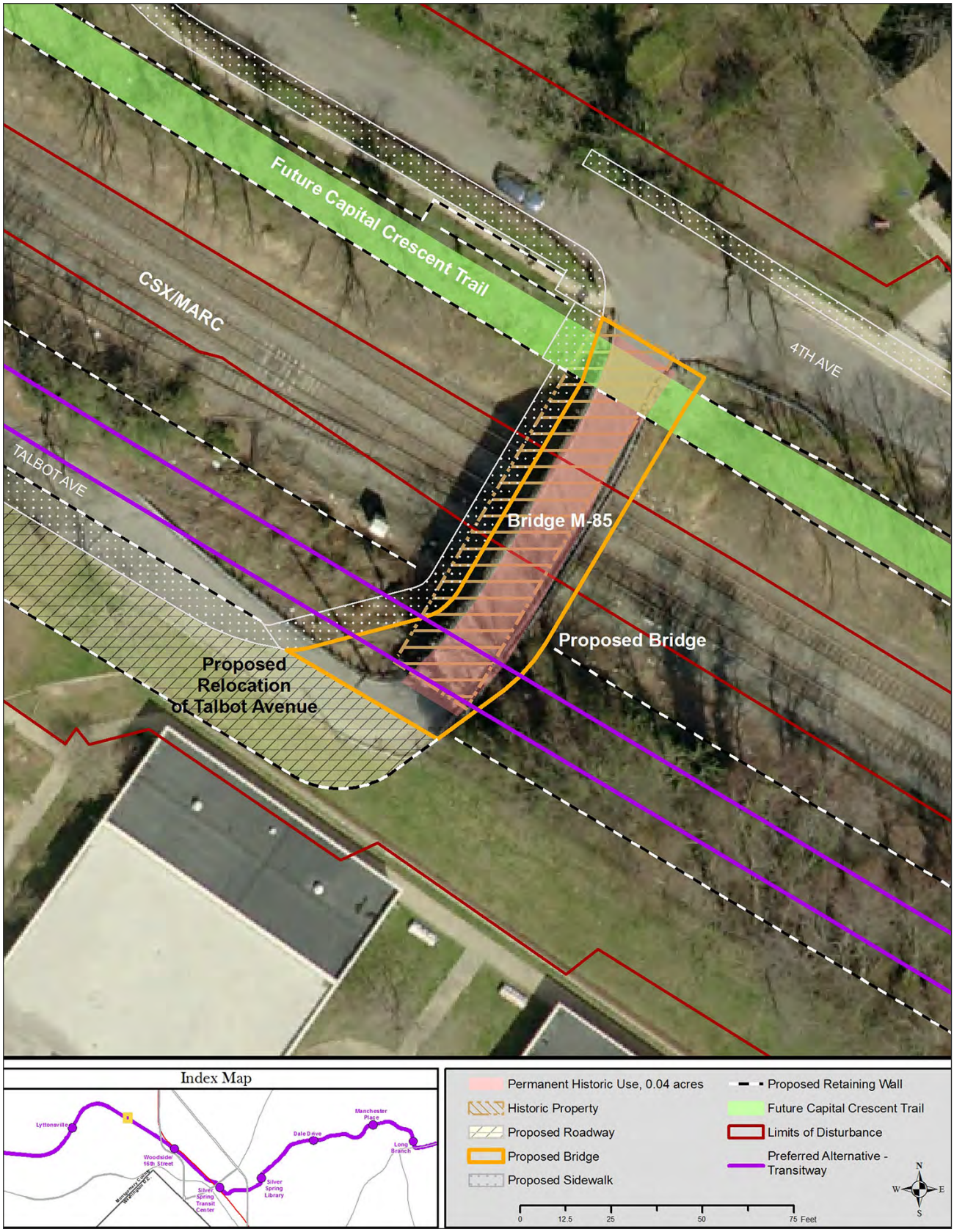
Due to the generally north-south orientation of the Metropolitan Branch, B&O Railroad corridor and the east-west orientation of the Preferred Alternative alignment, it is not possible to avoid crossing the Metropolitan Branch, B&O Railroad corridor. During Purple Line project development leading up to the AA/DEIS, MTA examined the Metropolitan Branch, B&O Railroad and other transportation corridors in the project area as part of the process of determining Purple Line alignments for the AA/DEIS. In this process, MTA determined that the route of the Metropolitan Branch, B&O Railroad corridor would cause the least traffic and community impacts. Moreover, a new rail transportation use in the existing rail transportation corridor would be a consistent use.

The Preferred Alternative alignment using Metropolitan Branch was determined by the configurations of the transitway alignments to the east and west of the Metropolitan Branch. Each AA/DEIS alternative alignment was determined by the same iterative planning process. As a result, the Preferred Alternative alignment must pass over, under, or around the Talbot Avenue Bridge.

Southerly Alignment Shift and Tunnel Alternatives

Alternatives A and C, considered as avoidance alternatives for the Metropolitan Branch, B&O Railroad property, were also considered for Talbot Avenue Bridge. Each is described above and shown in Figure 6-47. Alternatives A and C were dismissed as not feasible and prudent for the same reasons: severe social, economic, or environmental impacts as the southerly shift would have severe residential and school impacts (23 CFR 774.17(3)(iii)(A)); and tunneling is not feasible if it cannot be built as a matter of sound engineering judgment, it would have severe social, economic, or environmental impacts due to high property impacts, and it would result in additional construction, maintenance, or operational costs of an extraordinary magnitude (23 CFR 774.17(3)(iii)(A), (4)(iv), and (3)(vi)).

Figure 6-49. Bridge M-85, Talbot Avenue Bridge



The TSM alternative examined in the AA/DEIS was not considered prudent as it compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need (23 CFR 774.17(3)(i)).

Least Overall Harm Analysis

MTA applied the Section 4(f) criteria to determine the build alternative with the least overall harm to the Talbot Avenue Bridge. In this analysis, the Preferred Alternative and each of the build alternatives in the AA/DEIS were evaluated.

AA/DEIS Alternatives

During development of the AA/DEIS alternatives, MTA proposed using the Metropolitan Branch, B&O Railroad property because it is an existing transportation right-of-way that traverses the Purple Line corridor, and the portion of the right-of-way in the corridor is in a similar orientation to that of the Purple Line. Using the property would enable the Purple Line to operate faster and more reliably than on the existing roadway network, thereby achieving the project purpose and need.

The Low Investment BRT Alternative is the only build alternative that would not use the Talbot Avenue Bridge property, as it would not be aligned adjacent to the Metropolitan Branch, B&O Railroad corridor. With the exception of the Low Investment BRT Alternative, each of the alternatives considered in the AA/DEIS would intersect Talbot Avenue Bridge in the same way as the Preferred Alternative.

Each of the alternatives considered in the AA/DEIS that would be aligned in the Metropolitan Branch, B&O Railroad corridor would intersect the Talbot Avenue Bridge abutment. Each of the alternatives would require two dedicated travel lanes, one in each direction. The amount of right-of-way needed would be the same among the alternatives, and the reasons for the alignment on the south side of the Metropolitan Branch, B&O Railroad corridor would be the same among the alternatives.

The use of the Talbot Avenue Bridge would be the same for each alternative; the ability of MTA to mitigate adverse impacts to the property and the relative severity of the remaining harm to the property are the same (23 CFR 774.3(c)(1)(i) and (ii)). Among the alternatives, the Preferred Alternative most strongly meets the project purpose and need (23 CFR 774.3(c)(1)(v)). The magnitude of adverse impacts to properties not protected by Section 4(f) is similar among the alternatives (23 CFR 774.3(c)(1)(vi)). For these reasons, and despite the Preferred Alternative being more costly than all but the High Investment LRT Alternative (23 CFR 774.3(c)(1)(vii)), the Preferred Alternative is the least overall harm alternative with regard to the Talbot Avenue Bridge.

Section 6.5.3 presents a corridor-wide least overall harm analysis that considers all Section 4(f) properties.

All Possible Planning to Minimize Harm

In its continued Section 106 consultation with MHT, MTA is developing and evaluating mitigation strategies for the bridge. Among the strategies being considered is Historic Architectural and Engineering Record documentation of the structure prior to removal and providing interpretive signage at the location of the bridge. FTA and MHT discussions with other consulting parties regarding mitigation measures are ongoing; a Section 106 Programmatic Agreement is in development that will stipulate MTA's mitigation commitments.

The No Build Alternative is an avoidance alternative considered in this Draft Section 4(f) Evaluation. The No Build Alternative would cause no use of the historic property. However, the No Build Alternative does not achieve the project purpose and need. Therefore, while the No Build Alternative is feasible, it is not prudent (23 CFR 774.17(3)(i)).

Falkland Apartments (M: 36-12)

Section 4(f) Property Description

The Falkland Apartments, known in the FEIS as the Falkland Chase Apartments, is a large, Colonial Revival-style garden apartment and townhouse community that occupies the northeast, southeast, and southwest quadrants of the intersection of East-West Highway, Colesville Road, and 16th Street in Silver Spring. Figure 6-50 shows a portion of the Colonial Revival architecture. The Falkland Apartments were developed in the 1930s by the Blair family on part of their former farm. The

Falkland Apartments were determined eligible for listing in the NRHP as one of the first three projects funded by the Federal Housing Administration and as a model garden apartment complex, the first of its kind in Montgomery County (Criteria A). The apartment complex is also significant for its Colonial Revival design by Washington DC architect Louis Justement, which embodies classical design elements—building architecture and layout, and landscape—that evolved from the "garden city" movement (Criteria C).

Figure 6-50 Falkland Apartments

Use of Section 4(f) Property—Permanent Use, Not *De minimis*

The Preferred Alternative would be aligned on the south side of and outside the NRHP-eligible Metropolitan Branch, B&O Railroad property, which is directly east of the Falkland Apartments (Figure 6-51). The Preferred Alternative is aligned on the Falkland Apartments property along the northeastern boundary of the property; MTA would permanently use approximately 0.52 acre of the historic property. The property to be used contains lawn, landscaping, internal roadways to the complex, and 12 apartment units in two buildings, all of which are contributing elements of the historic property. All elements within the proposed limit of disturbance, including portions of the two apartment buildings, would be removed to implement the Preferred Alternative. Removing these elements would diminish the property's design, setting, materials, workmanship, feeling, and association. By doing so, the Preferred Alternative would have an adverse effect on the Falkland Apartments in terms of Section 106.

As part of the construction of the Preferred Alternative, MTA's work activities would require a temporary construction area approximately 0.51 acre in size, within the historic boundary of the Falkland Apartments.

Avoidance Alternatives

Two avoidance alternatives were assessed: transitway alignment on the north side of the Metropolitan Branch corridor ("B") and a tunnel alignment under the Metropolitan Branch, B&O Railroad corridor ("C") (Figure 6-52). The TSM alternative examined in the AA/DEIS was not considered in the analysis of avoidance alternatives as it compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need (23 CFR 774.17(3)(i)).

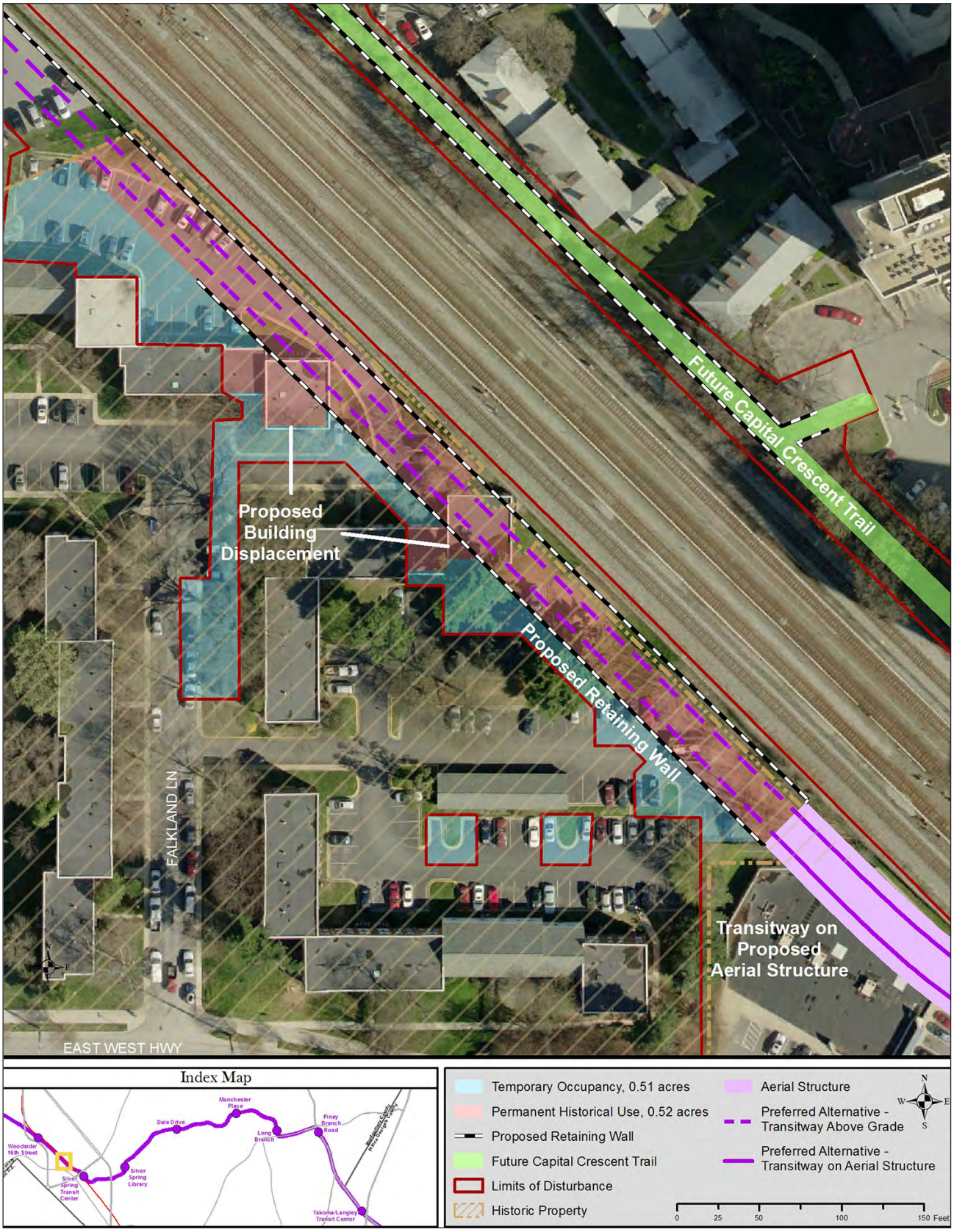
Alignment Shift—North Side of Metropolitan Branch ("B")

Alignment shift "B" would be a surface alignment along the south side of the Metropolitan Branch, B&O Railroad corridor until just west of the Falkland Apartments where the transitway would climb and cross over the Metropolitan Branch, B&O Railroad and continue east along but outside on the north side of the Metropolitan Branch, B&O Railroad corridor. As with tunnel alternative "C," alternative "B" would displace a 2-story professional office park and a large multistory (approximately 15 floors) office building. While technically feasible, Alternative B is not prudent as it would have severe social, economic, or environmental impacts due to the high number of property impacts (23 CFR 774.17(3)(iii)(A)).

Tunnel Alternative

Tunnel alternative "C" was presented in the AA/DEIS and in the Metropolitan Branch, B&O Railroad discussion above. Tunnel alternative "C" is considered not prudent as it involves multiple factors that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude: existing development on both sides of the Metropolitan Branch corridor that substantially constrains access to the site during construction; severe social, economic, or environmental impacts

Figure 6-51. Falkland Apartments



due to the high number of property impacts; and additional construction, maintenance, or operational costs of an extraordinary magnitude due to the extraordinary construction cost (23 CFR 774.17(3)(vi).

Alignment Shift — South of Falkland Apartments

A third avoidance alternative is a surface alignment that avoids the Falkland Apartments by turning south from the Metropolitan Branch and east around it. The track curves required for this shift are not consistent with the design criteria for the project. Further, looping around the complex would yield a circuitous route to the Silver Spring Transit Center, displacing numerous high rise apartment buildings and single family homes, severely reducing transit travel times and causing longer vehicular delays. Avoiding the Falkland Apartments by looping around the property is not prudent as it would cause severe social, economic, or environmental impacts (23 CFR 774.17(3)(iii)(A)).

The No Build Alternative is an avoidance alternative considered in this Section 4(f) Evaluation. The No Build Alternative would cause no use of the historic property. However, the No Build Alternative does not achieve the project purpose and need. Therefore, while the No Build Alternative is feasible, it compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need (23 CFR 774.17(3)(i)).

Property-specific Least Overall Harm Analysis

MTA applied the Section 4(f) criteria to determine the build alternative with the least overall harm to the Falkland Apartments. In this analysis, the Preferred Alternative and each of the build alternatives in the AA/DEIS were evaluated.

AA/DEIS Alternatives

During development of the AA/DEIS alternatives, MTA proposed using the Metropolitan Branch, B&O Railroad property because it is an existing transportation right-of-way that traverses the Purple Line corridor, and the portion of the right-of-way in the corridor is in a similar orientation to that of the Purple Line. Using the property would enable the Purple Line to operate faster and more reliably than on the existing roadway network, thereby achieving the project purpose and need.

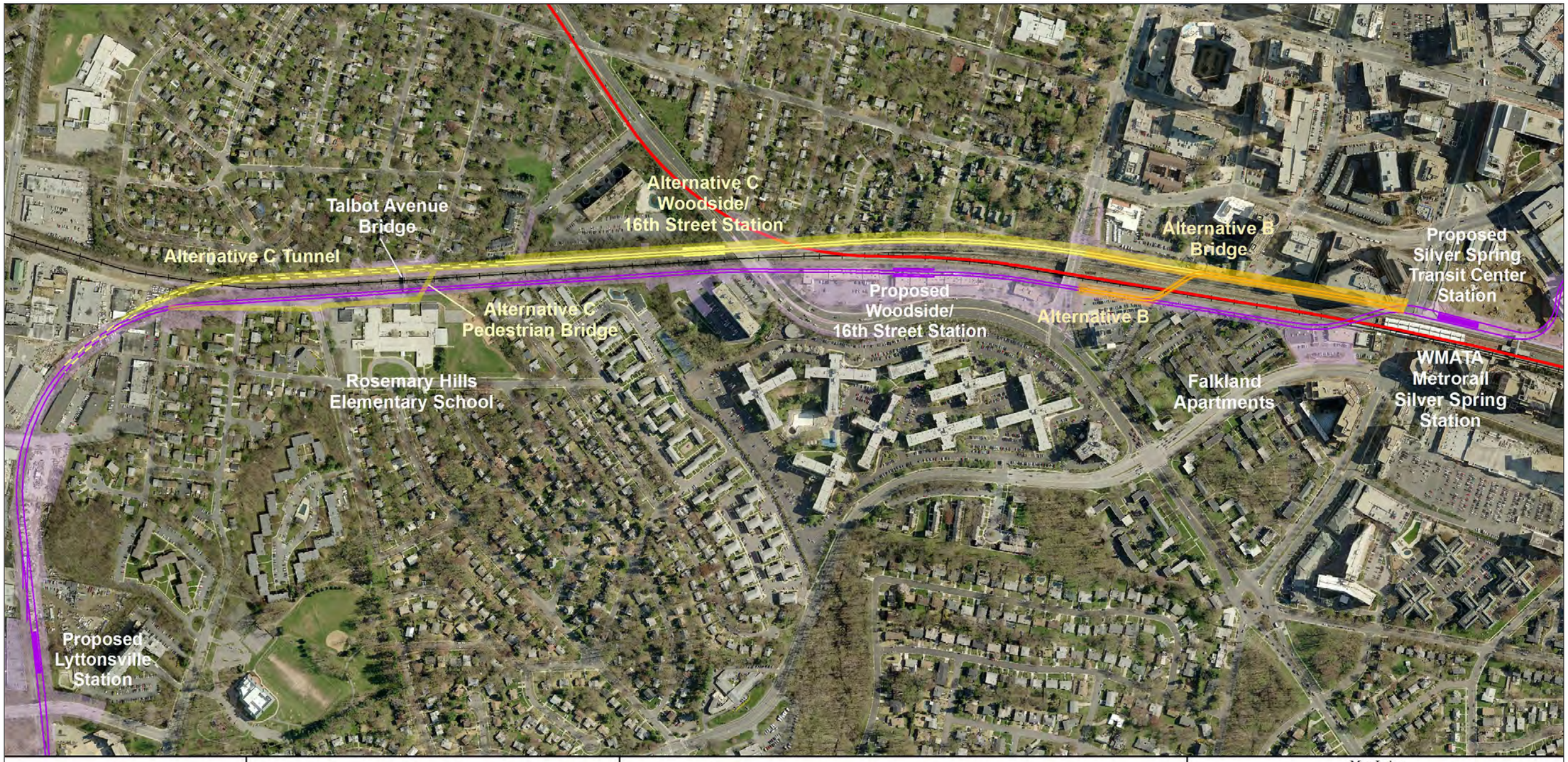
In the vicinity of the Falkland Apartments, the alignments of all AA/DEIS alternatives, except the Low Investment BRT Alternative, are shifted south and outside of the Metropolitan Branch, B&O Railroad property because of the change in elevation and alignment requirements to cross the railroad property east of the Falkland Apartments as the Purple Line heads east toward the Silver Spring Transit Center.

With the exception of the Low Investment BRT Alternative, each of the alternatives considered in the AA/DEIS would use the same portion of the Falkland Apartments property as the Preferred Alternative.

The Low Investment BRT Alternative is the only build alternative that would not use the Falkland Apartments property, as it would not be aligned adjacent to the Metropolitan Branch corridor. Among the remaining alternatives, each would be aligned along the northeast property line adjacent to the Metropolitan Branch corridor. Each alternative would require two dedicated travel lanes, one in each direction. The amount of right-of-way needed would be the same among the remaining alternatives, and the reasons for the alignment on the south side of the Metropolitan Branch corridor would be the same among the remaining alternatives.

The use of the Falkland Apartments would be the same for all but the Low Investment BRT Alternative, and the ability of MTA to mitigate adverse impacts to the property among the remaining alternatives is the same (23 CFR 774.3(c)(1)(i) and (ii)). Among all alternatives, the Preferred Alternative most strongly meets the project purpose and need, whereas the Low Investment BRT Alternative is weak in meeting the purpose and need (23 CFR 774.3(c)(1)(v)). The magnitude of adverse impacts to properties not protected by Section 4(f) is similar among all alternatives (23 CFR 774.17(3)(i) and (vi)). In view of these factors, particularly the importance of an alternative strongly achieving the project purpose and need, and despite the Preferred Alternative

Figure 6-52. Falkland Apartments Avoidance Alternatives



being more costly than all but the High Investment LRT Alternative (23 CFR 774.3(c)(1)(vii)), the Preferred Alternative is the alternative with the least overall harm to the Falkland Apartments.

Section 6.4.3 presents a corridor-wide least overall harm analysis that considers all Section 4(f) properties.

All Possible Planning to Minimize Harm

During the AA/DEIS, the owner of the Falkland Apartments had plans to redevelop the portion of the property the Preferred Alternative would use. The property owner and MTA coordinated to reserve sufficient space for the Preferred Alternative corridor. The corridor location and dimensions were determined by MTA establishing a minimal transitway footprint and aligning the needed right-of-way at the property boundary. Since that time, the owner's redevelopment plans have not gone forward.

In response to this change, MTA further minimized its right-of-way needs by using retaining walls to limit its use of the property. By doing so, MTA was able to reduce the amount of building removal and residential displacements within the Falkland Apartments.

In its Section 106 consultation with MHT and other consulting parties, FTA and MTA are developing and evaluating mitigation strategies for the Falkland Apartments. Among the strategies being considered is Historic American Buildings Survey documentation of the structures prior to removal and providing interpretive signage. Consultation regarding mitigation measures is ongoing; a Section 106 Programmatic Agreement is in development that will stipulate MTA's mitigation commitments.

University of Maryland Historic District, College Park (PG: 66-35)

Section 4(f) Property Description

The College Park campus of the University of Maryland is situated on 1,250 acres and serves as the flagship institution of the state's university system (Figure 6-53). The University of Maryland began as the Maryland Agricultural College, established in 1856 by Charles Benedict Calvert and eighteen other wealthy planters. The new institution was created to modernize agricultural practices and enable local farmers to increase productivity. The University of Maryland College Park's historic campus extends from Metzerott Road and Paint Branch Parkway on the north, Adelphi Road on the west, Rhode Island Avenue on the east, and Knox Road on the south. The historic core of the campus encompasses a considerably smaller area and is centered on McKeldin Mall, a large green space which extends from the Main Administration Building on the east to McKeldin Library on the west. Other buildings in the historic core are largely organized around smaller plazas and quadrangles, such as Hornbake Plaza on the north side of Campus Drive and the Grassy Bowl east of Anne Arundel Hall.

The historic core of the campus is eligible for listing in the National Register as a historic district under NRHP Criterion A for its role in the development of education and agriculture in Maryland and Criterion C for its concentration of Georgian Revival collegiate buildings. The period of significance begins in 1856 with the charter of the university and extends through 1961, at the end of a period of post-World War II expansion.

The Federal-style Rossborough Inn, constructed circa 1803 by Richard Ross, was included in the land sold by the Calvert family to Maryland Agricultural College. The structure, the oldest on campus, has been enlarged and expanded, assuming its present appearance in the 1930s. Under University ownership, the Rossborough Inn has served various uses including a restaurant, an agricultural experiment station and a faculty and alumni club, and presently serves as the Office of Undergraduate Admissions. The Rossborough Inn is eligible for the National Register and is a contributing property within the University of Maryland Historic District.

Use of Section 4(f) Property — *De minimis* Use

Early on in the Purple Line planning process, MTA identified the University of Maryland campus as an essential transit service hub; the campus is one of the activity centers identified in the project purpose and need. The Preferred Alternative would enter

Figure 6-53. University of Maryland College Park

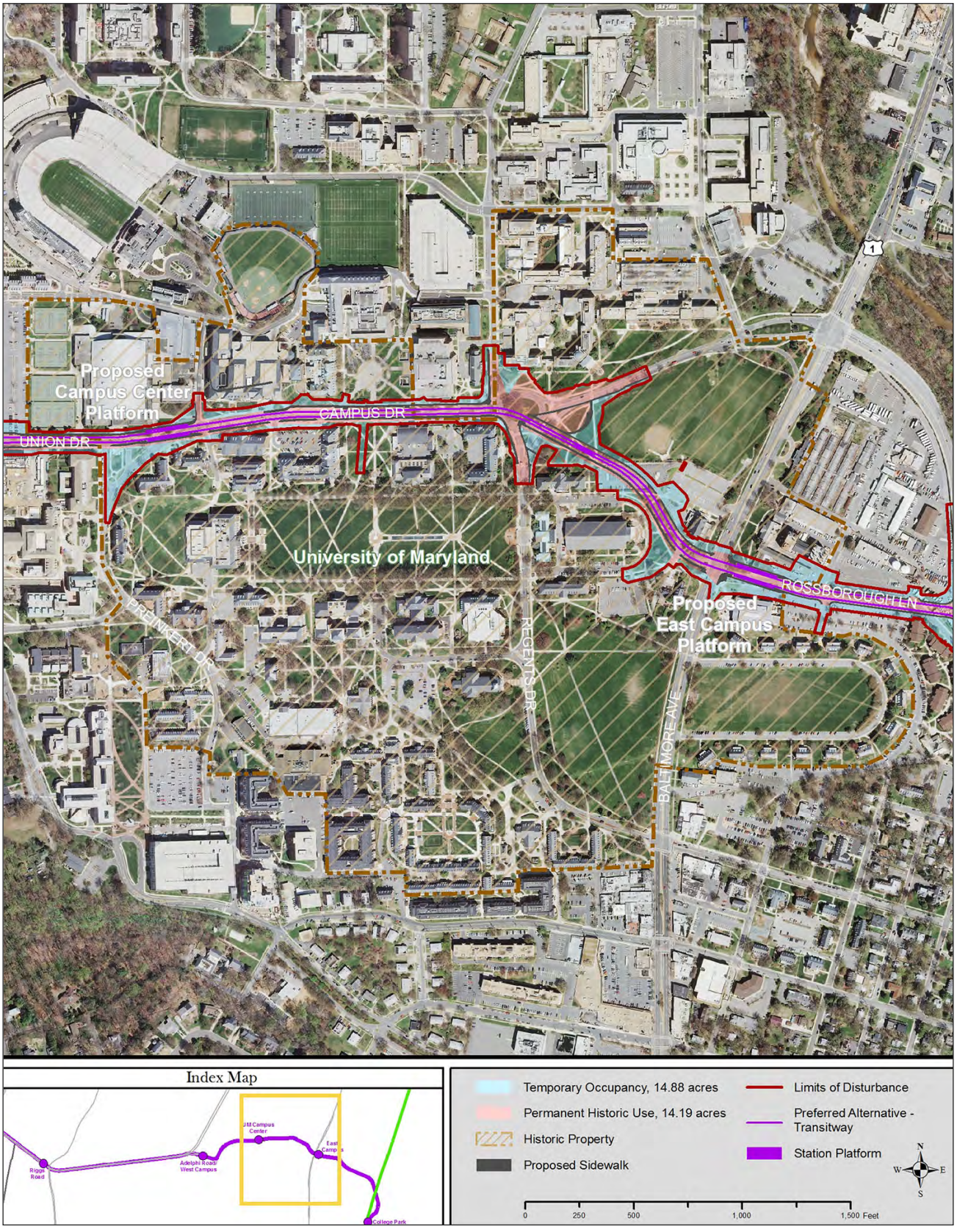


Figure 6-54. Campus Drive, University of Maryland

the campus across from Rossborough Lane, turning north and west to align with Campus Drive (Figure 6-53). From its point of entry at the east to just west of the Campus Drive/Presidential Drive intersection, the Preferred Alternative is within the historic district. Two stations are proposed on campus: Campus Center station in the center of the campus and East Campus station along Rossborough Lane.

The transitway would run primarily within existing roadways within the western two-thirds of the district, including Campus Drive (Figure 6-54) and Union Drive. These roadways have been upgraded during the late 20th century, including new sidewalks, street furniture, modern lighting, bus pull outs, and planting and landscaping. The new elements of the transitway, including embedded track, an overhead contact system, and the transit vehicles, would be new visual elements. However, in the context of the modern street lights, signage, bus shelters and other elements, the visual change would be minimal.

No contributing buildings or elements would be impacted by the Preferred Alternative. Small portions of open land would be crossed by the Preferred Alternative, but these areas were undeveloped through the 1960s; their current functions and appearance post-date the district's period of significance. In total, MTA would permanently use approximately 14.19 acres of the University of Maryland historic district to build the Preferred Alternative.

The Preferred Alternative would result in the removal of the modern traffic circle at Regents Drive before traversing a small portion of lawn to the north of the Eppley Recreation Center Building, and then continuing eastward, adjacent to a modern parking lot, to US 1. The transitway would cross US 1 along Rossborough Lane between the two contributing buildings as well as large modern parking lots. As the Preferred Alternative has been integrated into the campus and aligned primarily on existing roadways and other non-contributing elements, the transitway would not diminish the characteristics that make the district or its contributing elements eligible for the National Register of Historic Places; it would have no adverse effect on the district.

Campus Center station would be toward the east end of the district on Campus Drive near the Cole Student Activities Building. The station would have side configuration and would generally occupy the existing Campus Drive footprint, with minor widening, to the east of the Cole Student Activities Building. At this location, Campus Drive has two travel lanes for through traffic, as well as a parking lane on the south side, a bus pull-out on the north side of the road, and modern bus shelters on the

north side of Campus Drive. All of the contributing buildings in this vicinity are set well back from the road. Given the existing transportation features of Campus Drive and the minimal elements of the station, Campus Center station would not diminish the characteristics that make the district or its contributing elements eligible for the National Register of Historic Places. Campus Center station is determined to have no adverse effect on the contributing elements of the district or the historic district as a whole.

East Campus station would be built along Rossborough Lane, east of US 1. The station platform and shelters would be outside the transitway lanes on the sidewalk. Currently Rossborough Lane in this location has three travel lanes, a concrete sidewalk along the north side of the road, a narrow concrete island walkway, and a parking lot along the south side of the road. Given the existing transportation features of Rossborough Lane (Figure 6-53) and its surroundings, as well as the minimal elements of the station, East Campus station would not diminish the characteristics that make the district or its contributing elements eligible for the National Register of Historic Places. East Campus station would have no adverse effect on the elements of the district or the historic district as a whole.

In its ongoing coordination with the University, MTA has developed a number of strategies to integrate the Preferred Alternative into the campus and minimize harm to the historic district. Foremost among these strategies is placement of the alignment primarily through areas that are non-contributing elements, specifically Rossborough Lane and Campus Drive. These elements contain contemporary features that have been modified in the years since the period of significance. By placing the transitway and stations in these areas, MTA has minimized the effect of the Preferred Alternative on the historic district. Use of Campus Drive is viewed by the University and MTA as an appropriate location given the current use of the corridor by bus transit and public traffic. The many bus pull-outs, street signage, overhead wires, and other contemporary elements provide a context that will enable the Purple Line overhead contact wire system and track to coexist without having an adverse effect on the historic district.

Although the Preferred Alternative would slightly change the setting and design of the University of Maryland, the Preferred Alternative would have no adverse effect on the character-defining features of the historic district; the project would not diminish the integrity of the historic district in terms of Section 106.

FTA and MTA are coordinating with MHT and other consulting parties to complete Section 106 consultation, and are proposing a no adverse effect determination regarding the University of Maryland Historic District. In addition, FTA, MTA and the MHT are preparing a Section 106 Programmatic Agreement that outlines commitments and mitigation concerning the University of Maryland historic district. MTA will implement the project in accordance with the signed Section 106 Programmatic Agreement.

In terms of Section 4(f), MTA would permanently use approximately 14 acres and temporarily use approximately 15 acres of the University of Maryland historic district, or less than one percent of historic district property. A Section 106 no adverse effect finding would automatically yield a *de minimis* use determination under Section 4(f). The proposed permanent and temporary uses by the Preferred Alternative would not adversely affect the features, attributes or activities—educational facility and campus—that qualify the University of Maryland historic district for Section 4(f) protection.

6.4.3 Corridor-wide Least Overall Harm Analysis

FTA's corridor-wide least overall harm assessment examined the build alternatives evaluated in the AA/DEIS, as well as the Preferred Alternative, to identify the alternative having the least overall harm to Section 4(f) properties. The constraints in the corridor - traffic congestion, lack of opportunity to increase roadway capacity, topography of steep stream valleys, and existing heavy rail corridors, which constrain the physical environment—limit the solutions to address the project needs to these alternatives.

In accordance with 23 CFR 774.3(c)(1), FTA applied the seven least overall harm factors listed in Section 6.1.2 above. The results of the assessment are presented in Table 6-8, summarized below by factor, and followed by an interpretive discussion.

Factor i — Impact Mitigation

The AA/DEIS alternatives and the Preferred Alternative would, in large part, have the same transitway alignment in the corridor. In assessing the alternatives, MTA considered design refinements, such as alignment shifts, to reduce impacts to Section 4(f) properties. The Preferred Alternative was refined using this iterative process. MTA would have the same ability to refine the alternatives considered in the AA/DEIS that use the same alignment.

Differences among the alternatives are noted where they are relevant to this assessment. Specifically, with the exception of a small portion of one alternative, Low Investment BRT, the adverse impacts of each alternative on Section 4(f) properties would be the same; and MTA's design assumptions and refinements to the Preferred Alternative would apply equally to the other alternatives. MTA would have the same ability to mitigate impacts among the alternatives as it has committed for the Preferred Alternative. The Low Investment BRT alternative would not use one property, Falkland Apartments, from which the other alternatives would use a portion.

Factor ii — Relative Severity of Remaining Harm

Considering the relative severity of remaining harm to Section 4(f) properties, MTA assigned a severity rating to each property, with "high" being removal of the entire property, "moderate" being partial use of the property that does not qualify for a *de minimis* use determination, "low" being a partial use of the property that does qualify for a *de minimis* use determination, and "no use" being avoidance of the property. Among the alternatives and again, excepting the small portion of the Low Investment BRT alternative, MTA's design assumptions and refinements to the Preferred Alternative would apply equally to the other alternatives.

Remaining Severity of Harm Ratings

- High
  - Talbot Avenue Bridge
- Moderate
  - Long Branch Local Park
  - Metropolitan Branch, B&O Railroad
  - Glenridge Community Park
  - Falkland Apartments
- Low
  - Long Branch Stream Valley Park
  - Northwest Branch Valley/Northwest Branch Trail
  - Anacostia River Stream Valley Park/Northeast Branch Trail
  - Baltimore-Washington Parkway
  - Sligo Creek Stream Valley Park/Sligo Creek National Recreation Trail
  - New Hampshire Estates Neighborhood Park
  - Sligo Creek Parkway
  - University of Maryland Historic District
- No Use
  - Elm Street Urban Park
  - Rock Creek Stream Valley Park/Rock Creek National Recreation Trail
  - West Latham Hills Neighborhood Recreation Center
  - Falkland Apartments (Low Investment BRT Alternative only)

MTA's use of each Section 4(f) property and the mitigation it would apply to offset those uses would be the same among all but one alternative. As a result, the severity of the remaining harm to each Section 4(f) property would be the same. The one exception is the Low Investment BRT alternative, which would not use part of the Falkland Apartments property.

Factor iii — Property Significance

MTA considers each Section 4(f) property to be equally significant in this evaluation.

Table 6-8. Least Harm Analysis Factors

	Section 4(f) Least Overall Harm Criteria (23 CFR 774.3(C)(1)						
Alternatives	Impact Mitigation[1]	Remaining Severity[2]	Property Significance[3]	Officials' Views[4]	Purpose and Need[5]	Impact Magnitude[6]	Cost Difference[7]
Preferred Alternative	Equal ability to mitigate	1 high 4 moderate 9 low	Equal significance	MTA coordinating with Officials on minimization and mitigation	Strongest	Right-of-way acquisition moderate	<1.6
High Investment LRT	Equal ability to mitigate	1 high 4 moderate 9 low	Equal significance	Same as Preferred Alternative	Strongest	Same as Preferred Alternative	1.6
Medium Investment LRT	Equal ability to mitigate	1 high 4 moderate 9 low	Equal significance	Same as Preferred Alternative	Strong	Same as Preferred Alternative	1.2
Low Investment LRT	Equal ability to mitigate	1 high 4 moderate 9 low	Equal significance	Same as Preferred Alternative	Moderate	Same as Preferred Alternative	1.2
High Investment BRT	Equal ability to mitigate	1 high 4 moderate 9 low	Equal significance	Same as Preferred Alternative	Strong	Same as Preferred Alternative; limited capacity of BRT; operational problems	1.1
Medium Investment BRT	Equal ability to mitigate	1 high 4 moderate 9 low	Equal significance	Same as Preferred Alternative	Moderate	Same as Preferred Alternative; limited capacity of BRT; operational problems	0.6
Low Investment BRT	Equal ability to mitigate	1 high 3 moderate 9 low	Equal significance	Same as Preferred Alternative; one less property	Weak	Same as Preferred Alternative; limited capacity of BRT; operational problems	0.4

[1] The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property)
[2] The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection
[3] The relative significance of each Section 4(f) property
[4] The views of the official(s) with jurisdiction over each Section 4(f) property
[5] The degree to which each alternative meets the purpose and need for the project
[6] After reasonable mitigation, the magnitude of any adverse impacts to properties not protected by Section 4(f)
[7] Substantial differences in costs among the alternatives ($ billions, AA/DEIS)

Factor iv — Officials' Views

The officials with jurisdiction over the Section 4(f) properties have provided views regarding the Preferred Alternative. Other than the no use determination for the Falkland Apartments in the Low Investment BRT Alternative, MTA expects that officials' views on the alternative would be the same, given that MTA's design assumptions and refinements to the Preferred Alternative apply equally to this alternative and the adverse impacts of the alternative would be the same.

MTA is in the process of developing county-wide mitigation plans specific to Montgomery and Prince George's County parks. The plans would capture MTA's negotiated mitigation for impacts to parkland including: (1) tree planting within each of the affected parks to mitigate for tree removal; (2) replanting and restoration within cleared areas to the maximum extent practicable; (3) selective tree clearing and identification of significant or champion trees, where applicable; (4) marking trees to be preserved with protective fencing to avoid impacts or removal during construction; (5) replacing guardrails, signs, and other existing structures associated with parks that are removed during construction with new structures, where appropriate; (6) matching new structures with existing elements throughout each respective park; (7) replacing impacted parkland in one location; and (8) providing landscaping adjacent to the Preferred Alternative alignment, where appropriate.

Factor v — Purpose and Need

The degree to which each alternative meets the project purpose and need is a distinguishing factor in this evaluation. Each alternative would achieve the project purpose and need by providing faster, more direct and more reliable east-west transit service connecting major activity centers in the Purple Line corridor. Each would provide better connections to Metrorail services in the corridor, and improve connectivity to the communities between Metrorail lines.

However, the effectiveness of performance among the alternatives differs; these differences correlate in large part with the amount of dedicated travel lanes and structures each alternative would use for unconstrained travel. The Preferred Alternative and High Investment LRT Alternative are strongest in achieving the purpose and need. These alternatives include the most linear feet of dedicated travel lanes, tunnels and structures, thereby providing the fastest and most reliable end-to-end travel time as reported in the AA/DEIS (50 and 59 minutes, respectively). Strong performers, the Medium and Low Investment LRT, and High and Medium Investment BRT Alternatives, have less linear feet of dedicated lanes, tunnels and structures, and more shared lanes. As a result, they perform slightly slower and relatively less reliably compared with the strongest performers. End-to-end travel times would be 59 to 73 minutes, as reported in the AA/DEIS. The Low Investment BRT Alternative is a weak performer, as it would use mixed-use lanes and accrue the longest travel time of all the alternatives considered (96 minutes).

A compounding factor to overall performance is the capacity of the transit service, which is the number of patrons the alternatives can accommodate compared to the ridership forecast for the Purple Line. As described in Chapter 2.0 of the FEIS, the Preferred Alternative has high passenger capacity and the ability to accommodate projected future growth in ridership. In the AA/DEIS, the Medium Investment LRT Alternative had the second highest ridership, new transit trips and improved travel times as compared to the other alternatives. The High Investment LRT Alternative was designed to be even faster, and therefore had a nine percent higher ridership.

The High Investment BRT Alternative would have lower ridership than the Medium Investment LRT Alternative. The BRT alternatives would have limited capacity to handle increased ridership in the future. Since the carrying capacity of a BRT vehicle is much less than a two-car train, reducing headways by adding more BRT vehicles to the service would have caused operational problems including queuing of buses at major intersections.

Factor vi — Impact Magnitude

The adverse impacts of the alternatives to non-Section 4(f) properties would be the same among these alternatives as MTA's design assumptions and

refinements to the Preferred Alternative apply equally to the other alternatives. MTA would have similar ability to mitigate impacts among these alternatives that it has committed for the Preferred Alternative.

Factor vii — Cost Difference

The cost of each alternative is a distinguishing factor in this evaluation; cost estimates for all but the Preferred Alternative are reported in Table 6-2 of the AA/DEIS; the Preferred Alternative cost is reported in Chapter 2.0 of the FEIS. In this cost comparison, the AA/DEIS costs are used. The more recent Preferred Alternative cost is based on year of expenditure dollars and takes into consideration engineering refinements. Applying these factors, the cost presented in Chapter 2.0 is higher than the AA/DEIS estimated costs. As MTA's design assumptions and refinements can be applied to the other alternatives, the costs for each would also be expected to increase. The High Investment LRT Alternative had the highest cost ($1.6 billion) because it had the most tunnels and structures. The Preferred Alternative has one tunnel and a number of structures and is less costly (equivalent to a cost of less than $1.6 billion, in the AA/DEIS estimates). The Medium and Low Investment LRT Alternatives and the High investment BRT Alternatives had a moderate cost ($1.1 to 1.2 billion). The Medium and Low Investment BRT Alternatives had the least cost as they had the least infrastructure ($0.4 to $0.6 billion).

Least Harm Alternative Selection

MTA's corridor-wide least overall harm assessment examined the build alternatives evaluated in the AA/DEIS, as well as the Preferred Alternative, and determined that the Preferred Alternative would have the least overall harm to Section 4(f) properties for the following reasons:

While the Low Investment BRT Alternative would impact one less Section 4(f) property compared to the other alternatives, the Low Investment BRT Alternative is the least able to meet the project purpose and need. Its use of shared lanes on existing streets with local traffic would add considerable travel time, making it the slowest of the alternatives considered. In addition, as it would operate in the same lanes with other motor vehicle traffic, the alternative would be constrained by traffic congestion and delays that plague roadway travel today and are forecast to increase in the future. Thus, the Low Investment BRT Alternative was not considered the least overall harm alternative.

All other build alternatives would have the same impacts on Section 4(f) properties; MTA would have the same ability to mitigate those impacts, and the severity of remaining harm would be the same.

The Medium Investment BRT Alternative performs moderately well in achieving the purpose and need; and the High Investment BRT Alternative is a strong performer. However, the BRT alternatives as a group have limited capacity to handle increased ridership in the future. Since the carrying capacity of a BRT vehicle is much less than a two-car train, MTA considered adding more BRT vehicles to the service. The resulting operational problems included unacceptable bus queuing, added congestion, and delays at major intersections. For these reasons, the Medium and High Investment BRT Alternatives are not considered the least overall harm alternatives.

By attracting more riders and new transit trips compared with the BRT alternatives, the LRT alternatives would generate more user benefits and reduce more automobile trips from roadways albeit at higher initial construction costs. The Low Investment LRT Alternative moderately achieves the project purpose and need and has a moderate cost. Its shortcoming is its reliance on mixed-use traffic lanes to a considerably greater degree than the other LRT alternatives. As a result, the Low Investment LRT Alternative cannot overcome slower travel times due to traffic delays and roadway congestion. The Low Investment LRT Alternative is not considered by FTA to be the least overall harm alternative.

The Medium Investment LRT Alternative has the second highest ridership, new transit trips and improved travel times of all the build alternatives. The High Investment LRT Alternative was designed to be even faster, and therefore had a nine percent higher ridership, but a 34 percent increase in cost.

The Preferred Alternative includes three elements from the High Investment LRT Alternative that improve the travel times measurably, but at less cost. For these reasons, the Preferred Alternative would be the strongest achiever of the project purpose and need and the alternative with the least overall harm.

6.5 Coordination

MTA initiated and is continuing agency coordination and outreach with Federal, State, and local agencies during the EIS and Section 4(f) evaluation processes. In its coordination with the officials with jurisdiction to date, MTA has identified properties, determined means to avoid or minimize use of Section 4(f)-protected properties through design refinements, and developed measures to minimize harm. Memoranda of agency coordination meetings are provided in FEIS Appendix I.

6.5.1 Park Agency Coordination

Department of Interior (DOI)

This Draft Section 4(f) Evaluation is provided to the DOI for review; the DOI has a 45-day review period.

National Capital Planning Commission (NCPC)

NCPC has an advisory role regarding parklands in Montgomery and Prince George's Counties, unless Capper Cramton funding was used to purchase park property. In the latter case, such as with Rock Creek Stream Valley Park, Sligo Creek Stream Valley Park, Rock Creek Stream Valley Park, Northwest Branch Stream Valley Park, and Anacostia River Stream Valley Park, NCPC has approval authority, meaning actions affecting these parklands require formal NCPC approval. FTA and MTA are coordinating with the NCPC regarding the effect of the Preferred Alternative on each of these parks (see Section 4.6).

The Baltimore-Washington Parkway is owned by the NPS, and as such, the NCPC has approval authority over this property as well. An initial meeting to reintroduce the Purple Line to NCPC staff was held on August 9, 2011. Follow up meetings were held on February 22, 2012, and July 12, 2012 to present the proposed project to NCPC and request their input on various design elements. Through these outreach and coordination efforts, FTA invited the NCPC to be a Cooperating Agency on the FEIS in March 2012 and accepted the invitation on April 11, 2012. This Draft Section 4(f) Evaluation is provided to the NCPC for review.

NCPC's formal review process consists of three steps: conceptual review during which NCPC will review the FEIS; preliminary review during which NCPC will issue their formal report regarding the project; and final approval when NCPC adopts FTA's FEIS and Record of Decision.

Officials with Jurisdiction

Coordination with the officials with jurisdiction over parks and historic properties in the study area has occurred as follows.

M-NCPPC — Montgomery County Department of Parks

M-NCPPC was initially contacted by MTA via letter in December 2011, requesting a meeting to begin formal agency coordination. Meetings were held with M-NCPPC—Montgomery County Department of Parks on January 25, 2012, May 16, 2012, November 21, 2012, February 1, 2013, and February 26, 2013 to provide a detailed overview of the Preferred Alternative and to discuss potential park impacts, including minimization and mitigation strategies. MTA continues to coordinate with the M-NCPPC regarding project effects on the following affected parks: Elm Street Urban Park, Rock Creek Stream Valley Park, Long Branch Local Park, Long Branch Stream Valley Park, Sligo Creek Stream Valley Park, and New Hampshire Estates Neighborhood Park.

M-NCPPC — Prince George's County Department of Parks and Recreation

M-NCPPC was initially contacted by MTA via letter in December 2011, requesting a meeting to begin formal agency coordination. Meetings were held with M-NCPPC—Prince George's County Department of Parks and Recreation on January 6, 2012, August 7, 2012, October 8, 2012, and March 15, 2013 to provide a detailed overview of the Preferred Alternative and to discuss potential park impacts as well as discuss minimization and mitigation strategies. MTA continues to coordinate with the M-NCPPC regarding project effects on the

following affected parks: Northwest Branch Stream Valley Park, Anacostia River Stream Valley Park, and Glenridge Community Park, and West Lanham Hills Neighborhood Recreation Center.

National Park Service

In December 2011, the NPS was contacted by FTA via letter to initiate formal agency coordination. As part of MTA's coordination and outreach efforts regarding the Purple Line crossing under the Baltimore-Washington Parkway along Riverdale Road (MD 410), MTA conducted coordination with the NPS. Beginning in January 2012, MTA met monthly with several representatives of the NPS-National Capital Parks-East to discuss the Preferred Alternative and the potential impacts it would have on the Baltimore-Washington Parkway. Through these outreach and coordination efforts, FTA invited the NPS to be a Cooperating Agency on the FEIS in March 2012; NPS accepted the invitation on March 16, 2012. In addition to discussing anticipated impacts, FTA, MTA and NPS discussed potential mitigation and minimization measures. FTA and MTA coordination with the NPS is ongoing.

Maryland Department of Natural Resources (MDNR), Program Open Space (POS)

The MDNR's POS staff was initially contacted by MTA by letter in December 2011 requesting a meeting with MDNR's POS to begin formal agency coordination. A meeting was held on July 9, 2012 to provide a detailed overview of the Preferred Alternative and discuss potential impacts to parks that were purchased or developed using POS funds. The parks funded in part by Maryland Program Open Space funds include: Rock Creek Stream Valley Park, Long Branch Local Park, Long Branch Stream Valley Park, New Hampshire Estates Neighborhood Park, Northwest Branch Stream Valley Park, Anacostia Stream Valley Park, Glenridge Community Park, and West Lanham Hills Neighborhood Recreation Center. MTA will coordinate with MDNR's POS through the agency with jurisdiction to develop its mitigation plan prior to project construction.

Maryland Historical Trust (MHT)

Section 106 coordination with MHT and the public began when MTA provided opportunities for comment on the historic properties identification and evaluation process at public open houses in August 2006, December 2007, and May 2008. FTA initiated the Section 106 consultation process on October 27, 2011. FTA is coordinating with the MHT and other consulting parties in a formal Section 106 consultation process to determine the eligibility of historic properties for listing in the National Register of Historic Places (NRHP), delineate the historic boundaries of properties, establish an Area of Potential Effects, determine the effects of the Preferred Alternative on historic properties, and develop appropriate mitigation for adverse effects in a Programmatic Agreement. To date, MHT has participated in several Interagency Resource Meetings sponsored by MTA and attended by FTA on the following dates: October 18, 2010, December 15, 2010, November 16, 2011, December 16, 2011, March 21, 2012, April 18, 2012, August 20, 2012, December 19, 2012, March 20, 2013, July 17, 2013, and August 8, 2013. MHT has also participated in a consulting parties meeting to discuss property eligibility for the NRHP and project effects on August 11, 2013.

Public

The public has an opportunity to review and comment on this Draft Section 4(f) Evaluation concurrently with the Purple Line FEIS. FTA will respond to public comments on the Draft Section 4(f) Evaluation in the Final Section 4(f) Evaluation, which will be included in the ROD.

6.6 Determination of Section 4(f) Use

Considering the foregoing discussion of the Purple Line Preferred Alternative's use of Section 4(f) properties and considering that FTA and MTA are coordinating with the officials with jurisdiction regarding the preliminary findings of this Section 4(f) Evaluation, FTA preliminarily concludes that there is no prudent avoidance alternative to the use of land from 14 historic and recreational properties. As described, the project includes all possible planning to minimize harm to Section 4(f)

properties resulting from use. In addition, the project would have a *de minimis* impact on four historic and six recreational Section 4(f) properties. Measures to minimize harm, such as avoidance, minimization, mitigation, and enhancement measures, are proposed and subject to agreement by the officials with jurisdiction over these properties. FTA has coordinated with these officials prior to proposing its *de minimis* determination. Finally, balancing all the factors discussed in Section 6.4, FTA has preliminarily determined that the Purple Line Preferred Alternative would cause the least overall harm in light of Section 4(f)'s preservation purpose.

Chapter 7.0
Indirect and Cumulative Effects

The Federal Transit Administration (FTA) and Maryland Transit Administration (MTA) assessed the potential indirect (secondary) and cumulative effects of the Preferred Alternative in accordance with the National Environmental Policy Act and Council on Environmental Quality (CEQ) regulations.

Indirect (or secondary) effects are defined as "effects which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems" (40 CFR 1508.8(b)).

Cumulative effects are defined as the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7). Cumulative effects include the direct and indirect impacts of a project together with the past, present, and reasonably foreseeable future actions of others.

7.1 Methodology

The analysis is consistent with the CEQ's 1997 *Considering Cumulative Effects under the National Environmental Policy Act* and Maryland State Highway Administration's (SHA) 2007 *Indirect and Cumulative Effects Analysis Guidelines for Environmental Impact Statements and Environmental Assessments and Categorical Exclusions*. SHA is a sister agency of MTA under the Maryland Department of Transportation. The guidelines offer a consistent framework for the analysis and consideration of indirect and cumulative effects associated with transportation projects in Maryland.

A combination of analysis methodologies was employed to fully assess and quantify indirect and cumulative effects, using readily available information and data including the following:

- **Trends Analysis**—Used to identify effects occurring over time and to project the future context of land use and environmental resources of interest.
- **Map Overlays**—Quantitative and qualitative analysis using layering of maps showing land use and resource context from various time periods. The patterns of past, existing, and future land use and the effects of development on resources of interest were analyzed to forecast future trends.

Primary data sources for this indirect and cumulative effects analysis included the following:

- Maryland Department of Planning: 1973, 2002, and 2010 Statewide Land Use
- District of Columbia: 2004 Land Use
- M-NCPPC General and Sector Plans
- Montgomery and Prince George's Counties and Washington DC GIS data
- MWCOG: Future employment projections for the Washington region through the Cooperative Forecasting Program (Round 8.0A, revised for 2011).

Primary data sources were supplemented as necessary with additional data collection, aerial mapping, and coordination with the staffs of the primary data source agencies.

The indirect and cumulative effects analysis follows the basic assessment steps identified in the CEQ and SHA guidance:

- Identify resources of interest
- Establish geographic and temporal boundaries
- Determine past, present, and reasonably foreseeable future projects to be assessed as part of the indirect and cumulative effects analyses
- Assess indirect and cumulative effects to resources of interest within the defined geographic and temporal boundaries

7.1.1 Identify Resources of Interest

Resources selected for analysis include those that would be affected directly by the Preferred Alternative, those that would be affected by potential indirect development associated with the station locations, those that are particularly susceptible to cumulative effects, and those that have the potential to experience individual impacts from the Purple Line, as well as one or more other projects over time that, in aggregate, result in a cumulative effect. Transportation is presented in this analysis in terms of the role it plays in affecting other resources. The resources assessed in the indirect and cumulative effects analysis are the following:

- Neighborhoods and Community Facilities and Services
- Environmental Justice
- Parks and Recreation Facilities
- Cultural Resources
- Forests
- Floodplains
- Water Resources
- Wetlands

7.1.2 Establish Geographic and Temporal Boundaries

Geographic Study Areas

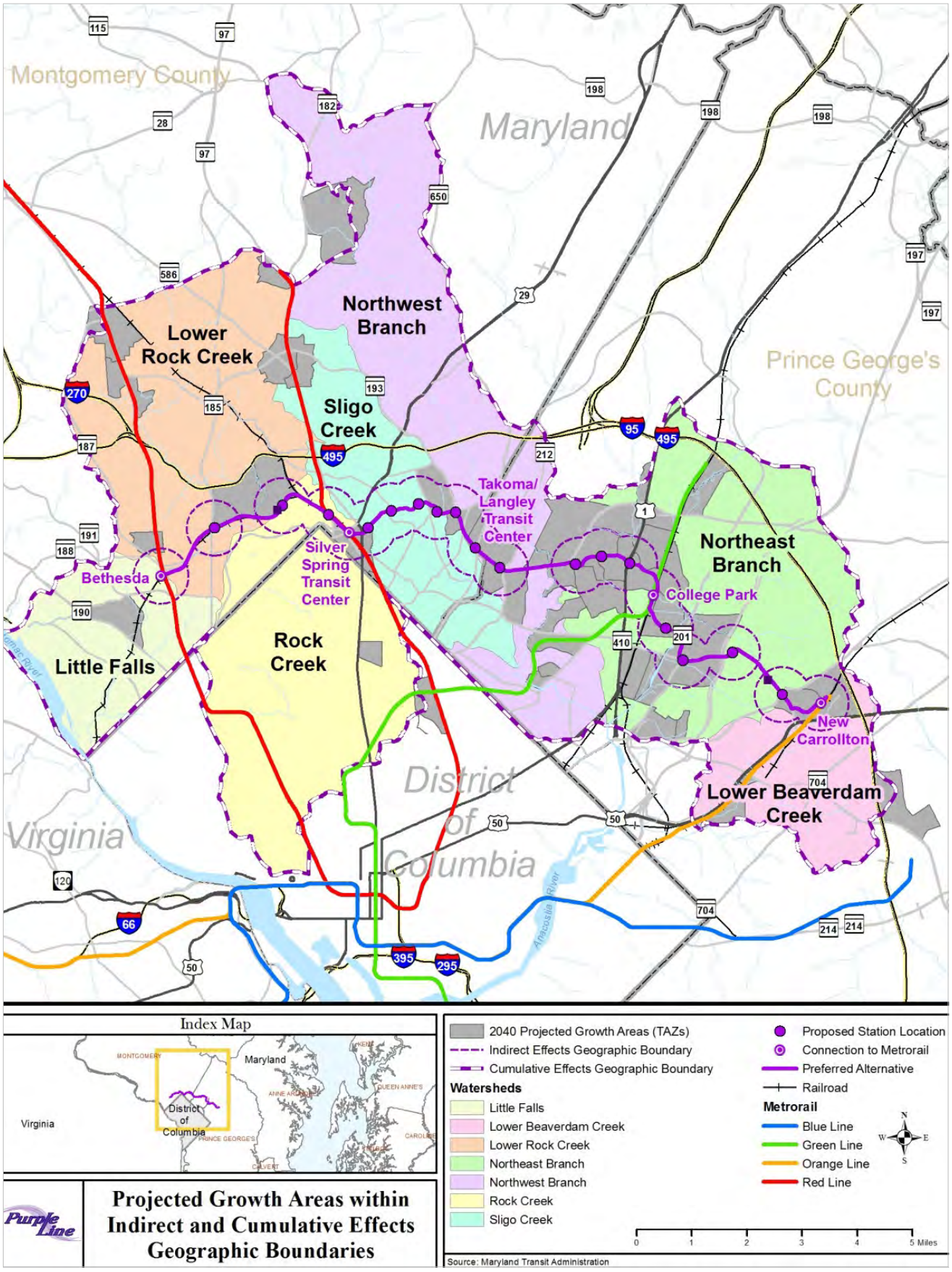
The indirect effects study area is the portion of the corridor that potentially would be affected by development induced by the construction and operation of the Purple Line. As discussed in Section 4.2, zoning supports opportunities for redevelopment and for TOD around many of the stations, which would emphasize a pedestrian-friendly, mixed-use environment. In this context, the indirect effects study area is defined by a reasonable walking distance around station areas of approximately one-half-mile (Figure 7-1). One-half mile is the generally accepted maximum distance that transit patrons typically would walk to a station, based on an average walking speed between 2 and 3 miles per hour and a 10-minute time period. This "walkshed" standard encompasses an area of about 500 acres. As patrons would have no direct access to the Purple Line transit system apart from the stations, the Preferred Alternative would not be expected to induce development beyond these station areas.

The indirect effects study area is focused around the Purple Line because potential induced effects, such as effects on built environment: businesses, environmental justice populations, traffic, and historic properties, typically occur in close proximity to a light rail transit project.

The cumulative effects study area, also shown on Figure 7-1, is a larger geographic area than the indirect effects study area because it encompasses resources, primarily natural resources, which are potentially affected by multiple projects considered in aggregate. For example, the effect of multiple projects on floodplains was examined on a watershed-wide basis to determine the effect of all projects on the capacity of existing floodplains (acreage of available floodplains) to provide flood control.

FTA and MTA determined the cumulative effects study area by overlaying maps of the resources of interest (water resources, floodplains, wetlands, parks, and forested land) to determine the geographic area that captures potential cumulative effects. In this way, FTA and MTA determined that the seven subwatersheds that intersect the proposed transitway, which define the boundaries of the floodplains, water resources, and wetlands, form the largest geographic area, including the other, smaller resource areas (forested land and parks) and the indirect effects study area.

Figure 7-1. Indirect and Cumulative Effects Geographic Boundaries and Projected Growth Areas



Thus, the cumulative effects study area is defined by the subwatersheds of Little Falls, Rock Creek, Lower Rock Creek, Sligo Creek, Northwest Branch, Northeast Branch, and Lower Beaverdam Creek.

Temporal Boundaries and Present Definitions

The time frames established for the cumulative effects analysis include a past time frame of 1964 to the present and a future time frame of the present to 2040. Within the analysis, present actions are those defined to occur between 2012 and 2018. Year 2018 is the latest year that county-level capital improvement project and budget information is available.

The past cumulative effects time frame was determined by examining population trends and previous key events of influence on land use and transportation in the cumulative effects study area. Prior to 1960, Washington DC was the major area of population in the region. After 1960, the population of the city experienced a declining trend.

Meanwhile, the regional population increased 67 percent (1960-2010), led by substantial increases in population in surrounding Montgomery and Prince George's Counties (Table 7-1). In 1964, the Capital Beltway (I-495) opened to traffic, and the Maryland-National Capital Park and Planning Commission (M-NCPPC) document, *On Wedges and Corridors, A General Plan for the Maryland-Washington Regional District in Montgomery and Prince George's Counties* was published. These events have influenced the land use and growth patterns of the region since that time.

The future cumulative effects time-frame, from 2018 to 2040, is bounded by the extent of regionally-approved population and land use projections available through the Metropolitan Washington Council of Governments (MWCOG). As Table 7-2 shows, over the 30 years from 2010 to 2040, continued growth is projected for the overall area. However, the total percentage of residential growth in the two counties will be substantially less than during the 50 years from 1960 to 2010, while

Table 7-1. Area Population Trends, 1940 to 2010

Year	Montgomery County	Prince George's County	Washington DC	Overall Area
1940	83,912	89,490	663,091	836,493
1950	164,401	194,182	802,178	1,160,761
1960	340,928	357,395	763,956	1,462,279
1970	522,809	661,719	756,510	1,941,038
1980	579,053	665,071	638,333	1,882,457
1990	757,027	728,553	606,900	2,092,480
2000	873,341	801,515	572,059	2,246,915
2010	971,777	863,420	601,723	2,436,920
Percent Change 1960-2010	185%	142%	-21%	67%
Average Annual Growth Rate	15%	12%	-0.1%	2.7%

Sources: Montgomery and Prince George's Counties—Historical Census Browser from the University of Virginia, Geospatial and Statistical Data Center. Retrieved January 2012. http://mapserver.lib.virginia.edu/collections
Washington, DC—Resident Population Data, *United States Census Bureau. Retrieved January 2012.* http://2010.census.gov/2010census/data/apportionment-pop-text.php

Table 7-2. Area Population Projections, 2010 to 2040

Year	Montgomery County	Prince George's County	Washington DC	Overall Area
2010	979,996	846,171	605,513	2,433,690
2015	1,016,996	873,103	651,526	2,543,640
2020	1,064,995	895,742	669,790	2,632,547
2025	1,108,997	913,402	693,825	2,718,249
2030	1,151,997	928,281	711,890	2,794,198
2035	1,181,997	939,908	730,363	2,854,303
2040	1,198,997	950,119	760,538	2,911,694
Percent Change 2010-2040	22%	12%	26%	20%
Average Annual Growth Rate	0.7%	0.4%	0.8%	0.7%

The 2010 data are estimates developed by MWCOG based upon 2000 Census data. These data projections were developed with the same methodology as the 2040 projections and are the best set of data to use to understand the projected change in population between 2010 and 2040

Source: Metropolitan Washington Council of Governments, Round 8.0a Cooperative Forecasts, Population and Household Forecasts to 2040 by TAZ, 2011

residential growth in Washington DC will reverse the decline of those 50 years. Much of the growth throughout the area will occur as redevelopment with increasing development densities allowed by revised zoning regulations, as only approximately 10 percent of the cumulative effects study area is undeveloped.

Within the cumulative effects study area, population is projected to increase by 18 percent between 2010 and 2040, and employment is projected to increase by 24 percent (Table 7-3).

7.1.3 Past, Present, and Reasonably Foreseeable Future Projects

Past Projects

Following World War I and II, expansion of the federal government infrastructure in Washington DC was the major growth factor in the region, with the District reaching its peak population in 1950. At the same time, Montgomery and Prince George's Counties continued to be generally more rural in nature, but with a growing suburban land use context adjacent to the District. However, transportation access constraints between the District and the surrounding counties generally limited development growth.

Beginning in the 1960s, significant efforts by federal, state and county agencies began to improve regional mobility in order to accommodate the projected influx of new residents. As shown in Table 7-1, annual population growth was 15 percent in Montgomery Count and 12 percent in Prince George's County. These new residents were drawn by expanding federal government jobs and emerging opportunities in the private sector; many opportunities were targeted toward supporting defense and other federal sectors.

The following are the major transportation projects, land use policies, and events that contributed to the changes in land use patterns and resource context within the region between 1964 and 2012:

- **1964**—M-NCPPC published *On Wedges and Corridors, A General Plan for the Maryland-Washington Regional District in Montgomery and Prince George's Counties*
- **1964**—Capital Beltway (I-495) completed
- **1969**—Groundbreaking for Metrorail system
- **1972**—Capital Beltway expanded to eight lanes east of Georgia Avenue in Silver Spring
- **1978**—Metrorail Red Line extended to Silver Spring; Metrorail Orange Line to New Carrollton opens
- **1984**—Metrorail Red Line extended to Bethesda
- **1990**—Capital Beltway expanded to eight lanes from Georgia Avenue west to Rockville Pike/Wisconsin Avenue
- **1993**—Metrorail Green Line opens with a station at College Park/University of Maryland (UMD)
- **2011/2012**—Intercounty Connector toll road opens across central Montgomery and Prince George's counties

Table 7-3. Overall Cumulative Effects Study Area 2010-2040 Population and Employment Projections

Cumulative Effects Study Area Subwatersheds	2010 Population Estimate	2040 Population Forecast	2010-2040 Percent Change	2010 Total Employment Estimate	2040 Total Employment Forecast	2010-2040 Percent Change
Little Falls	45,017	51,840	15%	26,313	30,803	17%
Rock Creek	203,990	234,742	15%	129,540	145,116	12%
Lower Rock Creek	110,030	150,717	37%	90,616	119,648	32%
Sligo Creek	86,780	98,838	14%	22,988	25,784	22%
Northwest Branch	122,414	129,470	6%	18,445	24,723	34%
Northeast Branch	111,561	140,738	26%	78,443	103,279	32%
Lower Beaverdam Creek	42,650	46,831	10%	23,767	32,610	37%
Cumulative Effects Study Area Totals	722,442	853,176	18%	390,112	481,963	24%

Source: Metropolitan Washington Council of Governments, Round 8.0a Cooperative Forecasts, Population and Household Forecasts to 2040 by TAZ, 2011

These transportation projects, and the planning efforts focusing on development along the transportation corridors and at the Metrorail stations, encouraged development in Montgomery and Prince George's Counties. As shown in Table 7-1, the development allowed for an annual population growth of 15 percent in Montgomery County and 12 percent in Prince George's County.

Present and Reasonably Foreseeable Future Projects

Present projects as well as other public actions planned and programmed to be completed by 2040 within the indirect and the cumulative effects study areas have been identified. Table 7-4 lists the public and private projects by station area in the indirect effects study area that are considered in the analysis of both indirect effects and cumulative effects, and Table 7-5 lists the additional public projects considered in the cumulative effects analysis that are outside the indirect effects study area.

In addition to the consideration of public actions, land use projections were analyzed at the traffic analysis zone (TAZ) level to identify areas for potential future private growth in both the indirect and cumulative effects study areas. TAZ's with growth exceeding 50 percent between 2010 and 2040 for households, population, or total employment were identified as potential growth areas (PGA). This enabled the analysis to focus on those areas most likely to experience future growth and potential cumulative effects on resources of interest. In general, the potential growth areas are near the Preferred Alternative and other transportation corridors (Figure 7-1). Using the MWCOG forecasts, FTA and MTA identified 59 TAZs (of the 333 within the cumulative effects study area) as potential growth areas. These TAZ's are projected to accommodate approximately 70 percent of population growth and 68 percent of employment growth within the cumulative effects study area between 2010 and 2040.

7.2 Indirect Effects Assessment

Market demand, local planning, and transit-oriented development (TOD) policies, land availability, and support infrastructure are factors that determine the location and type of growth in the indirect effects study area. Where Purple Line stations are located with existing Metrorail stations, past, present, and foreseeable planned development and redevelopment projects are primarily spurred by Metrorail service (WMATA, 2011). In these station areas, as well as the Silver Spring Library station area, the identified planned developments are not induced by the Purple Line project, but by the long-standing and on-going catalytic effects of Metrorail service on regional growth patterns. In station areas where no changes are foreseen in existing land use and zoning, such as Dale Drive, Manchester Place, and UM Campus Center, or where future redevelopment has been planned independent of the Purple Line, such as East Campus, Purple Line stations would not be expected to induce changes in development patterns.

In the other station areas of Chevy Chase Lake, Lyttonsville, Woodside/16th Street, Long Branch, Piney Branch Road, Takoma/Langley Transit Center, Riggs Road, Adelphi Road/West Campus, M Square, Riverdale Park, Beacon Heights and Annapolis Road/Glenridge, the Purple Line would have the potential to induce development. In many cases, state initiatives and local land use planning and zoning actions undertaken in parallel with the development of the Preferred Alternative anticipate the benefits of the Purple Line by facilitating mixed-use redevelopment around the stations, often at higher densities. It is important to understand that actual station-area development may not occur at the densities proposed by current plans. In addition to the possibility that the plans may be revised, future development may be limited by various factors including market conditions, developer preferences, environmental permitting issues, and infrastructure availability.

Potential indirect effects of land use and development could include localized increased business expenses (e.g., rents) from increased property values, business migration and displacement, changes in the availability and affordability of housing stock, and changes in neighborhood character in the indirect effects study area. These potential effects could be felt most acutely by environmental justice populations in the indirect study area.

Table 7-4. Present and Reasonably Foreseeable Future Projects within the Indirect and Cumulative Effects Study Area

Agency	Project	Description	Subwatershed
Bethesda Station			
Montgomery County	Bethesda Bikeway and Pedestrian Facilities	Within Bethesda CBD	Little Falls & Lower Rock Creek
	Bethesda Metro South Entrance	New south entrance from Elm Street west of Wisconsin Avenue	Little Falls
	Bethesda Elementary	Expansion	Little Falls
	Bethesda-Chevy Chase High School	Expansion	Lower Rock Creek
	2nd District Police Station	Replacement	
	Bethesda Streetscape	Pedestrian improvements	
	Bethesda Parking Renovations	Renovations to existing parking facilities	
Montgomery County & Private	Bethesda Lot 31 Parking Garage	A mixed use development of 250 residential units, 40,000 sq. ft. of retail, and 940 spaces of public parking	Lower Rock Creek
Private	Woodmont East	Approximately 1.2 million square feet of retail, office, and hotel uses, with 210 multi-family dwelling units	Little Falls
Chevy Chase Lake Station			
Montgomery County	North Chevy Chase Elementary School	Expansion	Lower Rock Creek
	Platt Ridge Drive Extended	Local roadway extension	
Private	Chevy Chase Lake Redevelopment	Approximately 1.5 million square feet of commercial/retail development and 1,000 housing units	Lower Rock Creek
Lyttonsville			
Montgomery County	Rosemary Hills Elementary School	Expansion	Rock Creek
Woodside/16th Street Station			
Private	Spring Center Redevelopment	TOD redevelopment of retail center with development of Woodside/16th Street Station	Rock Creek
M-NCPPC	Woodside Urban Park	Renovation of facilities	Rock Creek
Silver Spring Transit Center Station and Silver Spring Library Station			
Montgomery County	Silver Spring Green Trail	Silver Spring Metro Station to Sligo Creek Hiker-Biker Trail	Rock Creek & Sligo Creek
	Silver Spring Traffic Improvements	CBD roadway improvements—Dale Drive to Colesville Road	
	Silver Spring Library	Six-story library including retail incorporating a Purple Line station	Sligo Creek
	Silver Spring Transit Center	Six-story mixed-use transit center	Rock Creek
	Silver Spring Parking Renovations	Renovations to existing parking facilities	Rock Creek & Sligo Creek
	Fenton Street Village	Improved pedestrian linkages	Sligo Creek
	Metropolitan Branch Trail	Trail from Silver Spring to Takoma Park	
Private	Fenton Street Development	New place of worship and associated educational buildings and single-family dwelling units	Sligo Creek
	Silver Spring Urban Renewal	High density office and retail commercial buildings, including hotel and apartment complex	
	8621 Georgia Avenue—Silver Spring	Proposed 13-story office building with retail and parking facilities	

Table 7-4. Present and Reasonably Foreseeable Future Projects within the Indirect and Cumulative Effects Study Area (continued)

Agency	Project	Description	Subwatershed
Dale Drive Station			
Montgomery County	Dale Drive Sidewalk	New sidewalk construction from Mansfield Road to Hartsford Avenue	Sligo Creek
	Old Blair Auditorium	Renovation	
Manchester Place Station			
Montgomery County	Highland View Elementary School	Expansion	Sligo Creek
Long Branch Station and Piney Branch Station			
Montgomery County	Flower Avenue Green Street	Street reconstruction	Sligo Creek
Takoma/Langley Transit Center Station			
MTA	Takoma/Langley Transit Center	New bus transit center- University Boulevard at New Hampshire Avenue	Northwest Branch
M-NCPPC	Langley Park Community Center	Renovations	Northwest Branch
Riggs Road Station			
None			
Adelphi Road/West Campus Station, UM Campus Center Station, and East Campus Station			
University of Maryland	UMD East Campus Redevelopment Initiative	38-acre mixed-use development with retail, hotel/conference, residential, and graduate student housing	Northeast Branch
College Park Metrorail Station			
WMATA & Private	College Park Metro Development	Transit station improvements, 348,000 sq. ft. of office space, 34,000 sq. ft. of retail, 290 residential units, and a 600-space garage	Northeast Branch
M-NCPPC	Calvert Park Neighborhood Park	Reconstruction	Northeast Branch
	College Park Airport	New maintenance facility	
	Wells-Linson Complex	Renovations	
M Square Station			
Private	Cafritz Property at Riverdale Park	37-acre development with over 200,000 sq. ft. of retail and restaurants, 26,400 sq. of office space, 995 residential units, and a 120-room hotel	Northeast Branch
University of Maryland & Private	M-Square Research Park	Approximately 2 million sq. ft. of research and office facilities on 130 acres	Northeast Branch
M-NCPPC	Park and Recreation Administration	Renovations	Northeast Branch
	Riverdale Community Recreation Center	Renovations	
Riverdale Park Station			
M-NCPPC	Fletchers Field Community Park	Renovations	Northeast Branch
Beacon Heights Station and Annapolis Road/Glenridge Station			
None			
New Carrollton Metrorail Station			
WMATA & Private	New Carrollton Transit District Development	Approximately 5 million sq. ft. of offices, stores, hotels, and entertainment space, and up to 5,500 new homes	Lower Beaverdam

Table 7-5. Present and Reasonably Foreseeable Future Public Projects within the Cumulative Effects Study Area outside the Indirect Effects Study Area

Agency	Project	Description	Subwatershed
MD SHA	BRAC Intersection Improvements	Intersection improvements near National Naval Medical Center, Bethesda	Lower Rock Creek
	Randolph Road widening	Approximately 1,500 ft. of roadway widening from Rock Creek to Charles Road	
	MD 201/US 1	Roadway widening	Northeast Branch
MD SHA & Montgomery County	MD 97 (Georgia Avenue)	Interchange improvements	Lower Rock Creek
Montgomery County	Westbrook Elementary School	Expansion	Little Falls
	Wood Acres Elementary School	Expansion	
	Wapakoneta Road Improvements	Local road reconstruction	
	Viers Mill Elementary School	Expansion	Lower Rock Creek
	Chapman Road Extended	Extension of Chapman Avenue from Randolph Road to Old Georgetown Road	
	Glenmont Fire Station 18	Replacement	
	Maple Avenue Storm Drain and Roadway Improvements	Street reconstruction	
	Chevy Chase Storm Drain Improvements	Drainage infrastructure improvements	
	White Flint East Transportation	Local roadway/bridge improvements	
	White Flint West Transportation	Local roadway/bridge improvements	
	Wheaton Library	New construction	Sligo Creek
	Wheaton Rescue Squad	Relocation and new construction	
	Denis Avenue Health Center	Replacement	
	Wheaton Parking Renovations	Renovations to existing parking facilities	
	Wheaton Redevelopment Program	Wheaton CBD renewal	
	Seminary Road	Intersection improvement	
	Arcola Elementary School	Expansion	
	Northwest Golf Course	Site, layout and building renovations	Northwest Branch
MD SHA & Prince George's County	US 1, Baltimore Avenue	Roadway reconstruction — College Ave to Sunnyside Ave	Northeast Branch
	MD 201, Kenilworth Avenue	Roadway widening — Rittenhouse Road to Pontiac Street	
Prince George's County	Greenbelt Road (MD 193) Bus Enhancement	MD 650 New Hampshire Avenue to MD 564 Lanham-Severn Road	Northwest Branch & Northeast Branch
	US Route 1 Bus Enhancements	District Line to MD 198	
	Hyattsville Area Elementary School	Renovations	Northwest Branch
	Hyattsville Fire Station	Replacement	
	Gateway Arts District	Local roadway improvements	
	Margaret Brent Elementary School	Renovations	Northeast Branch
	Charles Carroll Middle School	Renovations	
	Bladensburg High School	Renovations	
	Parkdale High School	Renovations	
	William Wirt Middle School	Renovation	
	Varnum Street	Local bridge replacement	
	Greenbelt Fire/EMS Station	Replacement	
	Hyattsville Library	Renovations	
	New Carrollton Library	Renovations	
	Glenarden Woods Elementary School	Renovations	Lower Beaverdam
	Kentland Fire/EMS Station	Renovation	
	Glenarden Apartments	Demolition	

Table 7-5. Present and Reasonably Foreseeable Future Public Projects within the Cumulative Effects Study Area outside the Indirect Effects Study Area (continued)

Agency	Project	Description	Subwatershed
M-NCPPC	Chillum Community Park	Renovations	Northwest Branch
	Dueling Branch Neighborhood Park	Renovations	
	Heurich Community Park	Renovations	
	Hyattsville-Dietz Neighborhood Playground	Renovations	
	Lane Manor Community Recreation Center	Renovations	
	Mt. Rainier Nature Center	Renovations	
	North Brentwood African Heritage Museum	Renovations	
	Northwest Branch Trail	Trail bridge replacement	
	Paint Branch Golf Course	New building	
	Paint Branch Stream Valley Park	Renovations	
	Rollingcrest-Chillum Splash Pool	Renovations	
	Acredale Community Park	Renovations	Northeast Branch
	Berwyn Heights School Community Center Park	Renovations	
	Bladensburg Community Center	Renovations	
	Edmonston Neighborhood Mini Park	Renovations	
	Indian Creek Stream Valley Park	Trail renovations	
	Lake Artemesia	Renovations	
	Prince George's Plaza Community Center	Expansion	
	Public Playhouse Cultural Arts Center	Renovations	
	Rhode Island Avenue Trolley Trail	Trail construction	
	Riversdale (Calvert Mansion)	Renovation	
	Cheverly-East Neighborhood Park	Renovations	Lower Beaverdam
	Columbia Park Elementary School	Expansion	
	Kentland Neighborhood Recreation Center	Renovations	
	Palmer Park Community Center	Renovation	
District of Columbia	DC Streetcar	Streetcar service on Georgia Avenue	Rock Creek
	Walter Reed Medical Complex	Redevelopment	
	Engine 22 Fire	New construction	
	University of the District of Columbia	Renovations	
	Cleveland Park Library	Renovation	
	Engine 14 Fire	Renovations	
	DPW Fueling Stations	Renovations	
	Shepherd Elementary School	Renovations	
	Lafayette Elementary School	Renovations	
	Hearst Elementary School	Renovations	
	Engine 28	Renovations	
	Ellington School of Arts High School	Renovations	
	Powell Elementary School	Renovations	
	Roosevelt High School	Renovations	
	West Education Campus Elementary School	Renovations	
U.S. Health and Human Services	National Institutes of Health	Renovations	Rock Creek
U.S. Department of Transportation	FHWA—Rock Creek Parkway	Renovations	Rock Creek

The potential impacts to natural resources from development are a concern primarily in terms of potential water quality effects resulting from a potential increase in impervious surfaces; but where the redevelopment would be in already-developed areas the potential impact would be reduced.

Following is a discussion, by station area, of potential Purple Line indirect effects on resources of interest, including a comparison with how the station area would be anticipated to develop under the No Build Alternative. Where the indirect effects study areas associated with individual stations (1/2-mile buffer) largely overlap and share common characteristics, station discussions have been grouped together.

7.2.1 Bethesda Station

Land use patterns in this station area are strongly oriented toward the existing Metrorail station. Existing transit-oriented residential, office, and commercial uses and planned development projects, such as Woodmont East and Lot 31, would continue this pattern. As no specific developments are planned solely in anticipation of the Purple Line, the Bethesda Purple Line station would have no indirect effects on resources of interest. Development would be anticipated to be the same under both the Preferred Alternative and the No Build Alternative.

7.2.2 Chevy Chase Lake Station

The *Chevy Chase Lake Sector Plan* (M-NCPPC 2013, Draft) builds on the recommendations of the 1990 Plan and on the Purple Line by focusing development near the proposed station, and on the community's vision as stated in the plan to:

> "**Preserve** the well-established community character of Chevy Chase Lake by protecting existing residential areas, restoring Coquelin Run, and focusing new development and redevelopment in the Town Center and by defining a standard for compatibility;
>
> "**Enhance** quality of life and connectivity within and to the Chevy Chase Lake community by promoting pedestrian-oriented mixed-use development in the Town Center, improving access to different modes of transportation throughout the community; and
>
> "**Create** new choices in the Chevy Chase Lake Town Center with new opportunities for local shopping, housing, public spaces, and transit."

The plan recommends a two-step amendment to zoning. The first would precede the Purple Line and would rezone commercial properties in the Town Center along Connecticut Avenue between Chevy Chase Lake Drive and Manor Road to allow mixed residential and commercial uses.

The second, to be timed with Purple Line funding, would allow over one million square feet of new mixed-use development in remaining Town Center properties. This expanded level of development would allow more housing options and community amenities such as parks and trails.

As the Purple Line has been incorporated as an integral part of this plan, it can be said to induce the projects of the second step in the zoning amendments that would redevelop an urbanized area. The positive effects of this development would be to improve the quality of life and the economy of Chevy Chase Lake. It is anticipated that any negative impact to water quality from the increased development would be avoided through the requirements of state and federal water quality regulations and the stated intent of the community to restore Coquelin Run.

The benefits of the second step in the rezoning and redevelopment of Chevy Chase Lake foreseen by the Chevy Chase Sector Plan would not be realized under the No Build Alternative.

7.2.3 Lyttonsville Station

The M-NCPPC initiated work on a *Greater Lyttonsville Sector Plan* in July 2012 to develop a Lyttonsville community vision incorporating the Purple Line, the relocation of the Lyttonsville Yard site in response to community comments, and locally-desired changes to the commercial/industrial area along Brookville Road. Redevelopment of existing commercial and light industrial

properties would have the potential to displace small businesses, some of which may be minority-owned. Indirect effects to area businesses possibly would include changes to the intensity of development or the timing of proposed development, due to modifications in access and traffic patterns that would occur with the construction of the Purple Line.

The Preferred Alternative also is expected to have long-term positive effects to the economy within the indirect effects area, including additional businesses migrating to the station area to serve transit users and area residents. Effects on local employment also would be beneficial. Future development would create more jobs for local residents and increase available housing in the area. No new transportation-related catalyst for redevelopment would occur in the No Build Alternative. Thus, limited additional employment and increase in housing are anticipated to occur. On the positive side, the No Build Alternative would cause no substantial change in impervious surface area related to new development. As a result, the No Build Alternative incurs minimal concern regarding potential water quality effects.

7.2.4 Woodside/16th Street Station

The *North and West Silver Spring Master Plan* (M-NCPPC 2000) envisions high-density, mixed-use development in the northern portion of the Woodside/16th Street station area, with high density, multi-family residential to the south. Since MTA would acquire a portion of the Spring Center, a shopping center between 16th Street and the Metropolitan Branch right-of-way, for the Purple Line station, the land owner has expressed interest in redeveloping the remaining 6.5-acre site as TOD. Redevelopment of the center would benefit the community through increased employment opportunities and by bringing additional businesses and services to local residents. Since the land to be potentially redeveloped is a shopping center with extensive paved parking areas, there is little risk of increased impervious surfaces being created.

Lands bounded by East-West Highway and the CSX corridor, including the proposed station area, are also included within the current *Greater Lyttonsville Section Plan* initiative.

Development of high-density mixed use in the northern portion of the Woodside/16th Street station area would be expected under either the Preferred Alternative or the No Build Alternative because the area is adjacent to downtown Silver Spring, but, in the latter event, the development would take place over a longer period of time. Under the No Build, the Spring Center would not be replaced in part by a transit station and the balance of the site would not be redeveloped.

7.2.5 Silver Spring Transit Center and Silver Spring Library Stations

The combined indirect effects study area surrounding the Silver Spring Transit Center and Silver Spring Library stations is a revitalized urban core, which continues to intensify in density as part of on-going efforts by the county and private developers. The *Silver Spring CBD and Vicinity Sector Plan* (M-NCPPC 2000) encourages multi-use development within downtown Silver Spring, including retail, residential, office, hotel, and civic uses around the connected public transportation systems. While the Preferred Alternative would add transit connections, land use and development patterns are most strongly linked to the existing Metrorail station and local business enterprises. None of the projected future development in the study area is identified as induced by the proposed Purple Line, and no indirect effects on resources of interest would occur.

Development would be anticipated to be the same under both the Preferred Alternative and the No Build Alternative.

7.2.6 Dale Drive

The *East Silver Spring Master Plan* (M-NCPPC 2000) does not call for changes in the existing development character or uses in the Dale Drive station area. The community surrounding the station is largely a residential neighborhood zoned for single-family residences with a school campus. No vacant or underutilized parcels are currently available. No induced development or project

related indirect effects are anticipated in the Dale Drive station area.

As the neighborhood is fully-developed and stable, no additional development would be anticipated under either the Preferred Alternative or the No Build Alternative.

7.2.7 Manchester Place Station

As with the Dale Drive station, the *East Silver Spring Master Plan* does not call for changes in existing development character or uses in this station area, a predominantly residential neighborhood. No induced development or project-related indirect effects are anticipated to result from the Purple Line in the Manchester Place station area.

As the neighborhood is fully-developed and stable, no additional development would be anticipated under either the Preferred Alternative or the No Build Alternative.

7.2.8 Long Branch and Piney Branch Road Stations

These station areas exhibit a mix of single-family homes and multi-family apartment complexes, with neighborhood commercial uses such as gas stations and small retail stores. The indirect effects study area associated with these stations is also within the state-designated Takoma Park/Long Branch Enterprise Zone. Businesses that choose to locate or redevelop property in the Enterprise Zone may be eligible for property and income tax credits, impact fee exemptions, and special permitting programs.

As a complement to the local zoning and Enterprise Zone inducements, the Purple Line would be a strong catalyst for public and private revitalization of underutilized properties. For example, it likely would trigger redevelopment of the northwest quadrant of the Arliss Street/Piney Branch Road intersection and the northeast and northwest quadrants of the Piney Branch Road/University Boulevard intersection.

Each of these sites is identified as interim development sites (i.e., before the Purple Line) in the *Long Branch Sector Plan* (M-NCPPC 2013 draft). The area including the Arliss Street/Piney Branch Road intersection is part of the envisioned Long Branch Town Center, an area of mixed uses between Flower Avenue and Arliss Street, with a focus on neighborhood commercial uses with new public space and parking amenities. The Piney Branch Neighborhood Village interim development would include the northeast quadrant of the Piney Branch Road/University Boulevard intersection. This area is envisioned as a higher-density residential community with diverse housing options and supporting commercial uses.

Each of these locations contains either small retail centers or individual commercial buildings, which are currently underutilized or in need of improvements. The combination of public planning, fiscal incentives, dense residential neighborhoods, and future transit improvements provide desirable conditions for future redevelopment, which would change the local neighborhood through increased pedestrian and vehicular traffic, and land use implications such as changes in local businesses and housing and increased property values. The interim developments identified in the Sector Plan are noted candidates for redevelopment and call for infrastructure improvements and development that is not predicated upon construction of the Purple Line. However, construction of the Purple Line would further encourage action on these land use plans.

If the Purple Line is constructed, the Sector Plan also envisions additional development within the Long Branch indirect effects study area, including additional housing, commercial use, and public space/parkland designed to further transform the area into a pedestrian-scale urban environment linked to public transit. Potential indirect effects in these station areas would include changes to the intensity of development or the timing of proposed development, due to modifications in access and traffic patterns that would occur with the construction of the Preferred Alternative. The Preferred Alternative is expected to have long-term positive effects to the economy within the indirect effects study area. Such development would create more area jobs, increase available area housing, improve mobility and accessibility for commuters, increase access to potentially higher-paying employment

opportunities for local residents, and increase customer markets for local businesses.

A potential indirect effect to environmental justice populations would be a reduction in available affordable housing as a result of the redevelopment of existing housing and increased commercial rents and increased commercial property values. However, the Sector Plan calls for approximately 700 additional subsidized housing units in the interim (i.e., independent of the Purple Line) and an additional 1,100 subsidized housing units over the long-term (i.e., post-Purple Line construction).

The Sector Plan calls for additional public green space and vegetated buffers, along with LEED building design, to reduce stormwater runoff generation.

Under the No Build Alternative, the long-term positive benefits of the Preferred Alternative would not be realized, nor would the risks of a reduction in affordable housing.

7.2.9 Takoma/Langley Transit Center and Riggs Road Stations

These stations serve the Takoma Langley Crossroads area, which straddles the Montgomery County and Prince George's County boundary. The planned Takoma/Langley Transit Center and Purple Line station at the intersection of University Boulevard and New Hampshire Avenue and the Purple Line operating on University Boulevard are envisioned as the catalysts for redevelopment of the existing suburban style commercial retail uses corridor.

The *Montgomery County Takoma Langley Crossroads Sector Plan* (M-NCPPC 2010) promotes improved pedestrian safety, connections to public transportation, broadened housing opportunities, preservation of existing affordable housing, and strengthened economic opportunities for businesses through innovative commercial and residential zoning and urban design concepts, which encourage new business investment, jobs creation, attractiveness of commercial areas, and a diversity of goods and services.

The plan envisions a total of 340,000 square feet of office space, 460,000 square feet of retail/commercial, and 2,800 residential dwelling units within Montgomery County. This transition would emphasize multi-story development and increase land devoted to office space, while reducing retail and residential uses in comparison to existing conditions.

The *Prince George's County Takoma Langley Crossroads Sector Plan* (M-NCPPC 2009) seeks to achieve a transit-oriented and pedestrian-friendly community that celebrates and builds upon the cultural diversity of the existing and future residents of the Takoma/Langley Crossroads. Its goals are to increase housing retention and choices; promote its image as the "International Corridor;" create a safe, clean, and green community around future transit; improve the local economy; create a pedestrian friendly community; and provide a variety of community and recreation spaces.

The plan envisions a total of 675,000 square feet of office space, 1.5 million square feet of commercial retail, and 10,400 residential housing units. Within Prince George's County, redevelopment would emphasize office space development, with minimal increases in retail and residential uses.

These station areas are also within the state-designated Takoma Park/Long Branch Enterprise Zone.

The planned redevelopment of the indirect study area could increase pedestrian activity and increase property values. Visually, the neighborhood would become more urban, with buildings constructed on the front property line and parking in structures or mid-block lots.

As the catalyst for implementation of these plans, the Preferred Alternative is expected to have long-term positive effects to the economy. Future development would create more jobs for local residents and improve mobility and accessibility for commuters. Potential indirect effects to environmental justice populations include increased business expenses (e.g., rents) from increased commercial property values. These effects may be offset to varying degrees through increased customer markets for local businesses. For example,

implementation of Montgomery County's Takoma Langley Crossroads Sector Plan calls for broadening local commercial and housing opportunities, thereby potentially increasing the customer markets for local businesses.

Two National Register of Historic Places (NRHP) resources are present in the indirect effects study area, the McCormick-Goodheart Mansion and the Davis-Warner house (See Section 4.7 Historic Properties). As both properties are outside the area where redevelopment is anticipated, the Purple Line likely would not have an indirect effect on these resources.

As a result of the construction of the Takoma/Langley Park Transit Center and the Takoma Langley Crossroads Sector Plans adopted by both counties, there will be redevelopment in this area. However, it can be anticipated that this redevelopment would occur sooner and with higher densities under the Preferred Alternative than under the No Build Alternative.

7.2.10 Adelphi Road/West Campus, UM Campus Center, and East Campus Stations

The Preferred Alternative would contribute indirectly to development west of the UMD campus at the Adelphi Road/West Campus station, but no changes are anticipated within the UM Campus Center station indirect effects study area. No adverse indirect effects are anticipated to the UMD Historic District. Development at the East Campus station was planned independently of the Purple Line. Although current plans accommodate the station, the Preferred Alternative is not inducing the redevelopment.

The Prince George's County *Purple Line TOD Study* (M-NCPPC 2013, Draft) envisions mixed-use redevelopment at the Adelphi Road/West Campus station into a new "gateway" for the university, composed of predominantly mid-rise residential uses with ground floor retail along the south side of Campus Drive, and redevelopment could include trail linkages to surrounding community parks.

The East Campus indirect effects area is constricted by the floodplain of Northwest Branch, which must be protected in the future development plans.

Future development as a result of the Preferred Alternative would not be expected to occur in the Adelphi Road/West Campus station area. Also, it is not anticipated that there would be any substantive difference in future development under either the Preferred Alternative or the No Build Alternative for the UM Campus Center station area, which is within the established section of the UMD campus, or in the East Campus station area where the redevelopment of the East Campus was planned independent of the Purple Line and is anticipated to be undertaken under either alternative.

7.2.11 College Park and M Square Stations

At the College Park station, the WMATA public/private redevelopment efforts would not be influenced by the Preferred Alternative.

At the M Square Station, the M Square Research Park will support approximately 2 million square feet of research and office facilities and is anticipated to occur without the Preferred Alternative. The Cafritz Property at Riverdale Park development and other identified projects are likewise, not influenced by the Preferred Alternative. Development is a natural resources concern in terms of land clearing, potential water quality effects, and the protection of wetlands and floodplains associated with Northeast Branch.

This new development in these station areas will occur under the No Build alternative as well as under the Preferred Alternative.

7.2.12 Riverdale Park Station

Redevelopment of existing retail/commercial uses within a four-block area adjacent to the proposed Riverdale Park station is envisioned by the Prince George's County *Purple Line TOD Study* (M-NCPPC 2013, Draft) as an indirect effect of the Preferred Alternative. The study recommends mid-rise mixed-use developments of housing, office, and neighborhood retail with new public spaces.

Increased pedestrian and vehicular traffic and land use and economic implications could result from planned redevelopment. Indirect effects likely would include changes to the intensity of development or the timing of proposed development, due

to modifications in access and traffic patterns resulting from the Preferred Alternative. An indirect effect of the Purple Line could be the displacement of some businesses by the envisioned redevelopment. Further studies by the town and county would be required to advance the redevelopment idea, assess potential effects, and identify appropriate mitigation.

The Preferred Alternative would be expected to have long-term positive effects to the economy within the station area by creating area jobs, increasing available area housing, and improving mobility and accessibility for commuters. These benefits would apply to all area residents, including environmental justice populations.

A potential indirect effect of redevelopment in this station area is to increase pressure on the Northeast Branch floodplain. Redevelopment has the potential to increase the amount of runoff the floodplain handles as well as directly impact the floodplain by encroachment. Further studies by the town and county would be required to advance the redevelopment idea, assess potential effects on the floodplain, and identify appropriate mitigation.

Under the No Build Alternative, no substantial changes in the land use would be expected.

7.2.13 Beacon Heights Station

The Prince George's *Purple Line TOD Study* (M-NCPPC 2013, Draft) identifies minor redevelopment opportunities influenced by the Preferred Alternative in this station area. The major redevelopment opportunities are projected at the existing County Park Police Headquarters building and the East Pines Shopping Center. Redevelopment at these locations could involve multi-story residential uses with ground-level neighborhood retail.

Changes to the existing community would occur through increased pedestrian and vehicular traffic and land use and economic implications. Indirect effects likely would include changes to the intensity of development or the timing of proposed development, due to modifications in access and traffic patterns resulting from the Preferred Alternative.

The Preferred Alternative is expected to have long-term positive effects to the economy within the station area by creating area jobs, increasing available area housing, and improving mobility and accessibility for commuters. These benefits would apply to all area residents, including environmental justice populations. As described below in Section 7.4, the potential exists for rents to increase in station areas, an effect that is of most concern in environmental justice population areas.

While the institutional development potentially would occur under either the Preferred Alternative or the No Build Alternative resulting in some increase in associated economic activity, the long-term benefits to the Beacon Heights station area anticipated under the Preferred Alternative would not occur under the No Build Alternative.

7.2.14 Annapolis Road/Glenridge Station

The land area adjacent to the proposed Annapolis Road/Glenridge station supports approximately 50,000 square feet of office space and 110,000 to 140,000 square feet of retail commercial uses. The County has approved a Development District Overlay Zone to promote consistency between the goals of the *Central Annapolis Road Sector Plan* (M-NCPPC 2010) and future development. The Annapolis Road/Glenridge station is also within the state-designated Enterprise Zone.

Redevelopment of the existing Glenridge Shopping Center and surrounding areas is envisioned by the sector plan in response to the Purple Line. Glenridge Transit Village is planned to be a pedestrian-friendly, mixed-use center that supports community scale transit-oriented development and new employment and commercial opportunities centered on the Annapolis Road station area. At build-out, the village would support a total of 250,000–300,000 square feet of low-to-mid-rise office use, 400–500 housing units, and 130,000 to 190,000 square feet of commercial retail space.

Through increased pedestrian and vehicular traffic and land use and economic implications, the community would be changed. Indirect effects at the station area would include changes to the intensity of development or the timing of future

development in conjunction with the construction of the Preferred Alternative. Displacement of existing businesses would occur; the potential for water quality effects is also a concern. The Preferred Alternative is expected to have long-term positive effects to the economy. Future development would create more area jobs, increase available area housing, and improve mobility and accessibility for commuters. These benefits would apply to all area residents, including environmental justice populations.

It can be anticipated that some development would occur under the No Build Alternative as a result of the Development District Overlay Zone, but it is not anticipated that the Glenridge Transit Village would be constructed. As a consequence, the long-term positive effects to the economy would not be realized.

7.2.15 New Carrollton Station

The planned WMATA and MDOT redevelopment activities at this station are not indirectly attributable to the Purple Line.

Development would be anticipated to be the same under both the Preferred Alternative and the No Build Alternative.

Implications of Indirect Effects

While not the sole or primary driver of change, the presence of the Purple Line is likely to contribute to social and economic influences that may transform communities over time. For example, a 2006 report by the Center for Transit Oriented Development, "*Preserving and Promoting Diverse Transit Oriented Neighborhoods*," looked at communities within a one-half mile radius of transit stations (a transit zone) across the country in terms of their social and economic characteristics and documented the following findings:

- Transit zones have more racial and ethnic diversity than the average census tract in the same metropolitan area
- Housing accommodates a greater share of a region's lower-income households in transit zones than a region overall
- Transit zones support important segments of the population in terms of rental housing and household size
- Transit zones have a greater than average proportion of homeowners who spend more than 30 percent of their income on housing
- Transit zones allow people to live with fewer cars
- By 2030, nearly two-thirds of the potential demand for housing near transit is likely to come from households that have incomes below the area median income

Studies of the effect of transit on property values using sales data typically have indicated increases in residential real estate values in close proximity to stations, with a reduced influence beyond a one-half mile radius[1]. This premium depends on several factors, including the design of the station, the level of ridership, local real estate market conditions, neighborhood characteristics, and adjacent land uses. These economic effects can be a both a benefit and a burden. While implementation of the Purple Line may help communities effect positive economic growth, the diversity and the economic needs of the entire community must be considered.

Throughout the development of the Preferred Alternative, MTA has been engaged with neighborhoods and businesses along the corridor to understand their concerns. MTA will continue working with the counties and advocacy groups to support engagement of local elected officials regarding land use changes such as gentrification.

Prince George's County has recently completed the *Purple Line TOD Study* (M-NCPPC 2013, Draft) of five transit station areas to determine a future vision for these communities and to ultimately develop planning strategies that seek to build both diverse and prosperous neighborhoods. A number of public assistance programs, including home and business improvement subsidies and public infrastructure funding, are in place in Prince George's County to

[1] Public Transportation Boosts Property Values" in *Transportation: A Toolkit for Realtors*
2nd Edition, National Association of Realtors, 2012
http://www.realtor.org/sites/default/files/transportation-toolkit-2012-05-29.pdf

address priority needs related to affordable housing, economic revitalization, and public services.

The Montgomery County Moderately Priced Housing Law, in effect since 1974, has facilitated the private development of over 13,000 affordable housing units between 1976 and 2010.

Montgomery County also recently enacted legislation requiring the county to include an assessment of the potential for incorporating affordable housing into county capital projects such as libraries, fire stations, recreation centers, and parking structures.

MTA is engaging small business leaders in the Purple Line corridor in identifying opportunities and resources for technical assistance to businesses through entities such as the Maryland Small Business Development Center (see Section 4.19.5).

Related discussion of potential cumulative effects on environmental justice populations is presented in Section 7.4.

7.3 Cumulative Effects Assessment

Planned transportation and other governmental development in the cumulative effects study area is programmed or anticipated to occur independently of the Purple Line. The vast majority of these developments would be located in the Lower Rock Creek and Sligo Creek watersheds of Montgomery County and the Northwest and Northeast Branch watersheds in Prince George's County. Projections of anticipated land development are based on current local and regional land use and growth management objectives and regulations and already consider the implementation of the Preferred Alternative.

The Purple Line would have an incremental effect on resources of interest in the context of all other past, present, and reasonably foreseeable actions in the cumulative effects study area. The Preferred Alternative is not anticipated to generate substantial cumulative resource effects in the cumulative effects study area. In general, direct and indirect adverse impacts generated by the Purple Line project would be localized to the Purple Line corridor.

For example, FTA and MTA's assessment considered the potential for cumulative effects due to the effects of concurrent construction of the Bethesda Metro Station South Entrance and the Purple Line Bethesda station. As described in Chapter 2.0, Montgomery County intended to initiate construction of the Metro Station South Bethesda Station Entrance as a separate project prior to the start of the Purple Line construction. However, based on recent discussions with the county, MTA understands that the County is likely to build their project at the same time as the Purple Line so as to benefit from construction interface and cost savings. FTA and MTA's assessment of the cumulative effect of concurrent project construction would be limited to closure of Elm Street between Wisconsin Avenue and Woodmont Avenue during the construction of the shaft containing the elevators and egress stairs that connect the Metrorail station and the surface.

Throughout the planning phase of the project, MTA worked closely with agencies, institutions, and private landowners and developers to design a transit line that fits within the existing and future environment.

The assessment of potential cumulative effects of the Purple Line and other past, present, and reasonably foreseeable actions is presented by resource in the following subsections.

7.3.1 Neighborhoods and Community Facilities and Services

Cumulative effects to neighborhoods and community facilities and services would occur as a result of past, present, and reasonably foreseeable future development and changes in population and employment in the cumulative effects study area.

The primary development forces are state initiatives and local planning and zoning actions that call for development and redevelopment in many parts of the Purple Line cumulative effects study area, particularly along the Purple Line corridor. Focal points of these initiatives are the Metrorail stations and Purple Line stations in the Purple line corridor, primarily urbanized centers that are themselves growth areas. Growth and redevelopment by others and the catalytic effect of the Purple Line would

result in neighborhood change over the long term in the localized Purple Line corridor. The transit-oriented development goals of the counties will change neighborhood character through increases in the density and mix of land uses. The economic benefits of these actions have the potential to increase property values. Transit-oriented development could change the demographic profile of a neighborhood. As discussed above, these changes may be beneficial to some and a burden for others.

In large part, the Preferred Alternative plays a supporting role with incremental, localized effects compared to the larger state policies and county-driven planning actions. At some Purple Line station locations, for example and as described in Section 7.2, the Preferred Alternative would have a more prominent role in shaping neighborhood character in the Purple Line corridor. For this reason, MTA is an active participant with the counties, as well as residents and business leaders, in planning a future vision for communities in the Purple Line corridor and in developing strategies to build and maintain diverse and prosperous neighborhoods.

Population and employment growth in the cumulative effects study area, supported by state and county planning and zoning actions, is expected to increase local travel demand, traffic congestion, and demand for transit services. The Purple Line would help satisfy the transit demand and potentially would transfer some demand from private vehicles to transit service.

Forecasted population and employment growth based on state and county planning actions would increase pressure on public infrastructure and services. State and county development regulations, including state Smart Growth requirements and public facility ordinances, serve to direct future growth and limit excessive pressure on public facilities and services. Anticipating future population and employment growth, some infrastructure investments are already planned and programmed, including school additions and expansions, new and renovated fire and police stations, public health facilities, and other community enhancements. As the Purple Line is included in county master plans, the incremental demands on infrastructure from future induced growth in the Purple Line corridor would be accounted for in current infrastructure plans.

7.3.2 Parks and Recreation Facilities

Past, present, and reasonably foreseeable future county actions include property acquisition for parks, infrastructure and facility improvements, and maintenance programs. Population growth in the cumulative effects study area is expected to increase demand and capacity pressure on public parks and recreation facilities in the region. Due to limited land availability and funding for acquisitions, future park improvements by the counties and National Park Service are geared toward maximizing the use of already protected land to meet these recreational demands. These limitations have the potential to result in a long-term shortfall in the ratio of parks and recreation areas to population.

As described in Section 4.6, the Preferred Alternative would affect several parks, primarily by minor roadway widening or access modifications. No reasonably foreseeable actions by others are known to have a potential cumulative impact on parks and recreation areas in the long-term.

Considered cumulatively, the county actions would have the greatest effects on parks by providing new or expanded facilities and maintaining existing facilities in good order. The effects of the Purple Line action involve small portions of parks, primarily where the parks are adjacent to or are crossed by existing roadways. MTA is coordinating with the counties and National Park Service to assess means to avoid or further minimize park impacts and to develop effective mitigation strategies to offset adverse effects. MTA is guided by the regulations of Section 4(f) of the Department of Transportation Act of 1966 in this regard.

7.3.3 Cultural Resources

The cumulative effects study area contains 55 resources listed on the NRHP, including several historic districts, portions of the former Baltimore and Ohio Railroad, and the Baltimore Washington Parkway, along with 731 resources listed on the Maryland Inventory of Historic Places.

The potential effects of the Preferred Alternative on historic resources are described in Section 4.7; resources of interest adversely affected by the Preferred Alternative are the Talbot Avenue Bridge; the Metropolitan Branch, B&O Railroad; and the Falkland Apartments. Future actions other than the Purple Line have the potential to adversely affect cultural resources in the cumulative effects study area. However, no known public actions also would affect the Talbot Avenue Bridge; the Metropolitan Branch, B&O Railroad; or the Falkland Apartments. MTA is guided by Section 106 of the National Historic Preservation act and Section 4(f) of the Department of Transportation Act of 1966 in regard to avoiding or minimizing adverse effects.

Table 7-6. Change in Forested Land within the Cumulative Effects Study Area

Cumulative Effects Study Area	2002 Forest acres	2002 percent of land area that is forest	2010 Forest acres	2010 percent of land area that is forest	2002-2010 Percent change in forest cover
Little Falls	498	10%	508	10%	2%
Rock Creek	N/A	N/A	N/A	N/A	N/A
Lower Rock Creek	1,064	9%	1,017	9%	-4%
Sligo Creek	646	9%	579	8%	-10%
Northwest Branch	2,191	15%	2,529	17%	15%
Northeast Branch	2,926	20%	2,639	18%	-10%
Lower Beaverdam	891	17%	682	13%	-23%
Cumulative Effects Study Area Totals	8,216	14%	7,954	14%	-3%

Note: Rock Creek information is not available and was thus not included in the totals or average percentages.

Source: MDP, 2011

Table 7-7. Potential Cumulative Effects to Forested Land

Cumulative Effects Study Area	Total Size (ac)	2010 Forest (ac)	Forest percentage of subwatershed	Forest acres in projected growth areas	Percent of subwatershed forest lands in projected growth areas
Little Falls	5,131	508	10%	27	5%
Rock Creek	NA	NA	NA	NA	NA
Lower Rock Creek	11,702	1,017	9%	176	17%
Sligo Creek	6,936	579	8%	24	4%
Northwest Branch	14,634	2,529	17%	173	7%
Northeast Branch	14,246	2,639	19%	774	29%
Lower Beaverdam	5,287	682	13%	383	56%
Cumulative Effects Study Area Totals	57,936	7,954	14%	1,557	20%
Preferred Alternative Forest Impacts	47.6 ac (0.6 percent of cumulative effects study area forest land)				

Note: Rock Creek information is not available and was thus not included in the totals or average percentages.

7.3.4 Forests

Within the cumulative effects study area, forest cover trends between 2002 and 2010 generally mirror the statewide trends, with an overall 3 percent reduction in forest cover (Table 7-6).

The potential growth areas within the cumulative effects study area are generally locations without extensive forest coverage (Table 7-7) or are locate in areas with some forest protections in place. Forest-related habitat and ecological functions are associated largely with the protected stream valley parks. A number of other forested lands, for example the Indian Creek stream valley south of the Greenbelt Metrorail station, are at risk for development. A large forested tract already has been impacted by the recently developed 245-acre mixed use Woodmore Town Centre at Glenarden.

Calculating the foreseeable forest impacts in the cumulative effects study area finds that the

Preferred Alternative would directly affect approximately 0.6 percent of the forest land, largely through construction within the Georgetown Branch right-of-way and roadside strip acquisitions. MTA is guided by the Maryland Natural Resources Article Section 5-1601 through 5-1613, known as the Maryland Forest Conservation Act, which regulates development impacts to forest land as well as the use of the Georgetown Branch right-of-way.

7.3.5 Floodplains

Within the cumulative effects study area, floodplains generally are associated with the stream valley parks (Table 7-8). Historically, floodplains have been impacted by urban development. More recent threats include the Indian Creek stream valley, which is partly a focal point for future transit-oriented development. The Beaverdam Creek floodplain in the vicinity of the Cheverly Metrorail station appears to have been reduced through a recent warehouse development.

The potential effects of the Preferred Alternative on floodplains are described in Section 4.14; impacts are primarily at perpendicular crossings where existing roadway widening and improvements to address pre-existing flooding problems are proposed. Purple Line impacts to floodplains would total 10.9 acres, or approximately 0.2 percent of the floodplains acreage within the cumulative effects study area. Future actions other than the Purple Line have the potential to adversely affect floodplains in the cumulative effects study area. However, no known actions would affect the same floodplains. MTA is guided by current state and county laws and regulations regarding floodplains. MTA is striving to minimize floodplain impacts and will be required to obtain stormwater management permits prior to construction.

7.3.6 Water Quality

Each of the subwatersheds within the cumulative effects study area contains large areas of urban land use and impervious coverage, which contribute to water quality degradation as discussed in Section 4.14. Natural water quality buffers for surface waters are generally limited to the stream valley parks. Water quality impairments occur in each of the three major watersheds (Potomac River, Rock Creek, and Anacostia River), related to the urbanized nature of the cumulative effects study area. Future development by others would be regulated by state water resources laws intended to protect waterways and water quality.

MTA would be subject to the same laws and regulations in the implementation and operation of the Purple Line. Direct effects on surface waters are anticipated to be minor and localized, mainly associated with temporary construction activities and stormwater runoff from newly created impervious surfaces at stations and yards. MTA has sought to minimize new impervious surfaces and would obtain applicable Maryland Department of the Environment permits, would address stormwater management, and aim to protect water quality and important aquatic resources. Consequently, the role of the Purple Line in cumulative

Table 7-8. Potential Cumulative Effects to Floodplains

Cumulative Effects Study Area	Total Size (ac)	2010 Floodplain (ac)	Floodplain percentage of subwatershed	Floodplain acres in projected growth areas	Percent of floodplains in projected growth areas
Little Falls	5,131	581	11%	1	<1%
Rock Creek	11,346	572	5%	0	0%
Lower Rock Creek	11,702	748	6%	115	15%
Sligo Creek	6,936	154	2%	0	0%
Northwest Branch	14,634	1,561	11%	220	14%
Northeast Branch	14,246	1,727	12%	1,003	58%
Lower Beaverdam	5,287	244	5%	88	36%
Cumulative Effects Study Area Totals	69,282	5,587	8%	1,427	26%
Preferred Alternative Floodplain Impacts	10.9 acres (0.2 percent of cumulative effects study area floodplains)				

effects on surface water resources is negligible given the current and proposed amount of urban development.

7.3.7 Wetlands

Recent estimates of wetlands trends in Maryland watersheds note decreased rates of wetland loss and some gains due primarily to wetland creation required through wetland permit mitigation (Table 7-9). Between the years 1991 and 2000, the State of Maryland and the major watersheds intersecting the cumulative effects study area all exhibited net gains in wetland acreage.

Overall, the percentage of wetlands in the cumulative effects study area is typical of a largely urbanized area (Table 7-10). Most of the wetland acreage within the cumulative effects study area is included in stream valley parks and other public lands, which are protected areas not subject to future development. Other wetlands typically are small systems remaining as remnants within generally urbanized environments. However, several future potential growth areas contain a comparatively substantial amount of wetlands.

Within the cumulative impact study area, the only wetland known to be susceptible to foreseeable development is along the Indian Creek stream valley (Northeast Branch), where transit-oriented development at the Greenbelt Metrorail station is a potential threat to the wetlands.

The Preferred Alternative is projected to directly permanently affect 0.6 acres of wetlands, approximately 0.03 percent of the wetland acreage within the cumulative effects study area. The anticipated mitigation requirements would entail an estimated 0.7 acres of wetland compensation, resulting in an approximately 0.1 acre net gain in wetlands within the cumulative effects study area. MTA would be required to obtain permits under Section 404 permit of the federal Clean Water Act, the Maryland Nontidal Wetlands Protection Act, and county level regulations.

Table 7-9. Wetland Status and Trends of Tributary Basins within Cumulative Effects Study Area between 1991 and 2000

Geography	MD 8-Digit Watershed	Total Acres of Permanent Loss	Total Acres of Gains	Net Gain/Loss
Potomac River — Montgomery Co	02140202	- 2.49	13.84	11.35
Rock Creek	02140206	-1.88	2.44	0.56
Anacostia	02140205	-23.25	35.48	12.23
Maryland	NA	-378	645	267

Source: MDNR Surf Your Watershed http://dnr.maryland.gov/watersheds/surf/

Table 7-10. Potential Cumulative Effects to Wetlands

Cumulative Effects Study Area	Total Size (acres)	2010 Wetland (acres)*	Wetland Percentage Of Subwatershed	Wetlands in Projected Growth Areas (acres)	Percent of Subwatershed Wetland Lands In Projected Growth Areas
Little Falls	5,131	513	10%	2	<1%
Rock Creek	11,346	30	<1%	0	0
Lower Rock Creek	11,702	252	2%	59	23%
Sligo Creek	6,936	15	<1%	3	20%
Northwest Branch	14,634	372	3%	15	4%
Northeast Branch	14,246	740	5%	316	43%
Lower Beaverdam	5,287	56	1%	24	43%
Cumulative Effects Study Area Totals	69,282	1978	3%	419	21%
Preferred Alternative Wetland Impacts	0.6 acres (0.03% of cumulative effects study area wetlands)				

*Note: 2010 wetland acreages are MDNR wetlands, except for Rock Creek which reflects NWI wetlands

7.4 Environmental Justice

As described in Section 7.2, potential indirect effects to environmental justice populations could include increased business expenses (e.g., rents) from increased property values, business migration and displacement, changes in the availability and affordability of housing stock, and changes in neighborhood character in the indirect effects study area.

Over time, additional economic and employment opportunities would be expected to capitalize on the location advantages, and the effects of increased expenses would be offset through increased customer markets for local businesses (see Section 7.2.9, for example). MTA is committed to working with communities and other partner agencies and organizations to plan for the implications of future shifts in social and economic influences that may transform communities over time.

Land use and zoning decisions made by the counties and cities in the corridor also may affect the stock and affordability of local housing. A potential indirect effect to EJ populations would be a reduction in affordable housing as a result of redevelopment of existing housing and increased commercial rents and property values. MTA supports appropriate development around stations. However, a goal of the project is to serve transit-dependent communities, many of which are low-income. MTA has discussed concerns regarding the preservation of affordable and low-income housing with both Montgomery and Prince George's Counties. MTA will continue working with the counties to address concerns as the project moves forward.

Statistically, the percentages of minority and low-income populations in the cumulative effects study area generally mirror those in the potential growth areas and in the Preferred Alternative study area, as discussed in Section 4.19 Environmental Justice, with community percentages generally increasing from west to east (Table 7-11).

Table 7-11. Environmental Justice Characteristics in the Cumulative Effects Study Area

Cumulative Effects Study Area	Percent Minority	Percent Below Poverty	Percent Minority in Potential Growth Areas	Percent Below Poverty in Potential Growth Areas
Little Falls	15%	4%	10%	3%
Rock Creek	45%	11%	65%	12%
Lower Rock Creek	35%	6%	40%	7%
Sligo Creek	56%	10%	60%	14%
Northwest Branch	63%	12%	72%	16%
Northeast Branch	67%	12%	53%	18%
Lower Beaverdam	89%	11%	92%	11%
Totals	53%	10%	58%	13%

Source: 2010 Census and 2006-2010 American Community Survey

As described in Section 7.3.1, cumulative effects to neighborhoods and community facilities and services would result from additional residential and commercial/employment development in the cumulative effects study area. Again, the Preferred Alternative plays a supporting role primarily within the Purple Line corridor with incremental effects compared to the larger state and county-driven planning actions. Yet at some Purple Line station locations, such as Chevy Chase Lake, Lyttonsville, Woodside/16th Street, Long Branch, Piney Branch Road, Takoma/Langley Transit Center, Riggs Road, Adelphi Road/West Campus, M Square, Riverdale Park, Beacon Heights, and Annapolis Road/Glenridge, the Preferred Alternative has a more prominent role in shaping neighborhood character. With the exception of Chevy Chase Lake, these station areas include substantial environmental justice populations, with the minority population ranging from 33 percent in College Park to 86.4 percent in West Lanham Hills, and those living below poverty ranging from 6.5 percent in Glenridge/Beacon Hills to 23.6 percent in College Park. For this reason, MTA is working with the counties, as well as residents and business leaders, in planning a future vision for communities in the Purple Line corridor and in developing strategies to build diverse and prosperous neighborhoods.

An example of this activity is the coordination between MTA and the Lyttonsville community in the development of the Lyttonsville master plan. As there is considerable employment in Lyttonsville in light industrial enterprises and public infrastructure maintenance facilities, the community is considering how to attract more business and commercial employment opportunities, with the Purple Line station as an asset. Through this planning effort and MTA's ongoing community engagement activities, the community would not experience cumulative, disproportionately high or adverse effects from land use and growth caused by the Purple Line.

Chapter 8.0

Public Involvement and Agency Outreach

From the initiation of the project, public involvement has had an essential role in the design and planning of the Purple Line. The Purple Line public involvement program is based on several core principles:

- Local residents and stakeholders have the right to a voice in the planning process.
- Planning and engineering professionals, no matter how well intentioned or how skilled, do not have the knowledge and understanding of local issues and concerns of local stakeholders.
- Active participation from the public creates a healthy debate about the project, better informing planners and leading to projects that enhance communities.

The goal of the public involvement program is to engage anyone who has a stake in the project—residents, community leaders, businesses, elected officials, local jurisdictional staff, developers, and environmental and other advocacy groups. One early step in the program was to educate a corridor that already uses transit heavily on modes new to the region (light rail transit and bus rapid transit). Throughout the project, MTA has strived to create, encourage, and maintain a dialogue with stakeholders about the planning and design of the Purple Line.

8.1 Public Involvement Program

MTA has used a wide range of outreach techniques—newsletters, a project website, e-mail blasts, brochures and fact sheets (both on the project as a whole and on specific topics), a Facebook page, and tables at events such as community fairs and festivals. But the core of the outreach program has always been face-to-face meetings.

Some of the key design refinements that have come out of meetings with stakeholders include the shift of the aerial crossing of the intersection of Kenilworth Avenue and East West Highway into the median of Kenilworth Avenue, the shift of the Capital Crescent Trail to the south side of the transitway in the Georgetown Branch right-of-way, the shift of the transitway to the south side of Riverdale Road, and the redesign and programming of the Lyttonsville and Glenridge storage and maintenance facilities. These modifications were all proposed to minimize impacts to local communities.

MTA has held different types of public meetings, choosing the appropriate format for the topic of the meeting and the stage of the project. The three main types of meetings are described below.

8.1.1 Open Houses

Open House meetings allow for an informal self-paced review of project information on display boards, with many Purple Line staff members on hand to talk to attendees.

To support large project-wide discussions, MTA held large, informal open houses. This was the initial tool used during scoping when MTA was looking at broader topics, such as what modes of transportation to consider. The open houses supported discussions from a broad corridor-wide perspective that clarified the purpose and need of

the project, allowing for better informed decisions on the scope of the project.

Open houses have been held periodically to present and discuss the project as a whole. Members of the public were invited by corridor-wide mailings and announcements on the website. To maximize attendance, four to five open houses were held in convenient locations in the 16-mile corridor and each meeting covered the whole project. These meetings have been well attended throughout the project, with approximately 350 participants at the first round of meetings, and ranging from 500 to 800 attendees over the five rounds of meetings held since then.

8.1.2 Community Focus Groups

During the development and screening of alternatives, MTA created a forum called Community Focus Groups. The 16-mile corridor was divided into six geographic areas. Community and civic associations in each area were invited to send a representative to the meeting, with the intent that the alignment options through a focused area could be discussed and compared by local stakeholders. It became apparent that two of the groups covered too large an area or included areas that were too dissimilar; they were each split in two.

By asking for a representative from each community organization, MTA was aiming for a group that was small enough to have a discussion around a table, rather than a formal presentation where people might be reluctant to voice opinions or concerns. Multiple rounds of these meetings were held between 2005 and 2009. At the meetings, MTA built relationships with community members, which allowed for valuable dialogues about the project, the proposed plans, and the local communities through which it would run. MTA was not just providing information to the community but also learning from them about their concerns and obtaining their input and feedback. As a result of these Community Focus Groups, MTA changed and fine-tuned plans. At these meetings, various alignments were debated by residents and, in one case, an entirely new option—the Silver Spring/Thayer tunnel—was proposed. This new option had not been considered by project planners, and it was subsequently added to the alternatives under consideration. It was beneficial to have residents of different neighborhoods consider the relative impacts and benefits of alignments through their own and each other's neighborhoods. The discussions brought out relevant issues, allowing them to be considered in the design process. The project team learned about topics such as student pedestrian routes, which could only have been learned from local residents. MTA documented all comments and questions at these meetings and posted them on the website, providing answers where appropriate.

8.1.3 Neighborhood Work Groups

After the selection of the Locally Preferred Alternative (LPA) by the state of Maryland in August 2009, MTA created a new format for community meetings. Because the focus of discussion was now on refining the Locally Preferred Alternative, MTA wanted meetings that would focus on smaller design areas. To facilitate this, MTA created Neighborhood Work Groups. Groups were created for each of the 21 stations and the following other topics:

- CSX Corridor
- Capital Crescent Trail
- Wayne Avenue
- Bonifant Street Businesses
- University Boulevard
- Kenilworth Avenue
- Ellin Road

Members of the public were invited through newsletters, the website, and sign-up sheets to sign up for the Neighborhood Work Groups. The meetings focused on detailed issues such as individual station design, station access, or streetscaping on a block-by-block basis.

At each of the Neighborhood Work Group meetings questions and comment from the public were recorded. Written responses to the questions were developed and posted on the Purple Line website along with the presentation materials and mapping shown at the meetings.

These three types of meetings, each a different scale, have been the backbone of MTA's outreach program; however, many other forums and tools were

used. MTA met over 200 times with individual community or civic associations to provide project briefings or to address specific issues. Some of these meetings were requested by MTA, and others were the result of invitations from the community groups themselves.

In total, Purple Line outreach staff attended over 900 meetings with local residents, business owners, county staff, elected officials, and other stakeholders.

8.1.4 Newsletters, Fact Sheets, Brochures, and Electronic Media

Newsletters on the Purple Line are issued periodically to provide project news and updates and to announce upcoming public meetings. The project mailing list includes over 66,000 names. Seventeen newsletters have been distributed to date.

In addition, MTA has developed an assortment of fact sheets and brochures. These have included general project information as well as more specific topics. Titles include:

- *What is Light Rail?*
- *Staying Connected*
- *Your Rights as a Property Owner*
- *The Capital Crescent Trail*
- *Supporting Local Businesses*
- *Traction Power Substations*

Other brochures have provided explanations of field activities such as surveying and geotechnical borings. MTA has developed and distributed these brochures in English and Spanish.

Newsletters, fact sheets, and brochures are posted on the project website (www.purplelinemd.com); paper copies were available at public meetings.

The project website is used to share information and get feedback. The website includes project information, public meeting announcements, electronic versions of the AA/DEIS and related Technical Reports, mapping of the alternatives, information on special reports and studies, and a link to join the project's mailing list or contact project staff members. The presentations and mapping shown at public and community meetings are also posted on the website. Questions and comments asked at Community Focus Groups and Neighborhood Work Groups are recorded and posted, with responses, as well. Materials are usually posted within two days after a meeting. The project website is updated regularly and is available in English and Spanish.

In July 2012, MTA launched a project Facebook page (www.facebook.com/marylandpurpleline) to engage the public on the project, share information about the project area, and provide information on transit projects and initiatives. The Facebook page is used as a forum for discussions, to share project updates and news, and, in the future, will provide information on construction activities.

In January 2013, the Purple Line Project began to use Twitter to connect with the public in real-time. The public involvement staff tweets project updates and pictures from Purple Line events as they happen. Twitter is also used to provide the latest information on transit, transportation, and news from the Purple Line corridor.

Because of the large Hispanic population in the corridor, the newsletter, project brochures, and website are available in Spanish. Separate mailing lists (electronic and postal) are maintained for people who have requested project materials in Spanish.

8.1.5 General Community Outreach/Neighborhood Events

In spring 2010, the MTA launched a general community outreach effort. The public involvement staff set up information tables at over 25 community events (such as fairs, festivals, and farmers markets) and at various community centers (such as shopping centers), providing general project information, newsletters, fact sheets, brochures, and sign-up sheets for the mailing list. Where appropriate, Spanish-speaking staff attended these meetings.

8.1.6 Targeted Outreach for Specific Issues

The MTA has met with many local communities regarding specific issues. Some of these meetings, or series of meetings, have been initiated by concerned stakeholders; such as when residents, learning about

proposed project plans through the regular outreach program described above, ask the MTA to meet with them on a particular topic. The MTA has done this with many communities in the corridor. For example, in Woodside when local residents had more questions about the proposed Capital Crescent Trail on the north side of the CSX right-of-way the MTA met several times with them, including a Saturday morning site visit to walk the area.

In other situations the MTA has initiated specific outreach to local residents and businesses to present proposed changes to the alignment. The modifications made to the LPA included in the Environmental Re-evaluation were the subject of additional meetings with the potentially affected community members. These alignment modifications were not incorporated in the Preferred Alternative until the outreach efforts were completed and the MTA was comfortable that the community was generally accepting of them. On Kenilworth Avenue meeting were held with the Town of Riverdale Park, with local business associations, the Central Kenilworth Avenue Revitalization group, and residents and businesses in the area. Along Riverdale Road where the proposed shift of the alignment would result in the displacement of 22 homes the MTA hand delivered invitations to meetings; worked with the civic association, East Pines Citizens Association, and local elected officials to discuss these proposed modification and get input from the affected residents and homeowners. For more information see the *Purple Line Re-evaluation* (2012).

8.2 Outreach to Traditionally Underrepresented Stakeholders

The communities in the Purple Line corridor include a wide range of demographics and income levels and a wide range of levels of civic engagement. Some communities have strong active community associations and people comfortable with taking an active role in community and government issues, while others do not. When MTA initiated the Community Focus Group effort, it soon became apparent that while attendance at some meetings was large enough to require skilled facilitation to ensure opportunities for all to participate, other meetings were very sparsely attended. To encourage more participation, MTA reached out to local elected officials, local planners, churches, community groups, and schools to invite participation and solicit help in identifying community leaders. In some neighborhoods, announcements of meetings were hand-delivered to residents. These activities have been successful in engaging community members so that the project now includes meaningful participation throughout the corridor.

Much of the general outreach effort, such as attendance at community fairs and festivals, has been aimed at engaging those communities where MTA has seen less engagement in, and knowledge of, the project. One community that is traditionally difficult to engage is apartment dwellers. MTA has worked with Impact Silver Spring, a community organization, to increase participation by residents of large apartment complexes. Impact Silver Spring also helped with outreach to other, smaller groups, such as Ethiopian and Vietnamese immigrants, by hosting meetings and providing translation where necessary.

8.2.1 Hispanic Community

The Purple Line corridor contains a large Spanish-speaking population, particularly in Langley Park. MTA was concerned that this community would not be engaged in the public participation process, and early outreach efforts validated this concern. MTA has engaged Spanish-speaking outreach staff and has partnered with advocacy groups in the area such as CASA de Maryland, Impact Silver Spring, and the Takoma Langley Crossroads Development Authority to reach this community and others.

The project website, newsletters, and brochures are fully translated into Spanish, and MTA maintains a dedicated telephone line for Spanish-language calls. Bilingual staff members are present at Purple Line community meetings and are available to translate the presentations and discussions.

The Executive Summary of the FEIS has been translated into Spanish and is available on the website and at local libraries.

8.2.2 Small Businesses

In January 2012, MTA initiated a formal business outreach program targeted at the substantial number of small businesses in the corridor. This program is intended to educate owners of businesses located within the Purple Line corridor about the project and to engage them in the project's planning and design process. Many of these businesses are Hispanic-owned, and, for this reason, this effort has been led by the bilingual outreach staff.

Members of the outreach team have a plan to visit every business along the alignment. As of January 2013, over 900 businesses had been visited. After this initial outreach, MTA will hold geographically organized business meetings. The meetings will focus on issues of concern specific to businesses.

The Takoma Langley Crossroads Development Authority also has been a partner with MTA in outreach to the local business community. They have several kiosks in the corridor, and they allowed MTA to use them for posters about the Purple Line.

MTA has researched best practices in supporting small businesses through roadway or transitway construction. The MTA will develop and implement a Business Construction Impact Mitigation Plan based on this research. In speaking to other transit agencies, MTA has heard repeatedly it is most important to establish relationships and trust with the local businesses. Communication will be a critical factor in how well a small business handles the disruption resulting from the Purple Line construction. The business outreach conducted by the MTA is the initial step of coordination and communication that will be the basis of the impact mitigation efforts during construction.

MTA is working with state and county agencies to identify and bring together existing resources that can support and strengthen small businesses.

8.3 Local Jurisdiction Coordination

Local jurisdictions have been actively engaged in the Purple Line. The project is equally split between Montgomery and Prince George's Counties and passes through or adjacent to five incorporated cities or towns—Chevy Chase, Takoma Park, College Park, Riverdale Park, and New Carrollton. MTA has been meeting regularly with the counties, bi-monthly in the early phases of the project, and monthly since the project moved toward and into preliminary engineering. Meetings with the cities and towns are held on an as-needed basis. Representatives of the local jurisdictions attend the project's community meetings.

The engagement of local jurisdictions and agencies has been part of the planning and design process, including the relocation and redesign of the Lyttonsville Yard, the coordination for the Silver Spring Library station (which will be surrounded by the new county library), the inclusion of bicycle and pedestrian amenities, and the sidewalk to be provided through the underpass in Bethesda.

8.3.1 Project Team Meetings

As mentioned in Chapter 2.0, MTA created a Purple Line Project Team, composed of local planners, state and county agencies, and elected officials. MTA has been holding regular meetings with the Project Team twice a year throughout the study, and these meetings were used extensively as a forum to evaluate and review proposed alternatives.

The Project Team includes representatives from the following state, local, and regional agencies and governments:

- Federal Transit Administration
- Maryland Department of Transportation
- Maryland Department of Planning
- Maryland-National Capital Park and Planning Commission—Montgomery County
- Maryland-National Capital Park and Planning Commission—Prince George's County
- Maryland State Highway Administration
- Metropolitan Washington Council of Governments
- Montgomery County Council
- Montgomery County Department of Transportation
- Prince George's County Council
- Prince George's County Department of Public Works and Transportation
- Washington Metropolitan Area Transit Authority

- Municipalities of Takoma Park, College Park, Riverdale Park, and New Carrollton

Topics of discussion at the Project Team meetings have included updates and discussions on public involvement, alignment alternatives, station locations, work plan, FTA requirements, project schedule and status, traffic studies, project newsletters, project website, travel forecasting, cost effectiveness, funding issues, and the project development process. The Project Team meetings have been helpful in or obtaining input on alternatives, options, and refinements to the project.

8.4 Agency Coordination

Coordination and outreach to the federal, state, and local agencies has been ongoing since the scoping meetings held in September 2003 at the beginning of the Purple Line study. Early (pre-DEIS) coordination activities are described in the AA/DEIS. Since the AA/DEIS public hearings, continued involvement and coordination with various federal, state, and local environmental and regulatory agencies has been part of the FEIS development phase of the project.

MTA continues to work with the resource agencies, attending Interagency Review Meetings to identify and evaluate resources as well as provide agency feedback to the project engineering staff in the development of the Preferred Alternative. Interagency Review meetings are an opportunity for various federal and state agency representatives to hear and share input on MDOT projects. Agencies which regularly attend include FTA, Federal Highway Administration, Maryland Historical Trust, U.S. Army Corps of Engineers, Environmental Protection Agency, Fish and Wildlife Service, National Park Service, Maryland Department of Natural Resources, Maryland Department of the Environment, and the Maryland Office of Planning.

In addition to the Interagency Review Meetings, MTA has conducted coordination with the following federal, state, and local agencies and entities regarding the Purple Line project:

- National Park Service
- National Capital Planning Commission
- Montgomery County Department of Transportation
- Prince George's County Department of Public Works and Transportation
- Washington Metropolitan Area Transit Authority
- Maryland Department of Transportation
- Maryland Historical Trust
- Maryland Department of Natural Resources
- Maryland Department of the Environment
- State Highway Administration
- University of Maryland
- Montgomery County
- Prince George's County
- Maryland-National Capital Park and Planning Commission—Montgomery County
- Maryland-National Capital Park and Planning Commission—Prince George's County
- Washington Suburban Sanitary Commission

Several important alignment decisions have been made as a result of the agency coordination process, including the following:

- The proposed roadway lane configuration and the decision to locate the transitway in the median of Kenilworth Avenue was the direct result of MTA working with several local agencies to develop the best possible outcome. Working with the Maryland State Highway Administration and Prince George's County, project staff assessed the future traffic conditions and required real estate acquisition needs of what was included in the LPA and developed the current alignment that avoids several private property displacements and preserves access to several local businesses with a reduced overall footprint.
- The cooperation of Montgomery County Department of Transportation, Montgomery County Council, the Maryland-National Capital Park and Planning Commission—Montgomery County, and the Washington Suburban Sanitary Commission, the support of a U.S. congressman, and the active participation of the local community, were all important elements in the successful modification of the plans for the Lyttonsville storage yard.

8.5 Public Hearings and Comment Period on the AA/DEIS

After the release of the AA/DEIS on October 17, 2008, the general public, and resource and regulatory agencies, were offered the opportunity to review and comment on the AA/DEIS during the FTA public review process, pursuant to the National Environmental Policy Act. This process included four public hearings held in the project area and a 90-day public and governmental comment period from October 17, 2008 through January 14, 2009.

Over 750 people attended the Purple Line public hearings in November 2008. Four different hearings were held throughout the Purple Line corridor, and at each one an Open House allowed attendees to review project information and talk to Purple Line Project Team members. Over 3,300 comments were received on the AA/DEIS in the form of written and oral testimony at the public hearings, as well as letters, faxes, and emails. Twelve separate petitions were submitted with thousands of names. Comments were provided by elected officials, community organizations, government and regulatory agencies, residents, special interest groups, and non-profit organizations. The most frequent topics of public comment are summarized in Table 8-1. Appendix A—AA/DEIS Comments and Responses provides a more detailed discussion of the comments, and includes the responses to the comments.

Comments in support of the Purple Line included a wide range of topics, most commonly the environmental benefits and improved accessibility in the region that would be provided by the Purple Line. Many comments simply stated support for the project. Comments supporting any particular aspect of the proposed project were included in this category. There were also some comments opposed to the Jones Bridge Road alignment. Many comments noted that the Georgetown Branch right-of-way was purchased for use as a transit right-of-way.

Comments opposing the use of the Georgetown Branch right-of-way for the project made up the second largest category. The loss of trees and the addition of a transitway adjacent to the trail (and behind residences) were the most common reasons cited. There were concerns about safety of trail users, noise and visual impacts. Many comments stated the importance of the right-of-way as an environmental and recreational resource for this part of Montgomery County.

General opposition to the project was most often based on concerns about cost, a lack of need for the project, and adverse environmental impacts. Other comments stated that the project would bring additional development in the corridor.

Table 8-1. Summary of AA/DEIS Public Comments

Topic	Number of Comments Received
Support for the Purple Line	4,950 (1,570 individual comments and petitions with 3,380 names)
Opposition to the use of the Georgetown Branch right-of-way for transit	1,170
Opposition to the Purple Line	190
Support for Other Alternatives	220
Support for Jones Bridge Road alignment	200
Concerns about environmental impacts	150
Opposition to a surface alignment along Wayne Avenue	120
Support for BRT	100

Note: The numbers presented here have been rounded. In addition, many comments addressed more than one topic.

While some comments noted general support for the Jones Bridge Road alignment, other comments focused specifically on the potential for the Jones Bridge Road alignment to better serve the Medical Center area, which is located near the western terminus of the Jones Bridge Road alignment.

In comments opposing a surface alignment on Wayne Avenue in Silver Spring the concerns cited were loss of parking, adverse traffic impacts, property impacts, safety and slow transit operations. This topic includes comments supporting a tunnel and opposing a station at Dale Drive. Opposition to the station at Dale Drive was most often because of concerns that the station area would be rezoned for denser development.

Support for BRT was in some cases, based on support for the Jones Bridge alignment, but other commenters stated that BRT would be more cost effective, have higher ridership and have less negative effects on adjacent communities.

Chapter 9.0
Evaluation of Alternatives

Chapter 9.0 provides a summary evaluation of the No Build Alternative and the Preferred Alternative. The evaluation contained within this chapter is an assessment of the findings presented in the preceding chapters of this FEIS, along with a discussion of equity and trade-offs of the Preferred Alternative. This evaluation provides a basis for decision-makers and the public to assess the benefits and consequences of implementing the Purple Line.

The following evaluation uses a format similar to that of Chapter 6 in the AA/DEIS but does not include the same discussions of each alternative's attainment of broader goals and objectives and cost-effectiveness, as these considerations were presented primarily to support decision-making for the Alternatives Analysis that was prepared concurrently with the DEIS. In the FEIS, the Preferred Alternative and the No Build Alternative are evaluated based on their ability to meet the purpose and need, the balance between benefits and impacts, and equity.

9.1 Effectiveness in Meeting the Purpose and Need

As presented in Chapter 1.0, the proposed project is intended to improve east-west transit service in the Purple Line corridor by addressing the deficiencies and needs that have been identified. The following discussions analyze the effectiveness with which the No Build Alternative and Preferred Alternative address the corridor needs and achieve the intended purpose of the Purple Line project, which is as follows:

- Provide faster, more direct, and more reliable east-west transit service connecting the major activity centers of Bethesda, Silver Spring, Takoma Park/Langley Park, College Park, and New Carrollton, by reducing travel times and improving operations and efficiencies for transit trips.
- Provide better connections to Metrorail and other existing transit services located in the corridor, linking radial Metrorail lines as well as MARC, Amtrak, and other transit with fast, direct, and continuous east-west transit service.
- Provide better connectivity to communities in between the Metrorail lines, by increasing mobility and accessibility within communities throughout the project corridor.

9.1.1 Provide Faster, More Direct, and More Reliable East-West Transit Service

The first purpose of the Purple Line is to provide faster, more direct, and more reliable east-west transit service connecting the major activity centers in the Purple Line corridor at Bethesda, Silver Spring, Takoma/Langley Park, College Park, and New Carrollton. Current transit service within the study corridor is characterized by various bus routes that are not well-integrated with each other and do not provide a continuous, direct east-west transit route. For example, bus service from Bethesda to New Carrollton requires a transfer at College Park from the WMATA J4 to F6 routes. County bus services, provided by Montgomery County Ride On and Prince George's TheBus, both terminate at the county boundary and require a transfer to continue an east-west trip. Thus, under current conditions, the shortest scheduled travel time for a bus transit trip between Bethesda and New Carrollton is 92 minutes. In addition, many major intersections along the east-west roadways in the corridor already exhibit failing levels of service

(LOS), which increases travel times for both vehicular traffic and existing bus transit services.

No Build Alternative

The No Build Alternative would not add a new service throughout the corridor or provide a new exclusive right-of-way. Thus, the No Build Alternative would not address and improve corridor-wide transit travel times. As traffic volumes exceeding the capacity of roadways and intersections along the corridor increase through 2040, transit travel times will increase. Peak hour intersection LOS are projected to worsen under the No Build Alternative, with 18 intersections operating at or exceeding capacity during morning and afternoon peak hours in 2040. Congested roadways and intersections would result in longer delays for both automobile traffic and bus transit.

Degraded roadway LOS would result in an increased likelihood of travel time delays with lower travel speeds and decreased reliability. Automobile travel times for a trip between Bethesda and New Carrollton are expected to increase by approximately 30 percent and 40 percent during the morning and evening peak periods, respectively.[1] The current end-to-end travel time between Bethesda and New Carrollton on Metrorail is 55 minutes, but this route does not provide access to any of the intermediate stops that would be available on the Purple Line. The projected bus transit travel time between Bethesda and New Carrollton is anticipated to increase to 108 minutes under the No Build Alternative.

Longer traffic delays and greater bus service unreliability would be detrimental to travel times and the overall quality of life for residents and employees in the project corridor.

Preferred Alternative

Table 9-1 provides a summary of some of the key benefits of the Preferred Alternative compared to the No Build Alternative (see Chapter 3.0 for more details). Under the Preferred Alternative, the number of daily transit trips in the region would be about 2 percent higher than under the No Build Alternative. The bulk of the increase in transit trips would be attributable to Purple Line corridor-related trips, which would be 11 percent higher under the Preferred Alternative than under the No Build Alternative. This increase reflects the demand for and attractiveness of faster, more reliable east-west transit service.

Between Bethesda and New Carrollton, the Preferred Alternative would provide a transit travel time of 63 minutes.[2] This time is slightly greater than the current Metrorail travel time, but the Purple Line will not require a transfer, and it will serve the many planned stations between Bethesda and New Carrollton. The Preferred Alternative would provide faster travel times than bus service because it is a direct route that would operate primarily in dedicated or exclusive lanes, free from traffic congestion. Transit travel time improvements over the No Build Alternative reflect greater efficiency and reliability of transit service offered by the Preferred Alternative, as it would be able to adhere more strictly to its operations schedule and

Table 9-1. Comparative Summary of Transportation Conditions, 2040

	Alternative		Difference	
	No Build	Preferred Alternative	Number	%
Daily transit trips — region	1,655,075	1,683,701	28,626	2%
Corridor-related transit trips	221,833	247,178	25,345	11%
Transit Travel Time (minutes)				
Bethesda–Silver Spring	17	9	8	-47%
College Park–New Carrollton	20	16	4	-20%
Bethesda–New Carrollton	108	63	45	-42%
Failing intersections	18	15	3	-17%

[1] Multiple travel time runs were conducted in both the eastbound and westbound directions during the AM and PM peak periods. Year 2040 travel times were estimated using the average increase in delay across the corridor, based on the projected 2040 traffic conditions.

[2] While most trips in the corridor would not involve a trip from one end of the corridor to the other, the Bethesda—New Carrollton end-to-end trip time is illustrative.

provide more predictable transit times, contrasted to bus service on congested roadways under the No Build Alternative. Furthermore, the new service would result in fewer vehicles on regional roadways, and traffic conditions would be better than under No Build, with four fewer intersections operating at or exceeding capacity within the project study corridor, as compared to the forecasted No Build Alternative conditions for 2040.

9.1.2 Provide Better Connections to Metrorail Services Located in the Corridor

A second purpose of the Purple Line project is to provide better connections to WMATA Metrorail services in the corridor by linking Metrorail stations and lines with fast, direct, continuous east-west transit service. Under current conditions, the project corridor lacks direct and efficient transit connections between the four Metrorail stations. The Metrorail system provides an alternative to traveling on the congested roadways or using bus services for trips between Bethesda, Silver Spring, College Park, and New Carrollton. However, because the Metrorail system is radial, these trips currently require travel into and out of Washington, DC. Such trips are lengthy and, unless traveling between Bethesda and Silver Spring on the Red Line, require a transfer between lines.

No Build Alternative

While the No Build Alternative includes the construction of a new south entrance to the Bethesda Metrorail Station, the Takoma Langley Transit Center, and the Silver Spring Transit Center (see Chapter 2.0), it does not include any increases to transit services serving these stations or the other Metrorail stations in the study corridor. Thus, transit access and connectivity with the Metrorail system will remain the same, or possibly worsen, due to the impact of increased traffic congestion on transit and auto access times. Assuming no change in current Metrorail travel times, a Metrorail trip from Bethesda to Silver Spring would take approximately 39 minutes on the Red Line through MetroCenter and back.

Preferred Alternative

The Preferred Alternative would offer a fast, direct one-seat ride between all Metrorail stations within the project corridor. Rather than requiring an indirect trip into and out of Washington DC, on Metrorail, or a more direct bus trip that could be affected by traffic congestion or transfers between routes, the Purple Line would provide an east-west connection between the Metrorail stations along the corridor with greatly improved transit travel times. The Purple Line would travel the approximate 4.3-mile distance between Bethesda and Silver Spring in nine minutes, which would provide a substantial 30-minute travel time savings compared to a Metrorail trip in the No Build alternative. In 2040, 27 percent of Purple Line boardings would be trips that also involve riding Metrorail, demonstrating the value of the Preferred Alternative in providing connectivity to the Metrorail system.

This improvement would benefit travel within the corridor, as well as improving connections to and from other places served by the Metrorail system. The Preferred Alternative also would provide direct transit connections to other transit services including MARC commuter rail, Amtrak, and local bus routes. Connections to the MARC Brunswick Line, Camden Line, and Penn Line would be available at Silver Spring, College Park, and New Carrollton, respectively. Amtrak service is located next to the Preferred Alternative terminus in New Carrollton as well.

The direct connections with MARC, Metrorail, and Amtrak would allow faster, more convenient access to and from Washington, DC, as well as access to job opportunities and places of interest outside the project corridor in Maryland and points beyond.

9.1.3 Improve Connectivity to the Communities in the Corridor Between the Metrorail Lines

The third purpose of the project is to improve connectivity to the communities in the corridor between the Metrorail lines, in order to better link people to employment and activities throughout the corridor and beyond to the entire Washington metropolitan region. Over 200,000 people work

within the project study corridor.[3] Many individuals working in the major employment centers in the study corridor also live in the surrounding residential communities, and some are dependent on public transit for mobility and access. Approximately 15 percent of residents in the study corridor have no vehicle available, and 23 percent of workers use public transportation for their daily commutes. The only transit service available in many of the corridor communities is the limited bus service previously described.

No Build Alternative

Between 2005 and 2040, employment is expected to increase by 44.6 percent and 36.4 percent in Montgomery County and Prince George's County, respectively.[4] The No Build Alternative would maintain the current level of access to employment and activity centers through the existing bus network, which would continue to provide discontinuous and often slow east-west service. The No Build Alternative would facilitate safer and more efficient transfers by consolidating bus stops at the Silver Spring Transit Center and Takoma/Langley Transit Center, and it would incorporate bicycle and pedestrian improvements along the Silver Spring Green Trail and in the Bethesda Central Business District, but transit connections to other communities along the corridor are not anticipated to be improved substantially. Increasingly longer travel times for bus riders are expected under the No Build alternative, thus limiting the attractiveness of using bus service to access activity and employment centers.

Preferred Alternative

With 21 stations along its route, the Preferred Alternative would offer fast, direct, and improved access among residential communities, employment centers, educational facilities, entertainment and activity centers, and other destinations of interest within the project corridor. As a result, the number of corridor-related transit trips would be 11 percent greater under the Preferred Alternative compared to the No Build Alternative in 2040.

The Preferred Alternative also would include improvements to bicycle and pedestrian circulation, including the Capital Crescent Trail, and related safety and security measures, such as improved sidewalks and crosswalks. These improvements would encourage multi-modal activity and increase safety, which would provide mobility and access benefits especially for individuals with no vehicle available.

In conjunction with the enhanced connectivity to other transit services (MARC, Amtrak, and Metrorail), the Purple Line also would enhance access between the study corridor and communities throughout the region.

The Preferred Alternative is projected to result in over 28,000 more regional transit trips per day than the No Build Alternative. This difference demonstrates the benefit of the Preferred Alternative in improving mobility by better connecting the communities within the corridor.

9.2 Balancing Benefits and Effects

The transportation, economic, and community benefits of the Purple Line come with some adverse effects. MTA has strived to avoid or minimize adverse effects by working with stakeholders and the communities. By selecting the Medium Investment LRT Alternative in the AA/DEIS and adding elements of the High Investment LRT Alternative, MTA responded to widespread community support for the Purple Line and the LRT mode. However, MTA recognized at the time that work remained to refine the selected alternative to better fit stakeholder and community expectations and minimize effects to the natural and human environment, while still strongly supporting the project purpose and need. The iterative process of refining the Purple Line design initiated then is still ongoing today, and it will continue beyond the signing of the Record of Decision (ROD), the conclusion of the National Environmental Policy Act (NEPA) process.

Throughout the development of the Preferred Alternative, MTA has refined the design and alignment, where reasonably feasible, to avoid or minimize effects. Yet some adverse effects cannot be

[3] *Purple Line Travel Forecasts Results Report,* (2013).

[4] County data is for the entire county, not the portion of the county within the study area. See Section 4.5.2 for additional details.

overcome due to the design and safety standards MTA must meet, the developed character of the communities the Purple Line is intended to serve, and the need to avoid adversely affecting future operations of other transportation facilities in the corridor. Consequently, the decision to advance the Preferred Alternative toward construction involves recognizing and understanding that MTA has worked to balance the trade-offs between the benefits and the effects of the Purple Line.

On the benefits side, the Preferred Alternative strongly responds to the purpose and need. It would provide faster, more direct, and more reliable east-west transit service in the corridor; it would connect major activity centers, better connect to Metrorail services, and improve connectivity to the communities between the Metrorail lines. It also strongly supports county land use and economic development plans and goals. As described in the previous sections, and in Chapters 3.0 and 4.0, these benefits would bring positive economic benefits for corridor residents and businesses, enhance safety, and improve intersection performance, in addition to greatly improving mobility, particularly for environmental justice communities in the corridor.

Recognizing that transit projects have the potential to induce community change, and as discussed in the indirect effects portion of Chapter 7.0, MTA is encouraging the counties to put in place land use plans and programs to preserve neighborhood character and affordable housing and to support local businesses.

While the developed character of the corridor makes it an ideal candidate for LRT transit service, it also poses challenges to introducing a new transportation facility. On the one hand, MTA desires to make the system as convenient for the community as possible; on the other hand, it has an obligation to preserve existing and planned freight rail, roadway, parking, transit, bicycle, and pedestrian operations, and to minimize impacts on the surrounding environment and communities. To strike this balance between benefits and effects, MTA has worked with affected parties and the communities to reduce right-of-way needs to the bare minimum. It will continue this iterative process beyond NEPA, focusing in equal measure on improving the fit of the Preferred Alternative in relation to neighborhoods, historic properties, parks, other community facilities, businesses, and private property owners.

On the natural environment side, the Purple Line's primary use of existing transportation corridors inherently minimizes effects on land and water resources. MTA will continue to coordinate with the regulatory agencies to identify measures to avoid or minimize natural resource effects during the design and permitting phase of the project.

Where adverse effects of the Preferred Alternative remain, MTA has identified mitigation measures intended to offset remaining effects to the natural and human environment. Although some mitigation measures are enforced by federal and state regulations, most of MTA's mitigation measures are project-specific commitments it has made with the affected stakeholders and communities in the Purple Line corridor.

9.3 Equity

In addition to measuring the proposed project's effectiveness in meeting the purpose and need and considering the overall effects compared to the benefits, FTA and MTA have assessed the extent to which the Preferred Alternative would provide a fair distribution of benefits, costs, and impacts across various population groups throughout the study corridor. According to FTA, "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal Financial assistance."[5]

An equity assessment for a proposed transit improvement project generally includes the following considerations:

- The extent to which the transportation investment improves transit service to various population segments, particularly those that are transit-dependent
- The distribution of the cost of alternatives across population segments through the

[5] FTA C 4702.1B.

funding mechanisms used to cover the local contribution to construct and operate the transportation improvement
- The incidence of any substantial environmental effects, particularly in neighborhoods immediately adjacent to proposed facilities

These three issues are discussed in the sections below.

9.3.1 Service Equity

The Preferred Alternative would improve access and mobility within the project study corridor, thereby improving access to jobs, educational facilities, and cultural/entertainment venues. Overall, the Purple Line would improve accessibility for all communities, including low-income, minority, and transit-dependent populations. While some impacts would occur within these communities, these impacts would be minimal compared to the project's benefits to the larger environmental justice populations and would be no different than impacts to the overall population in the corridor, including accessibility to a faster, more reliable mode of transit.

FTA's new Title VI Circular requires conducting "service equity analysis" six months prior to beginning revenue operations. This directive will require MTA to complete a service equity analysis prior to starting to operate the Purple Line.

9.3.2 Financial Equity

The Preferred Alternative is anticipated to be primarily funded by a combination of federal and state (Maryland Transportation Trust Fund) sources, with possible local and private investments (e.g., station area improvements). As a result, it is not expected that any one group, particularly low-income or minority populations, would receive a disproportionate share of the financial burden associated with financing the capital and operating and maintenance costs associated with the proposed project. Costs are presented in Chapter 2.0.

Fare payments required for passengers utilizing the Preferred Alternative would be comparable to regular Metrobus rates and policies. Therefore, low-income and minority populations would not be excluded from the benefits offered by the Preferred Alternative, due to cost, any more than under existing transit conditions.

9.3.3 Environmental Equity

An inventory of the likely impacts on neighborhoods, residences, and businesses in this FEIS reveals some localized impacts to low-income and minority communities. As described in Chapter 4.19 Environmental Justice, localized impacts in the study corridor include:
- Parking impacts
- Business property acquisitions, including some business relocations
- Residential property acquisitions
- Displacements and partial acquisitions of some community facilities
- Moderate to high visual effects
- Noise and vibration impacts during construction and operation
- Business disruption during construction
- Increasing rents for business
- Impact on affordable housing

While these adverse effects would occur in environmental justice communities, these communities would also benefit from the project. The key benefits of the Purple Line are improved mobility and travel time to locations along the corridor and better connectivity to other transit services and systems.

These improvements would benefit low-income and minority populations throughout the project corridor, including transit-dependent residents of those areas. Some of the environmental justice neighborhoods that would be directly affected, such as Langley Park and Long Branch, would be among the principal beneficiaries of the Purple Line as these neighborhoods are not served by the Metrorail system, and many of the residents of these areas are transit-dependent.

While some adverse effects would be borne primarily by environmental justice populations, the effects of the Purple Line would be distributed among environmental justice and non-environmental justice communities. For example, the surface alignment of the Preferred Alternative along

Piney Branch Road and University Boulevard would impact an environmental justice community, but the transitway alignment on the Georgetown Branch right-of-way, which is primarily in non-environmental justice neighborhoods, would have high visual impacts to adjacent neighborhoods.

Taking these factors into account, MTA and FTA conclude that the Preferred Alternative as a whole would not have "disproportionately high and adverse effects" on environmental justice populations. Through its coordination with affected communities and the public, MTA has refined the Preferred Alternative to avoid sensitive areas and minimize impacts to both the human and natural environment. Further, through this coordination, MTA has identified commitments and mitigation measures that are described in this FEIS to address impacts on environmental justice populations from the Purple Line.

Appendix A
AA/DEIS Comments and Responses

This appendix compiles FTA's and MTA's responses to the many comments received during the AA/DEIS public comment period. FTA received 3,330 comments via hard copy, email, or verbal testimony during the 90-day public comment period and four public hearings that followed the release of the AA/DEIS. Comments came from elected officials, community organizations, government and regulatory agencies, residents, special interest groups, and non-profit organizations.

FTA and MTA considered all comments in the refinement of the Preferred Alternative and preparation of the FEIS. Comments included support or opposition to all or parts of the Purple Line and the alternatives in the AA/DEIS, as well as specific issues, such as the type of transit, the transitway alignment, and potential natural and human environment effects of the Purple Line alternatives.

FTA and MTA grouped the comments into common themes and prepared responses to each theme. This appendix contains FTA's and MTA's topical responses on the following themes:

A. Support for the Purple Line
B. Opposition to the Purple Line
C. Opposition to Alignment along the Georgetown Branch Right-of-Way (Trail)
D. Support for Bus Rapid Transit (BRT)
E. Support for the Jones Bridge Road Alignment
F. Opposition to the Wayne Avenue Surface Alignment, Support for a Tunnel Under Wayne Avenue, and Opposition to a station at Dale Drive
G. Suggestions to Consider other Modes of Transportation or Technologies
H. Opposition to Build Alternatives and Options not included in the Preferred Alternative
I. Cost and Funding
J. Ridership
K. Environmental and Social Concerns
L. Transportation and Safety Concerns
M. Specific Design Concerns
N. Concerns with the Alignment through University of Maryland (UMD)
O. Concerns with the Alignment along Ellin Road and the New Carrollton Station Area

P. Suggestions for Extensions or Connections to Purple Line

Q. Suggestions for Other Alternatives

R. Suggestions to Fund Other Projects

S. Comments Regarding Public Outreach

T. Information Requests

Each topical response contains paraphrased comments followed in italics by FTA's and MTA's responses.

At the end of this Appendix, Section T describes the list of commenters and their topics of interest, and includes a DVD that contains the comments. The DVD is enclosed in hard copies of this FEIS, and the material on the DVD can be accessed via the website. The DVD can also be requested via the website.

A. Support for the Purple Line

Summary of Comments: Overall, the AA/DEIS, public hearings, and comment process generated widespread and strong support for the Purple Line. Approximately 1,570 commenters stated support for the Purple Line. In addition, there were 12 petitions, containing over 3,300 signatures that stated support for the Purple Line and LRT in particular.

Beyond the broad and general support for the project, many of the comments noted various benefits of the project and the light rail transit (LRT) Alternatives as well as noting support for specific elements of what has been defined as the Preferred Alternative (a combination of the medium and high investment LRT alternatives). Finally, there were comments that suggested refinements or options that have since been incorporated into the Preferred Alternative; these comments are noted in the FEIS.

The following characteristics and elements were supported:

- An at-grade alignment in its own right-of-way
- The use of the Georgetown Branch (Master Plan) alignment and the right-of-way was originally purchased by the County for future transit purposes
- The use of Campus Drive through the UMD
- A surface alignment on Wayne Avenue with a future station at Dale Drive
- Connections to the Metrorail and to and between other key places along the corridor
- High ridership levels
- LRT is more cost effective than BRT
- The completion of the Capital Crescent Trail and would improve bicycle and pedestrian connectivity
- LRT is more community and environmentally-friendly than BRT and/or the Purple Line would have a positive impact on neighborhoods/communities
- The Purple Line is needed due to rising energy costs and would help conserve limited energy resources and reduce our dependence on foreign oil
- The Purple Line would improve air quality by taking cars off the road, lessening the emissions that contribute to climate change
- The Purple Line would improve water quality
- The Purple Line has minimal environmental effects for a project of its size

- LRT is the preferred mode over BRT because it has less noise, it is more visually pleasing, and people prefer and would use rail more than buses
- The Purple Line would positively affect safety along the alignment
- The Purple Line would reduce travel times and ease congestion
- The Purple Line using LRT would provide a premium service
- The Purple Line would provide general support for improved transit
- The Purple Line is needed to increase mobility, provide access to jobs/job opportunities, and improve the quality of life in the area
- The Purple Line would provide economic and business benefits
- The Purple Line would support transit-oriented development and promote smart growth

Design refinements and options that were suggested and ultimately incorporated into the Preferred Alternative include:

- An aerial alignment and elevated station, with a transit plaza below, near the Kenilworth Avenue / East West Highway intersection in Riverdale Park
- A simple design for the stations
- Widening the future extension of the Capital Crescent Trail to 12 feet

Finally, people stated that the Purple Line is long overdue and expressed the need to move the project forward in a timely manner and to secure funding for its implementation.

Response: *The Preferred Alternative has been identified for many of the reasons stated above. The Preferred Alternative, described in detail in Section 2.3.2 of the FEIS, would provide new east-west LRT service, providing connections to the Metrorail stations at Bethesda, Silver Spring, College Park, and New Carrollton. The Preferred Alternative would be largely surface-running with one short tunnel section, three aerial sections, and one underpass of a busy roadway, allowing for fast, reliable transit operations. The Preferred Alternative is located primarily in a semi-exclusive or dedicated transitway, with short sections of shared use when necessary.*

The Preferred Alternative uses the Georgetown Branch right-of-way, and it includes construction of the permanent Capital Crescent Trail in the Georgetown Branch right-of-way between Bethesda and the CSXT Metropolitan Branch. Working with trail designers, adjacent communities, and the Montgomery County government (which would own and maintain the trail), the trail design has been developed in response to community concerns.

The Preferred Alternative would provide an efficient, reliable, and accessible high capacity public transit alternative to the automobile for the inner ring suburbs north of Washington, DC. LRT remains the preferred mode due to its ability to better meet the project's purpose and need, higher ridership projections, higher user benefits, greater capacity and the ability to expand.

The definition of the Preferred Alternative is the result of the environmental analysis, feedback from agencies, and the continued involvement of the community. This is true of comments received during the formal comment period, included in this appendix, as well as continuing outreach and coordination throughout the Preliminary Engineering phase of the project. Throughout the development of the Preferred Alternative, refinements were made to reduce project impacts, reduce overall project costs, and to maintain a cost-effective project while providing a high quality system.

Beyond the suggestions received during the comment period and incorporated into the design of the project, public input has resulted in further refinements including the reconfiguration of the Lyttonsville Yard and Glenridge Maintenance Facility, the inclusion of a 5 to 7-foot sidewalk through the underpass in Bethesda under Wisconsin

Avenue and the Apex and Air Rights Buildings, a shift of the alignment into the median of Kenilworth Avenue and a reduction in the proposed roadway section, a shift of the alignment from the median to the south side of Riverdale Road, refined roadway crossings, refinements through the UMD, a reduction in the number of lanes on University Boulevard with associated pedestrian facilities and green space improvements, and numerous enhancements to station access and pedestrian facilities.

B. Opposition to the Purple Line

Summary of Comments: Approximately 190 commenters expressed overall opposition to the Purple Line project. This does not include those who may oppose a portion of the Purple Line alignment, which are addressed in other responses. Among the issues stated for their opposition are:

- The project is not needed or justified
- The cost of the project can't be justified during the current financial recession
- If built, it will bring unwanted development to the area
- The Purple Line will further the gentrification of areas and force the displacement of low-income households
- The primary beneficiaries of the project will be developers
- It is not part of the WMATA Metro system (not heavy rail)
- There is no capacity to expand the Purple Line system
- The Purple Line will not alleviate traffic congestion or lower travel times significantly
- The Purple Line will damage the natural environment
- The Purple Line will have noise impacts
- The Purple Line will have vibration impacts
- It will further promote energy dependence
- The Purple Line could cause parking problems and promote the need for additional parking
- The Purple Line will create safety concerns along the corridor
- The fares will be too high

Response: *FTA and MTA have considered these concerns, but after comparing the impacts, costs, and benefits of the alternatives, FTA and MTA have decided that the benefits of the Preferred Alternative outweigh the impacts and costs (see Chapter 9—Comparative Evaluation of Alternatives). Following is a response by issue:*

B.1 Project Need and Justification

Summary of Comments: Some commenters expressed disagreement with the purpose and need for the project.

Response: *FTA has considered these objections, but finds that the purpose and need as expressed in Chapter 1 of the FEIS is appropriate for the proposed action. The purpose of the Purple Line is to provide faster, more direct and more reliable east-west transit service in the Purple Line corridor, connecting to the Metrorail system and the major activity centers at Bethesda, Silver Spring, Takoma/Langley Park, College Park, and New Carrollton. This purpose is based on the need to address mobility and accessibility issues in the corridor. Changing land use patterns in Montgomery and Prince George's Counties have created activity centers in the corridor resulting in more suburb-to-suburb travel. Please refer to Chapter 1.0 for more details on the project's Purpose and Need.*

It is estimated that the Preferred Alternative would divert 16,790 trips off existing roads in 2040. An estimated ridership of 74,160 would use the Purple Line each day by the year 2040, and for them it would provide a faster and more reliable transit alternative than exists today. The number of people and jobs in the area is growing and more people are traveling east to west and vice versa. The existing roads are highly congested, and commuting times continue to increase. The existing east-west bus services are unreliable and slow. It is difficult and time-consuming to get from many parts of the corridor to Metrorail. The Purple Line would also provide a direct link to the state's primary university and largest employer in Prince George's County, the UMD. There is a large population in the area that relies on transit, and there are many residents who choose to take transit instead of driving. See Chapter 1, Purpose and Need, for further discussion.

B.2 Project Cost

Summary of Comments: Commenters stated that they believe the project is too costly or that they do not believe the State has the financial resources to build the project.

Response: *Currently, the Preferred Alternative is estimated to cost $2.152 billion in year of expenditure dollars (see Chapter 2 of the FEIS). The cost of the project has to be considered in light of its expected benefits, which include serving 74,160 riders daily, and saving those using the system a total of over 34,800 hours daily. It provides a new, more reliable transit choice with improved transit travel times and access to other existing transit services and Metrorail across the corridor. It will also connect communities and provide access to housing and employment throughout the corridor and beyond. It results in a very cost-effective project when evaluating the cost per user benefit.*

The design of the Preferred Alternative is the result of the environmental analysis, input from agencies, and the continued involvement of the community. Throughout the development of the Preferred Alternative, the MTA made refinements to reduce overall project costs and to maintain a cost-effective project while providing a high quality system. The annual operations and maintenance costs of the Purple Line are estimated to be $38 million in 2012 dollars; MTA would be responsible for these costs.

Project funding is expected to come from federal and State/local sources with up to 50 percent of funding coming from the federal FTA New Starts program. The New Starts program is a discretionary federal program that provides capital grants for the construction of transit fixed-guideway projects. While the Purple Line would compete for New Starts funding with projects from all across the country, the Purple Line is competitive in projected ridership, cost-effectiveness, user benefits, and many other areas as compared to other projects receiving federal funds. The state of Maryland is identifying funding options for its share of the funding.

B.3 Unwanted Development

Summary of Comments: Commenters expressed concern that the Purple Line would generate additional development in the project corridor.

Response: *As discussed in Section 4.2 of the FEIS, the Purple Line corridor comprises a variety of urban and suburban land uses, including residential, commercial, recreational, institutional, and industrial. Clusters of higher density mixed-use development characterize the five major activity centers of Bethesda, Silver Spring, Takoma/Langley Park, College Park, and New Carrollton. Current zoning concentrates urban growth around activity centers to support TOD and surrounding low- to medium-density residential uses. Transit-oriented development opportunities exist in activity centers that Prince George's and Montgomery Counties have identified for transportation improvements, growth and redevelopment opportunities, as well as in areas that could benefit from more efficient transit. Both Montgomery County and Prince George's County have plans or studies approved or under development to promote transit-oriented development around the appropriate Purple Line stations. In*

conjunction with each plan's recommendations, the Purple Line would provide the opportunity to increase mobility, provide access to jobs, and improve the quality of life in the area.

With the exception of the area surrounding the UMD campus and M Square, most of the remainder of developed land in the study area contains low to medium-density residential and commercial uses that are not expected to change substantially. For most communities, the Purple Line provides an opportunity to support wanted growth and redevelopment. Ultimately, all development decisions (including land use and zoning) around the Purple Line or at station areas will be determined by the local jurisdictions.

B.4 Effect on Low-income Households

Summary of Comments: Commenters stated concern that the Purple Line would increase property values, resulting in higher rents on existing properties or redevelopment of properties and forcing out current residents or businesses.

Response: *As discussed in Section 4.19 of the FEIS, the MTA has discussed concerns regarding the preservation of affordable and low-income housing with both Montgomery and Prince George's Counties. Following is a summary of the progress each county has made regarding affordable housing in the Purple Line study area:*

- *A number of public assistance programs, including home and business improvement subsidies and public infrastructure funding, are in place in Prince George's County to address priority needs related to affordable housing, economic revitalization and public services.*
- *The Montgomery County Moderately Priced Housing Law, in effect since 1974, has facilitated the private development of over 13,000 affordable housing units between 1976 and 2010.*
- *Land use and zoning decisions made by the counties also may affect the stock and affordability of local housing. FTA and MTA support appropriate development around stations but will continue to work with the counties, stakeholders, and local advocacy groups to identify and suggest policies to address this issue.*

For further discussion of this issue see Section 4.19, Environmental Justice.

B.5 Potential Benefits to Developers

Summary of Comments: Commenters stated that the beneficiaries of this project will not be the residents, riders or local stakeholders, but private developers.

Response: *The project is being planned by the MTA (under FTA's oversight) to serve the people who live, work, shop, visit and travel through the corridor. The Purple Line will provide tremendous benefit to the commuting public with a new more reliable and efficient transit choice.*

The Land Use Plans, Master Plans, and Sector Plans, discussed in Section 4.2 of the FEIS, establish a conceptual structure and direct the development of overall land use through zoning. Both counties and several municipalities in the study area have developed plans and policies with more detailed visions for land use in their respective jurisdictions. At several of the proposed station locations, particularly Bethesda, East Campus, College Park, M Square, Annapolis Road, and New Carrollton, zoning supports opportunities for re-development and for TOD, emphasizing a pedestrian-friendly, mixed-use environment with a multi-modal transit network.

Increased development and high-density infill surrounding key activity centers and the transportation corridors served by the Preferred Alternative would promote employment by creating new permanent jobs and supporting access to employment opportunities. Commercial, office, and industrial uses throughout the study area would benefit from this improved transit access, as employers in the study area would be able to draw from a larger pool of potential employees. In addition, their customers and clients would have improved access. Businesses also may be influenced by transit service when selecting new sites, resulting in increased intensity of these land uses.

B.6 Relationship to the WMATA Metro System

Summary of Comments: Some commenters stated that they believed the project should be a subway or heavy rail system. They stated that the Purple Line alternatives could not be well integrated with the WMATA Metro system unless it were the same technology.

Response: *WMATA's Metro system is a heavy rail system. It is powered by a high voltage "third rail" on the ground within the transitway. Because of the presence of the third rail and the potential danger of it, Metrorail must be in exclusive rights-of-way with no vehicular or pedestrian crossings of the tracks. Therefore, the entire system is fenced off to prevent anyone from accessing the track. Often the Metrorail tracks are elevated or located in tunnels. During the initial project development and scoping phase of the Purple Line, prior to the publication of the AA/DEIS, heavy rail was studied and deemed inappropriate to meet the goals and objectives established for the Purple Line (see Section 2.1.3 of the FEIS and Volume 2—Technical Reports: 2008 Definition of Alternatives). It would not optimize public investment, as costs would far exceed those of light rail, while very few additional benefits would be offered. Light rail was determined to best serve the proposed project corridor's identified purpose and need and is much more flexible in design and can be integrated into the surrounding communities.*

While it was determined that the Purple Line would be a light rail system, providing better connections to Metrorail services located in the corridor is one of the purposes of the project. Stations locations have been selected to provide convenient connections between the Purple Line and Metrorail. At Bethesda, the Purple Line station is planned directly above the Metro platform. The Purple Line would be directly connected to Metro through the new Bethesda Metro South Entrance project (being designed and financed as a separate project by Montgomery County) which includes elevators from Elm Street down to the Metro station. The elevators would include a stop at the Purple Line level for direct connections between the stations. In Silver Spring, the Purple Line station would be located above and between the Metro station and the new SSTC. The Purple Line station access would be incorporated into the transit center with connections via elevators, stairs, and escalators to Metro and MARC commuter trains. At both College Park and New Carrollton, the MTA has located the Purple Line station platforms as close to the Metro entrances as possible.

B.7 Potential to Expand Capacity of the System

Summary of Comments: Commenters stated their concern that the project be capable of expanding capacity beyond projected ridership for the horizon year 2030 (2040 in the FEIS). Many of these comments expressed support for an LRT alternative for this reason.

Response: *The Preferred Alternative is not anticipated to reach its full capacity until the design year of 2040, leaving additional capacity to accommodate future growth in ridership. To expand ridership after full capacity is reached; trains could run more often to allow for an increase in the number of passengers. Physical expansion of the Purple Line could be considered in long range plans for the region. Specifically, the design in New Carrollton would allow for the future extension of the system farther east. In fact, the ability to accommodate continued growth beyond 2040 was one of the factors considered in selecting LRT as the mode rather than BRT. A BRT system would have much less potential for expansion to accommodate growth. The carrying capacity of a BRT vehicle (140 people) is much less than a two-car train (270 people). The AA/DEIS did assume the addition of "trippers" between Bethesda and Silver Spring during peak hours ("Trippers" are extra buses placed in operation for only the period of time needed to accommodate the demand). If ridership grows even higher in the future, adding even more BRT vehicles to the service and therefore further reducing headways would have caused operational problems including platooning of buses at major intersections (see Section 2.2 of the FEIS).*

B.8 Effect on Roadway Congestion

Summary of Comments: Commenters noted the existing and future roadway congestion in the corridor. Some commenters stated support for the project based on this, since the project would provide an alternative mode of transportation; others opposed the project because it would not reduce congestion.

Response: *The purpose of this project focuses on improving east-west transit service. See FEIS, Section 1.1, Purpose of the Project. The Preferred Alternative will achieve this purpose because it provides new transit service that runs on dedicated or exclusive lanes, through much of the corridor, which allow the transit vehicles to avoid back-ups and delays at many of the congested intersections in the corridor.*

It is projected that 74,160 riders would use the Purple Line each day. For these riders the Purple Line would provide much faster and more reliable transit service than they have now and certainly more than the No Build Alternative.

While the project is not intended to reduce roadway congestion, it will include improvements to area roadways as part of the Preferred Alternative. These roadway improvements include re-aligning intersections, and adding or lengthening turn lanes. The roadway changes would result in localized improvements to vehicular traffic operations. One example of this is the addition of left turn lanes along Wayne Avenue at Cedar Street, Dale Drive, and Manchester Road. The addition of dedicated left turn lanes at these key intersections and a left turn phase as part of the signal would improve traffic operations and further promote safety along the corridor. Another example is the re-alignment of Mustang Drive to connect to Riverdale Road directly across from 62nd Place. Eliminating the current "split" signal would improve traffic operations and facilitate safer pedestrian crossings. Finally, the addition of a dedicated left turn lane on westbound Riverdale Road at 67th Avenue would provide full-time, protected access to the Beacon Heights community.

The Preferred Alternative is estimated to divert 16,790 cars per day from existing roads. While this reduction is small relative to the total number of vehicle trips in the region, it is nonetheless an indication that the project will have some benefits for the roadway network, particularly within the project corridor. See Chapter 3, Transportation Effects.

B.9 Natural Environment

Summary of Comments: Many commenters stated concern about the natural environment. Some opposed the project because of concerns about impacts to the natural environment, particularly in the Georgetown Branch right-of-way. Others supported the project because of the environmental benefits of public transportation in general or light rail specifically.

Response: *The transportation, economic and community benefits of the Purple Line would come with some unavoidable adverse effects. FTA and MTA have strived to avoid or minimize potentially adverse effects by working with resource agencies, stakeholders, and the communities. Chapter 4- Environmental Resources, Impacts and Mitigation discusses a wide range of environmental resources. Throughout the corridor, the MTA has refined the alignment, geometry and right-of-way needs wherever possible to avoid or minimize effects. Following are some examples that are described further in Sections 4.13 and 4.14 of the FEIS:*

- *The MTA has and continues to strive to avoid long-term water quality and quantity impacts to aquatic biota by minimizing the amount of new impervious surface associated with the transitway, yard, and maintenance facility, either through reducing the amount of new paved surfaces or possibly using green track, which would allow for some water absorption.*
- *In response to agency concerns about impacts to the tributary of Paint Branch, the MTA shifted a portion of the transitway south to minimize impacts to the riparian zone. In addition, the project has been designed so that stormwater associated with the transitway would not be discharged directly into the tributary of Paint*

Branch. As part of project-wide avoidance and minimization efforts, the footprint of the Glenridge Maintenance Facility was adjusted to minimize impacts to a tributary of Brier Ditch. Additionally, impacts to a stream are avoided due to the modification of the alignment along Ellin Road.

- *MTA is considering the use of green track, which would allow for some water absorption, thereby reducing the movement of contaminants to surface water bodies, and reduces impervious cover, reduces stormwater runoff, and increases local air humidity.*
- *Where unavoidable forest impacts occur, the MTA would offset those impacts by reforestation, which is planting trees in cleared areas, and afforestation, which is planting trees in areas not previously forested.*

B.10 Noise

Summary of Comments: Commenters expressed concern about noise impacts, generally to residents.

Response: *As described in the AA/DEIS and Section 4.12 of the FEIS, the MTA performed an impact analysis for noise following FTA noise guidance and assessing impact using FTA criteria. Extensive noise impact analysis and monitoring has been performed. Potential noise impacts from LRT line and yard operations and horn noise near stations and at-grade crossings were considered as part of the noise analyses performed. The Preferred Alternative includes several noise-mitigating measures as part of its design. These include "skirts" on LRT vehicles to cover the wheels and short noise panels retaining walls along the residential portions of the Georgetown Branch right-of-way. East of the Georgetown Branch right-of-way, six residences and two apartment buildings (containing approximately six units each) would be moderately impacted due to warning horns associated with grade crossings or stations. Constructing sound barriers would block driveway access and pedestrian walkways, and not be reasonable to mitigate horn noise; however, MTA is investigating the options that may be available instead of horns to maintain safety, yet reduce the impacts. .*

Additional potential noise sources include the PA systems used to announce the arrival of the LRT vehicles, wheel squeal, and the hum associated with the traction power substations (TPSS). The PA system would have automatic volume adjustment controls designed to maintain announcement volume at a specified few dBA above ambient noise levels. With proper use, short-term noise from the PA system announcements is not expected to be a noise annoyance to sensitive receptors adjacent to stations. Regular maintenance of the wheels and brake pads would minimize the noise generated by wheel squeal. The TPSS would be designed in accordance with the MTA design criteria intended to minimize the noise from the transformer hum.

Refer to Chapter 4.11 and the Noise Technical Report for more detailed information on potential noise impacts and any proposed mitigation measures.

B.11 Vibration

Summary of Comments: Commenters expressed concern about vibration impacts, particularly to residents, but also to University of Maryland research facilities.

Response: *For the AA/DEIS, the Purple Line Project's impact on vibration related issues was studied according to the general assessment procedures outlined in the Federal Transit Administration's Transit Noise and Vibration Impact Assessment Manual (May 2006). The analysis was refined for the FEIS, resulting in impacts to four residences and one apartment complex, containing approximately six units. The apartment complex would exceed FTA's impact threshold due to high existing vibration levels caused by daily CSXT freight train pass-bys. MTA would address operational vibration impacts by evaluating and implementing specific materials and construction methods in the construction of the transitway, including using resilient fasteners, ballast mats, resiliently supported ties, or other vibration damping measures as deemed necessary. These options would be evaluated by MTA with regard to both reasonableness and feasibility. MTA would perform site-specific assessment of the areas warranting mitigation for impacts related to vibration during completion of design work.*

Regarding vibration near the UMD Campus, as agreed upon between UMD and MTA, MTA would analyze extremely vibration sensitive research buildings located within the UMD campus through a detailed vibration study to be undertaken during completion of design work. The study would establish criteria, guidelines, monitoring requirements, and exceedence protocols. MTA will design the guideway adjacent to vibration sensitive facilities to minimize ground-borne vibration consistent with proven industry practices and maintenance requirements to meet the greater of the ambient vibration levels or the National Institute of Standards and Technology (NIST) criteria of 42 dBA within 100 feet of the nearest track centerline at existing and potential research laboratories for a period of 30 years, after which UMD and its research partners will design their research activities to accommodate the background conditions resulting from the Project. Where the Preferred Alternative transitway centerline would be within 100 feet of existing or potential research laboratories, the transitway would be designed to meet the more restrictive of the ambient vibration levels or the NIST criteria of 42 VdB.

Refer to Chapter 4.12 of the FEIS and the Vibration Technical Report for more detailed information on potential vibration impacts and any proposed mitigation measures. See Chapter 5 for a discussion of construction activities.

B.12 Effect on Energy Dependence

Summary of Comments: Commenters expressed support for transit, and light rail in particular, to reduce our reliance on petroleum.

Response: *Presently, petroleum makes up the largest portion of transportation fuel use in Maryland and the United States as a whole. The Purple Line would provide an alternative to traditional petroleum-based automobile travel. In addition, transit use typically increases with increased gasoline prices and the Preferred Alternative could accommodate additional riders and take more cars off the road with little to no additional energy consumption.*

As stated, the Purple Line would provide an alternative mode of transportation that would offer energy efficient mobility and accessibility to the Maryland suburbs surrounding the Washington, DC region. Light rail averages 855 Btus per passenger-mile compared to the average for automobile travel of 2,740 Btus per passenger mile (see Section 4.18 of the FEIS).

B.13 Effect on Parking

Summary of Comments: Commenters expressed concern about Purple Line commuters parking in residential neighborhoods near stations.

Response: *As discussed in Section 3.1.3 of the FEIS, Purple Line patrons are expected to access the system primarily by foot/bicycle and by transfer from other transit including Metrorail and bus. No new parking facilities would be constructed as part of the Purple Line. Publicly and privately-owned public parking garages exist near the Bethesda, Silver Spring, College Park and New Carrollton stations which are the stations with the highest projected ridership. In addition, some people who currently drive to a Metrorail station to park could instead walk to the Purple Line, and use that to connect to the Metrorail, reducing the need for parking. Overall, the travel forecasting analysis showed that adequate parking supply was available for the changes in parking demand with the Purple Line (see Purple Line Travel Forecasts Results Report, 2013)*

Regarding parking spaces to be affected by the construction of the project, out of the almost 18,000 existing parking spaces, the Preferred Alternative would remove 1,239 spaces. As shown in Table 3-11 in Section 3.4.3, the largest impact would be the taking of approximately 897 non-residential parking lot spaces. Mitigation of permanent parking loss is not proposed in lots where the current parking is underutilized and remaining parking capacity exceeds parking utilization. Where parking spaces on private property are lost through acquisition of property for the project, MTA will purchase the property at fair market value. See Section 3.4 for further discussion of Parking.

B.14 Purple Line Safety

Summary of Comments: Commenters expressed concern about the safety of light rail operations, particularly in areas of high pedestrian activity.

Response: *Special attention has been given to situations where roadway traffic shares a lane with the transitway, or is adjacent to or crosses the transitway. Measures will include signing, signal phasing and coordination, the addition of turn lanes, and the inclusion of curbs, barriers, and gates, as appropriate. Pedestrian and bicycle enhancements are also included throughout the corridor, and pedestrian crossings will be well marked and delineated. New trail and sidewalk connections are included, as well as bicycle lanes along certain roadways. In addition, speeds will be limited in areas of high pedestrian activity such as on the UMD campus. Finally, station access will be well marked, safe, and convenient, and stations will be monitored by closed circuit television (see Section 3.6 of the FEIS).*

B.15 Transit Fares

Summary of Comments: Commenters questioned the proposed fare policy and were often concerned about the transfer fare policy.

Response: *Purple Line fares are assumed to be a flat fare following the regular Metrobus fares and policies. Transfers to other local services are proposed to be equal to existing bus-to-bus transfer policies (see Section 2.3.2 of the FEIS).*

C. Opposition to Alignment along the Georgetown Branch Right-of-Way (Trail)

Summary of Comments: Approximately 1,170 comments, as well as one petition, recommended locating the transitway somewhere other than the Georgetown Branch right-of-way to ensure that the Capital Crescent Trail retains the character of the existing Georgetown Branch Interim Trail (i.e., the unpaved trail that currently exists within a portion of the Georgetown Branch right-of-way). While some comments expressed overall opposition to any alignment that locates a transitway within the Georgetown Branch right-of-way, others raised specific concerns related to the potential presence of the transitway combined with the trail along this alignment. These issues included the following:

- The Georgetown Branch Interim Trail is an irreplaceable community resource with a large number of users
- Recreational users and commuters who currently use the trail will be hindered by the design
- The close proximity of the Purple Line to the trail would negatively affect safety for trail users
- Mature trees, other vegetation, and wildlife habitat along the trail will have to be removed due to construction of the Purple Line
- A transit line along the extension of the Capital Crescent Trail would be visually and aesthetically unpleasing
- The introduction of transit will create noise and vibration, hampering the enjoyment of the trail
- Trains will park on the tail track in Woodmont Plaza, ruining the ambiance and safety of the open space.

Response: *FTA and MTA recognize the Capital Crescent Trail as an important community asset and consider completion of the Capital Crescent Trail between Bethesda and Silver Spring to be an integral part of the Purple Line project. Working with trail designers, adjacent communities, Montgomery County, Maryland-National Capital Park and Planning Commission (M-NCPPC), and the Montgomery County government (which will own and maintain the trail), FTA and MTA have developed a Preferred Alternative that accommodates both the transitway and the Capital Crescent Trail within the Georgetown Branch right-of-way.*

The consideration of the Georgetown Branch right-of-way in this study took place against the backdrop of more than two decades of planning by the County regarding the future use of that corridor. Until the mid-1980s, the right-of-way remained in use for an active freight railroad. In 1988, after freight rail use was discontinued, the County purchased the Georgetown Branch right-of-way for potential use as a transitway and trail. In January 1990, the Montgomery County Council approved the Georgetown Branch Master Plan Amendment, which officially designated the right-of-way for a combined transitway and trail. Since then, a variety of transit alignments for a transitway connecting Bethesda to Silver Spring have been evaluated. For the reasons documented in Chapter 2 of this FEIS, FTA and MTA have determined that an alignment along the Georgetown Branch right-of-way remains the most desirable route for providing fast, efficient, and reliable transit, and also have determined that the adjacent Capital Crescent Trail can be safe and attractive. Therefore, the Preferred Alternative includes a transitway and the paved Capital Crescent Trail in the Georgetown Branch right-of-way. The permanent Capital Crescent Trail would be constructed within the Georgetown Branch right-of-way for a distance of 3.3 miles between Bethesda and the CSXT Metropolitan Branch. At the junction with the CSXT the trail is planned to continue on the north side of the CSXT corridor to the SSTC. The completion of the trail along the CSXT corridor is contingent on agreement with CSXT on the use of their property on the north side of the CSXT tracks for the trail. If agreement is not reached by the time the Purple Line construction occurs, MTA would construct the trail from Bethesda to Talbot Avenue. From Talbot Avenue to Silver Spring an interim signed bike route on local streets would be used until such time as agreement is obtained. The completion of the Capital Crescent Trail all the way into downtown Silver Spring would provide an important link in the regional trail system. The design of the Preferred Alternative takes into account the safety of trail users, as described below.

C.1 Popularity of Trail

Summary of Comments: Commenters noted the popularity of the trail and the very high levels of usage. Generally this was cited as the basis for opposition to the use of the right-of-way for transit.

Response: *FTA and MTA recognize that the trail in the Georgetown Branch right-of-way is an important community asset. In response to the popularity and the large number of users of the trail, and the need to provide for their safety, Montgomery County specified that the trail will be a 12-foot wide paved trail plus 2-foot unpaved shoulders. This width is greater than the County's standard trail width. To further promote safety, the trail will be separated from the transitway with fencing, and Montgomery County has budgeted for landscaping and enhanced lighting (beyond the County standard) along portions of the trail.*

As part of the Preferred Alternative, the Capital Crescent Trail would be constructed within the Georgetown Branch right-of-way for a distance of 3.3 miles between Bethesda and the CSXT Metropolitan Branch. At the junction with the CSXT, the trail is planned to continue on the north side of the CSXT corridor to the SSTC. The MTA will plan, design, and construct the Capital Crescent Trail between Bethesda and Silver Spring concurrently with the Purple Line. The Capital Crescent Trail would replace the existing Georgetown Branch Interim Trail which currently extends from Bethesda to Stewart Avenue within the Georgetown Branch right-of-way. At the junction with the CSXT Metropolitan Branch (after the Georgetown Branch right-of-way ends), the trail is planned to continue on the north side of the CSXT corridor to the SSTC in Silver Spring. The completion of the trail along the CSXT corridor is contingent on agreement with CSXT on the use of their property on the north side of the CSXT tracks for the trail. The Capital Crescent Trail would replace the existing Georgetown Branch Interim Trail which currently extends from Bethesda to Stewart Avenue within the Georgetown Branch right-of-way. The Capital Crescent Trail will be owned and operated by Montgomery County, which will be responsible for obtaining the funds to construct it. Because the Capital Crescent Trail will be a county facility, Montgomery County has determined design elements such as the trail width, the type of surface, and inclusion of additional amenities such as lighting.

C.2 Trail Design

Summary of Comments: Commenters had various suggestions and comments on the design of the trail. Many wanted a wider trail than the originally proposed 10-foot trail.

Response: *In response many comments and to the popularity and the large number of users of the trail, Montgomery County specified that the trail would be a 12-foot wide paved trail plus 2-foot shoulders wherever possible. It would avoid at-grade crossings of major roadways such as Connecticut Avenue and Colesville Road. A landscaped buffer or vegetated swale would be included between the trail and the transitway, where space permits, and to further promote safety the trail would be separated from the transitway with fencing.*

Neighborhood access to the trail would be maintained in specific areas and enhanced with 23 formal access points included in the design. The trail would also serve as access to many of the Purple Line stations and trail users would have easy access between the trail and the station areas. Finally, the trail would cross Colesville Road at a lower level than the Purple Line. This would facilitate more efficient access between the trail, the various transit services at the SSTC, the Silver Spring area itself, and the Metropolitan Branch Trail.

C.3 Safety

Summary of Comments: Commenters stated concern about the safety of light rail operations next to the trail.

Response: *FTA and MTA have worked with the County to increase the number of grade-separated intersection crossings of the trail and busy streets. This includes a new bridge carrying the trail over Connecticut Avenue, an underpass at Jones Mill Road, and a new trail along the CSXT corridor into downtown Silver Spring, avoiding the need to use local roadways.*

FTA and MTA also have worked with the community and representatives from Montgomery County to maximize the number of trail access points. The Preferred Alternative would provide new "formal" trail access at Pearl Street, East West Highway, Sleaford Road, Kentbury Drive, Newdale Road, Rock Creek Trail, Lyttonsville Place, Michigan Avenue, 4th Avenue, Lyttonsville Road, 16th Street, 3rd Avenue, Spring Street, and Apple Avenue, the SSTC, and Bonifant Street. In addition, existing trail access at Elm Street Park, Lynn Drive, Jones Mill Road, Connecticut Avenue, Grubb Road, and Stewart Avenue would be maintained and improved.

In October 2002 the MTA researched light rail lines that operated next to trails, both active and proposed, and found a wide range of conditions, with separations ranging from 6 feet to 50 feet and no consistent use of fencing or barriers.[1]

The second safety issue raised was derailments. Light rail is very different from heavy rail. A description of rail vehicles "catapulting from the rail or transit right-of-way" is not applicable to light rail. Light rail vehicles very rarely derail and when they do they tend to sit on the tracks. Because they do not operate in long trains they do not have the momentum created by the mass of other train cars pushing the derailed car forward or over. Their low center of gravity keeps them from tipping over. On bridges, particularly on curves, light rail tracks will include a guard rail to keep a train on the tracks.

C.4 Removal of Trees and Vegetation

Summary of Comments: Commenters stated concern about the removal of matures trees within the Georgetown Branch right-of-way.

Response: *The project has been designed to minimize tree loss during construction (see Section 4.13 of the FEIS). Even with these minimization measures, much of the Georgetown Branch right-of-way would need to be cleared for the construction of the transitway and the trail. MTA is working closely with the Maryland Department of Natural*

[1] Light Rails with Trails: a study of current practices in the United States and England. Parson Brinckerhoff, October 2002

Resources (MDNR) to ensure that all tree and forest loss due to the project are being mitigated in accordance with the Forest Conservation Act. The MTA is currently identifying afforestation/reforestation mitigation sites and forest mitigation banks in close proximity to the project area with a goal to protect or create habitat within the same watershed.

C.5 Visual/Aesthetics

Summary of Comments: Commenters stated concern about the changing visual effects in the Georgetown Branch right-of-way from the removal of trees and the existing canopy.

Response: *The visual effects analysis in the FEIS follows the FHWA guidelines, refer to Section 4.9 of the FEIS. The FEIS recognizes that the visual character of the trail would change due to the reduction in tree canopy and the addition of the new transit facilities. The MTA will prepare the finishes and design of the walls and fences along the trail in consultation with the County and the community. To further enhance the trail, Montgomery County has identified funding for additional landscaping and amenities along the trail.*

C.6 Noise and Vibration

Summary of Comments: Commenters stated concern about noise and vibration along the Georgetown Branch right-of-way.

Response: *The addition of the Purple Line will add more noise and vibration, however as designed, the Preferred Alternative does not exceed FTA's noise criteria along the Georgetown Branch right-of-way. The MTA has included measures to reduce the potential noise effects through this area. The first is the inclusion of skirts on the vehicles. As most of the noise associated with light rail vehicles is generated from the wheels on the tracks, the inclusion of skirts will provide an 8 decibel reduction in noise. Further, although not required by FTA's noise criteria, MTA is including a minimum 4-foot retaining wall/noise panel adjacent to residential areas that abut the Georgetown Branch right-of-way. This will provide at a minimum, an additional 4 decibel reduction in project-related sound levels. The combination of both measures would provide a total of 12 decibels in noise reduction (see Section 4.11 of the FEIS).*

C.7 Bethesda Tail Track

Summary of Comments: Commenters stated opposition to the proposed trail track in Bethesda, and expressed concern that trains would be stored there.

Response: *Trains are planned to be stored in the Lyttonsville Yard, not along the tail track in Bethesda. The tail track in Bethesda will not extend more than 100 feet outside the tunnel. They would only be used in rare circumstances if a train had to move beyond the end of the platform.*

D. Support for Bus Rapid Transit (BRT)

Summary of Comments: Approximately 100 commenters specifically stated a preference for BRT, with many of the comments stating support for BRT due to their preference for the Jones Bridge Road alignment as opposed to the Georgetown Branch right-of-way alignment, and several others specifically cited their support of the Medium Investment BRT.

Commenters who supported BRT felt that in comparison to LRT:

- BRT would be more cost effective
- BRT would have higher ridership
- BRT would be more visually or aesthetically pleasing

- BRT would be more energy efficient or environmentally friendly, with lower noise and vibration levels, and less air pollution
- BRT would have less negative effects to communities and neighborhoods

As stated above, many of the comments supporting BRT were due to the preference for the Jones Bridge Road alignment as opposed to using the Georgetown Branch right-of-way. These comments are addressed in Section E—Support for the Jones Bridge Road Alignment.

There were also commenters in opposition to BRT. Commenters noted that LRT would be more cost-effective, carry higher ridership, result in lower noise and be more visually pleasing, be more energy efficient, and have a positive impact on communities as compared to BRT. The response to this comment is included in Section H—Opposition to Build Alternatives or Options Not included in the Preferred Alternative.

Response: *The AA/DEIS included a detailed analysis of three BRT alternatives, and three LRT alternatives, a Transportation System Management (TSM) Alternative, and a No Build Alternative. Based on consideration of the information in the AA/DEIS, as well as input from the public, the local jurisdictions, and elected officials, Governor Martin O'Malley identified a Locally Preferred Alternative (LPA). The LPA was similar to the Medium Investment LRT alternative as defined in the AA/DEIS, but included elements from the High Investment LRT alternative that provided improved travel times while balancing potential community and environmental impacts at an acceptable and affordable cost. After the LPA was announced, MTA continued with conceptual and preliminary engineering, and continued to engage in public involvement, soliciting input from the public. In coordination with FTA, MTA made many refinements to avoid or minimize environmental or community impacts, improve traffic and transit operations, improve safety, and to reduce project costs. This work resulted in the Preferred Alternative that is analyzed in this FEIS. The Preferred Alternative would offer high levels of user benefits and increased projected ridership while minimizing impacts to the surrounding communities and the environment (see Chapter 9: Comparative Evaluation of Alternatives.*

D.1 Cost-Effectiveness

Summary of Comments: Commenters stated concern about the cost-effectiveness of the project, especially given the high capital cost. They supported the BRT because of its cost-effectiveness.

Response: *Cost-effectiveness is one of many factors considered in the identification of a Preferred Alternative. It is true that the BRT alternatives required a lower initial cost and had a better cost-effectiveness rating than the LRT alternatives. However, the BRT alternatives provided lower user benefits than the LRT alternatives; the BRT alternatives were less reliable, did not provide the same level of travel time savings, and had lower projected ridership. In addition, the BRT alternatives were limited in their ability to handle increased ridership in the future beyond the design year. There was stronger public and stakeholder support for LRT. The Montgomery County Planning Board, Council, and County Executive endorsed the adoption of the Medium Investment LRT Alternative with several modifications. Light rail was identified as the "more viable long-term option" because of its consistency with the Master Plan, its higher projected ridership, its shorter travel times, and the fact that it would better support transit-oriented development. The Prince George's County Planning Department, DPW&T, and County Council supported light rail based on its future capacity and because of the economic and transit-oriented development benefits (see Section 2.1 of the FEIS).*

D.2 Ridership

Summary of Comments: Some commenters question the ridership projections, particularly the difference between the ridership for BRT as compared to LRT.

Response: *The BRT alternatives would not have higher overall ridership. The analysis in the AA/DEIS showed that the LRT alternatives were projected to have higher ridership than the BRT alternatives by a minimum of 10,000*

riders, depending on the alternative, and had the capacity to accommodate higher ridership in the future (see Table 6-2 in Chapter 6—Evaluation of Alternatives in the AA/DEIS). Further detail about ridership is discussed below in Section J, in Section 3.1 of the FEIS, and in the Purple Line Travel Forecasts Results Report, March, 2013.

D.3 Visually or Aesthetically Pleasing

Summary of Comments: Some commenters stated that the ancillary elements of the light rail, the overhead wire systems and the poles would detract from the visual environment in the project corridor and, therefore, they supported BRT.

Response: *Aesthetics can vary by personal preference, and comments were heard on both sides of the discussion. LRT would have visual elements not included with BRT, most notably the overhead wires and poles associated with the power supply system. The Preferred Alternative is being designed to be visually compatible with the community. Additionally, the Art-in-Transit program would be used to enhance or embellish structural elements (see Section 4.9 of the FEIS).*

D.4 Energy Efficient and/or Environmentally Friendly

Summary of Comments: Commenters stated that they believed BRT would be more environmentally friendly or energy efficient than LRT.

Response: *The AA/DEIS did a comparative analysis of the six alternatives to identify significant differences among them, including air quality, noise, vibration, and energy consumption. The Preferred Alternative was not chosen solely on the air quality, noise, and vibration impacts and energy consumption, but on many factors, including how well the alternative would meet the defined purpose and needs. As shown in Sections 4.7, 4.8, and 4.15 of the AA/DEIS, the impacts associated with air quality, noise, vibration, and energy consumption are minimal to none for all of the Build Alternatives. For a full description of the analyses of the BRT and LRT alternatives, see the AA/DEIS Air Quality Technical Report, and the Noise and Vibration Technical Report available on the Purple Line website. The analyses have been updated for the FEIS and are described in detail in Sections 4.10, 4.11, 4.12, and 4.19.*

D.5 Communities and Neighborhoods

Summary of Comments: Similar to aesthetics, comments varied widely on how BRT and LRT would affect communities. Some people felt that BRT would be less intrusive, while others felt that LRT provided a better, more lasting investment in the community.

Response: *Each mode would provide a new transit choice and improved mobility, and each could be designed to avoid or minimize adverse impacts to the surrounding community. The Preferred Alternative is being designed to be compatible with the sense of place of the community and to provide enhanced transit and improved bicycle and pedestrian facilities (see Section 4.3 of the FEIS.*

E. Support for the Jones Bridge Road Alignment

Summary of Comments: Approximately 200 commenters stated support for the Jones Bridge Road alignment as opposed to the Georgetown Branch right-of-way, most noting support for BRT. General comments relating to BRT are addressed in Section D—Support for BRT.

While some comments noted general support for the Jones Bridge Road alignment, other comments focused specifically on the potential for the Jones Bridge Road alignment to better serve the Medical Center area, which is located near the western terminus of the Jones Bridge Road alignment. Comments included:

- Ridership estimates and demand for service along Jones Bridge Road did not fully consider the growth in ridership that would result from the relocation of Walter Reed Army Medical Center (Walter Reed) to the National Naval Medical Center (NNMC) as part of the congressionally-mandated Base Realignment and Closure (BRAC) process. The NNMC was re-named the Walter Reed National Military Medical Center (WRNMMC) as a result of the BRAC process.
- The Jones Bridge Road alignment was not fairly considered because it was included only as part of the Low Investment BRT Alternative, which had slower service overall than the Medium and High Investment alternatives. Claims were also made that the MTA had not optimized the Low Investment BRT Alternative.
- The Jones Bridge Road alignment was not fairly considered because it was only evaluated as part of the BRT alternatives, not the LRT alternatives.

There were also some comments opposed to the Jones Bridge Road alignment. Many of these commenters also noted that the Georgetown Branch right-of-way was purchased for and planned to have rail in the future. These comments were made in conjunction with people expressing overall support for the project and are addressed in that location.

Response: *Over the course of project development, a variety of alternative modes and alignments have been evaluated as a means for providing fast, efficient, and reliable transit within the east-west Purple Line corridor. The AA/DEIS considered a wide range of alternatives in the alternatives screening stage, and then carried forward the following alternatives for detailed study: three BRT alternatives (Low, Medium, and High Investment), three LRT alternatives (Low, Medium, and High Investment), a TSM Alternative, and a No Build Alternative. The Low Investment BRT Alternative included an alignment along Jones Bridge Road. Under the Low Investment BRT Alternative, the BRT service on Jones Bridge Road would be mixed with traffic, rather than operating in a dedicated or exclusive lane.*

E.1 Effect of BRAC on Transit Ridership

Summary of Comments: Commenters stated that the changes resulting from the Base Realignment and Closure Act, which relocated Walter Reed Army Hospital to the National Naval Medical Center, would create a large demand for transit directly to the Medical Center. For this reason they supported the Jones Bridge Road alignment.

Response: *Generally, transit ridership modeling conducted using a methodology approved by FTA found that the projected volume of employment and population in downtown Bethesda far exceeds that of the Jones Bridge Road area and makes the planned Bethesda Station included in the Preferred Alternative the best location for this terminal station. As planned, the Bethesda Station has one of the highest projected ridership levels on the Purple Line, second only to the SSTC, and the Georgetown Branch right-of-way provides higher speeds, reduced travel times, and reliable service that provide benefits throughout the 16-mile system.*

Prior to release of the AA/DEIS, MTA was asked to study the implications of the BRAC process for transit ridership in the Bethesda area. In response to this request, MTA conducted two different analyses, one focusing on new work trips and one focusing on new visitor trips.[2]

In the first analysis, MTA assessed potential riders on the Purple Line resulting from BRAC employment shifts based on a geographic analysis of home locations for employees currently working at the Walter Reed campus (see Implications of the Defense BRAC Process, March, 2008). The findings indicated that ridership to the Medical Center area (following the relocation of Walter Reed) would not be greatly increased due to the dispersion of

[2] MTA, *Visitor Trips to the Walter Reed National Military Medical Center,* August 2008
MTA, *Implications of the Defense Base Realignment and Closure Process*, March 2008

employee home locations and the limited number of employees that are within the identified Purple Line service area. An estimated 60 peak hour trips would be added to the Purple Line daily ridership.

A second analysis was performed in 2008 to augment the earlier study and to assess the impact of the approximately one million annual visitor trips anticipated for the combined facility after it opened in 2011 (see Purple Line—Visitor Trips to the Walter Reed National Military Medical Center, August, 2008). This study used information provided in the March 2008 Department of the Navy Final Environmental Impact Statement (FEIS) for WRNMMC.

MTA analysis of potential visitor trips to the WRNMMC was conducted using methods to assume the highest possible figure for passengers who are patients and family members. The Medical Center considers patients and their family members as "visitors." Using data from the Medical Center about the place of residence of visitors, it was estimated that the maximum number of additional patient riders expected to utilize the Purple Line would be 149 daily. The combined total of daily visitors and employees that would use the Purple Line was estimated to be less than 250.

Even rounding up to 200 the numbers of patients and family members, and to 100 the number of employees, this is only 300 daily passengers. When compared to the projected daily ridership for the Build Alternatives, which ranged between 40,000 and 68,000, this increase would be a minuscule percentage of the projected ridership.

The WRNMMC FEIS offered several recommendations for mitigation measures to offset the projected traffic impacts of the BRAC action including adding or lengthening turn lanes and adding traffic signals. One additional recommendation for improvement from the WRNMMC FEIS pertains to transit and involved investigating the feasibility of a pedestrian connection between the Medical Center Metrorail station and the WRNMMC to reduce pedestrian and vehicle conflicts along Rockville Pike.

Since the publication of the WRNMMC FEIS, the intersection and transit access improvements recommended in that document have been the subject of several studies conducted by the SHA and Montgomery County, and many have begun to be implemented. These projects will facilitate greater, more efficient access to the Medical Center Metro Station, making transfers to and from Bethesda and the Purple Line more convenient.

When evaluating the Purple Line alternatives, the congested traffic conditions expected along Jones Bridge Road contribute travel delay to trips arriving from the east. For those traveling to the WRNMMC, it actually would be similar or faster to take the Purple Line to Bethesda via the Georgetown branch right-of-way, and then transfer to the Red Line for the trip north from Bethesda to the WRNMMC. If the Purple Line followed Jones Bridge Road, the attractiveness of travel to and from the Bethesda CBD from the east would be affected with the significant travel delay associated with travel along Jones Bridge Road and an overall reduction in ridership.

The Bethesda area exists today and in the future as a major employment and population center exclusive of the BRAC changes. The 2008 analysis showed that combined employment around the Medical Center Metro Station was expected to grow by over 6,000 jobs to 2030. The Bethesda CBD was expected to grow by 5,000 jobs in that same period. The BRAC changes, while large, were a small percentage of the expected 72,000 jobs in the Bethesda CBD / Medical Center area in 2030. This conclusion and trend is consistent with the 2040 horizon year employment projections used in this FEIS, indicating that even with the BRAC changes at WRNMMC, downtown Bethesda remains a far greater travel market.

The transportation and ridership models used in support of this FEIS have been updated to year 2040. This includes the most recently approved land use projections for the region, Metropolitan Washington Council of Governments (MWCOG) Round 8.0, which includes the BRAC-related and other planned changes in the project area. FTA has reviewed and approved of the model and methodology. The revised analysis and projections validate the findings of the previous analysis.

E.2 Consideration of Jones Bridge Road with Medium Investment BRT

Summary of Comments: Commenters stated that the Low Investment BRT Alternative, which used Jones Bridge Road, was not fairly evaluated because the Jones Bridge Road portion was linked to the Low Investment BRT alignment in the rest of the corridor.

Response: *As noted above, the alternatives carried forward for detailed study in the AA/DEIS included a Jones Bridge Road alignment as part of a Low Investment BRT Alternative. The initial decision to consider the Jones Bridge Road alternative solely as part of the Low Investment BRT Alternative was based on analysis conducted early in the planning process, when MTA evaluated the opportunity to widen Jones Bridge Road to add a dedicated transitway. This analysis found that the close proximity of residences to the road, the variation in grades (particularly at the eastern end of Jones Bridge Road), and the presence of federal facilities on the roadway, including WRNMMC, meant that widening Jones Bridge Road would be very difficult, with substantial impacts (see White Paper Medium Investment BRT Variations Service Medical Center Purple Line AA/DEIS, August, 2008). During the development of the AA/DEIS, the Town of Chevy Chase requested an analysis of a BRT alignment that used Jones Bridge Road in conjunction with the Medium Investment BRT Alternative, to serve ridership generated by the relocation of Walter Reed to the Medical Center. In response to that request, FTA and MTA analyzed a variation of the Medium Investment BRT that would use Jones Bridge Road, instead of the Georgetown Branch right-of-way, west of Jones Mill Road. This variation would connect first to the Medical Center and then head south along Wisconsin Avenue to downtown Bethesda. The main advantage of this variation is that it would provide a one-seat ride to the Medical Center and downtown Bethesda at the western end of the corridor, while also providing the benefits of the Medium Investment BRT Alternative in the eastern portion of the corridor (i.e., east of Jones Mill Road).*

The analysis of this variation found that it provide much slower transit service between Silver Spring and downtown Bethesda: with this variation, the travel time between those locations would have been 24 minutes, whereas the original Medium Investment BRT Alternative (along the Georgetown Branch right-of-way) would have completed this trip in 10 minutes. The longer travel time would result in a loss of more than 2,000 daily riders. The travel market in downtown Bethesda (defined as the number of residents and jobs near a proposed station) is almost twice the size of the Medical Center travel market (see FEIS, Figure 2-2). Based on this analysis, FTA and MTA decided not to carry forward a separate Medium Investment LRT Alternative that used the Jones Bridge Road alignment. For more information, refer to the FEIS Volume 2: Alternatives Technical Report.

E.3 Low Investment BRT Optimization

Summary of Comments: Commenters stated that the Low Investment BRT alternative should be optimized along Jones Bridge Road.

Response: *The Low Investment BRT is the least costly option for BRT developed and tested as an alternative to assess whether the least capital-intensive option meets the goals and objectives of the Purple Line project. As a consequence, Low Investment BRT does not include some features, such as dedicated travel lanes, which would require additional cost. The effect of running in mixed traffic without a dedicated travel lane or queue-jump lane has an effect on running time, and as a result, on ridership.*

MTA investigated signal priorities that could be implemented, but limited benefit could be achieved due to the levels of traffic on Jones Bridge Road and the dominant movements north-south on Connecticut Avenue and Wisconsin Avenue /Rockville Pike. The major radial roadways that cross the corridor, such as Connecticut Avenue, Georgia Avenue, New Hampshire Avenue, Riggs Road, Adelphi Road, US 1, Kenilworth Avenue, and Annapolis Road, are the major sources of delay and unreliability. These arterial roadways carry very heavy traffic flows into and out of Washington DC and other activity centers. There is very little opportunity to introduce signal preferences at these intersections without causing a major exacerbation of traffic congestion.

Queue jump lanes, which can provide a travel time reliability advantage enabling transit vehicles to get to the intersection and limit the delay to one or two traffic signal cycles, were included at several locations, including Jones Mill Road. This would allow westbound BRT vehicles to bypass traffic waiting to turn onto Wisconsin Avenue/Rockville Pike. Another westbound queue jump lane was included at the intersection of Connecticut Avenue and Jones Bridge Road. Finally, an eastbound queue jump lane was provided at the intersection with Jones Mill Road to allow BRT vehicles to turn right onto Jones Mill Road.

In 2009 Maryland State Highway Administration (SHA) developed plans for a number of intersection improvements to address projected traffic increases due to BRAC expansion. After reviewing the proposed improvements, it was apparent that it would be difficult to implement some of the queue jump lanes which had been proposed by the MTA for a Jones Bridge Road alignment, and any additional widening would potentially result in residential displacements.

The approach on Wayne Avenue is to have transit vehicles share the inside travel lanes with vehicular traffic. This is no different than the Low Investment BRT sharing travel lanes with traffic on Jones Bridge Road. What is different is the level of congestion and delay that exists on Jones Bridge Road. On Wayne Avenue, left turn lanes were added at key intersections to reduce delay. On Jones Mill Road, although left turn lanes exist and additional intersection improvements are recommended in support of the BRAC initiatives, these improvements would not alleviate the delay experienced by BRT vehicles that would have to travel this route.

E.4 LRT on Jones Bridge Road

Summary of Comments: Commenters stated that Jones Bridge Road should have been considered for a light rail alternative.

Response: *Light rail service along Jones Bridge Road would require reconstruction of the street for the installation of rails and catenary, impacts to National Institute of Health (NIH) including sensitive environmental areas (as described in the DEIS), right-of-way impacts, and slow speeds and operations due to traffic and signals. The narrow right-of-way at the eastern end of Jones Bridge Road would have resulted in substantial impacts to the adjacent residences due to the acquisition of property and the construction of retaining walls in yards. For this reason, a LRT alternative along Jones Bridge Road was not carried forward for detailed analysis in the AA/DEIS (see AA/DEIS, p. 2-3). The availability of the Georgetown Branch right-of-way, owned by Montgomery County and designated for use as a transitway and trail, and the potential to build a transitway within a nearly exclusive operating environment with few grade crossings, provide the opportunity for a transit service unimpeded by traffic conflicts and therefore allowing for reliable service and faster travel times between Bethesda and Silver Spring. For more information, refer to the FEIS Volume 2: Alternatives Technical Report.*

E.5 NIH and NNMC comments

Summary of Comments: Both the NIH and the former NNMC provided comments on the AA/DEIS. NIH recognized the value of an inter-county transit facility that would serve the region for NIH employees who now commute daily on congested roadways across Montgomery and Prince George's Counties and staff at the future WRNMMC. However, they noted that the Low Investment BRT Alternatives and the Medium Investment BRT alternative options (both of which would use Jones Bridge Road) would have negative impacts on NIH and Montgomery County's efforts to manage stormwater, the established campus perimeter buffer, and potentially, the archaeologically sensitive areas associated with the site. NIH noted that it would be opposed to those alternatives.

The NNMC staff was encouraged by the detailed and thorough analysis and commended MTA for their significant cooperation with local communities and organizations. They provided some specific comments and noted that Jones Bridge Road is highly congested in the AM and PM and could benefit by not having additional

transit traffic along this artery. Finally, they stated that they were certain that whichever alternative is ultimately chosen will encourage and provide efficient mass transit use, provide a sustainable transit solution for future growth, contribute to the attainment of regional air quality goals, and take into consideration existing and future employment concentrations.

Response: *Comment noted.*

F. Opposition to the Wayne Avenue Surface Alignment, Support for a Tunnel Under Wayne Avenue, and Opposition to a Station at Dale Drive

Summary of Comments: Approximately 120 comments opposed a Wayne Avenue surface alignment. Reasons for the opposition include concerns with loss of street parking; adverse traffic impacts; impacts to residential properties; vehicular and pedestrian safety; noise effects; and, slow transit operations on the surface.

Some comments supporting a tunnel on Wayne Avenue also cited support for a tunnel through downtown Silver Spring. Commenters felt that tunneling under Wayne Avenue would be cost effective, could be federally funded, and that an underground/tunneled section would cause less impact to the community on Wayne Avenue. Some comments raised questions about the accuracy of the traffic analyses; these comments are addressed in Section L, Transportation and Safety Concerns.

Another related issue was the proposed station on Wayne Avenue at Dale Drive. Commenters cited opposition to a station at this location, with questions about the estimated ridership and a concern that a station would prompt rezoning in the adjacent area.

There was also support for the Wayne Avenue surface alignment and specific support for a station at Dale Drive with a petition with 62 signatures. These comments are included in Section A—Support for the Purple Line as they are elements of the Preferred Alternative.

Response: *As part of the Purple Line's development and in the process of selecting a Preferred Alternative, a number of alignment options were evaluated for the area between the SSTC and Long Branch, where there are several design challenges including the steep grades of the Sligo Creek stream valley and the absence of a major east-west commercial roadway. The MTA evaluated the alignment options in this portion of the Purple Line corridor and identified a surface alignment along Wayne Avenue as the most desirable alignment for the Preferred Alternative (see Purple Line Evaluation of LRT Options between the SSTC and Mansfield Road, September 2009). This alignment would include the addition of left turn lanes at key intersections (see Section 3.2.4 of the FEIS). Classified by Montgomery County as an arterial roadway but primarily residential in character, Wayne Avenue is currently a well-used transit route and the major transportation corridor through the area.*

F.1 Surface Alignment

Summary of Comments: Commenters opposed a surface alignment on Wayne Avenue due to concerns about visual impacts, pedestrian safety particularly for school children, and potential roadway widening.

Response: *Working to address community concerns throughout the alternatives development process, the MTA refined the surface alignment to include key design elements. Because the transitway would share the center lanes with vehicular traffic, on-street parking could continue during off-peak periods in most areas. In addition, because left turn lanes would be added at key intersections, overall traffic operations would improve along the corridor (relative to the No Build Alternative), even with the addition of the Purple Line. Left turn lanes would be added at Cedar Street, Dale Drive, and Manchester Road.*

Further, a surface alignment on Wayne Avenue with the light rail vehicles sharing the center lanes with vehicular traffic would require acquisition of minimal amounts of private property, with most of the impacts being near the intersections due to the addition of turn lanes.

The Preferred Alternative is being designed to be a safe and efficient system (see Sections 3.2.4 and 3.3.3 of the FEIS). Pedestrian and bicycle enhancements would be included throughout the corridor. With the construction of the proposed Purple Line on Wayne Avenue, pedestrian crosswalks and pedestrian signals would be provided to maintain a safe crossing for pedestrians at the existing intersections of Fenton Street, Cedar Street, Dale Drive, Mansfield Road, and Sligo Creek Parkway. An additional traffic signal with associated pedestrian signals and crosswalks is proposed at Wayne Avenue at Plymouth Tunnel. The light rail would operate in shared lanes and would travel at the posted speed limit of 30 mph. The light rail would essentially operate in lanes similar to a bus that would travel along Wayne Avenue. In the vicinity of Dale Drive, the school zone speed limit would be maintained at 25 mph for both light rail and automobile traffic. The addition of dedicated left turn lanes at key intersections and a left turn phase as part of the signal would improve traffic operations and further promote safety along the corridor.

F.2 Extension of the Green Trail

Summary of Comments: Commenters noted the proposed Montgomery County Green Trail along Wayne Avenue. Some expressed concern that a surface alignment would eliminate the trail.

Response: *The sidewalks along the south side of Wayne Avenue within the Purple Line corridor would be reconstructed. Although a separate project funded by Montgomery County, the 0.7-mile extension of the Green Trail, a shared use path in Silver Spring, would be built with the Purple Line, replacing the sidewalk on the north side of the road. When completed, it would extend from the SSTC to the Sligo Creek Trail, providing pedestrians and bicyclists with at least an 8-foot-wide shared use path between these two areas.*

F.3 Noise

Summary of Comments: Commenters stated concern that a surface alignment on Wayne Avenue would raise noise levels in the community.

Response: *Wayne Avenue is a popular route that carries high volumes of vehicular and bus traffic. As such, there is existing traffic-related noise. The addition of light rail to the existing roadway would not increase noise levels by a noticeable amount since the light rail vehicles would be designed to minimize noise with the incorporation of vehicle skirts (see Section 4.11 of the FEIS). Additionally, by using the shared lane design, roadway traffic would not be shifted closer to the majority of residences, avoiding an increase in traffic noise.*

F.4 Tunnel Options

Summary of Comments: Commenters supported a tunnel option under Wayne Avenue.

Response: *In response to concerns expressed by residents along Wayne Avenue and at the request of the Montgomery County Council and the County Executive, MTA conducted a detailed comparative analysis of all options along Wayne Avenue, including an additional underground tunnel alignment extending from the SSTC to a tunnel portal between Mansfield Road and Sligo Creek Parkway (see Purple Line Evaluation of LRT Options between the SSTC and Mansfield Road, September 2009* in *Supporting Documentation of Alternatives Development (2013) for the analysis).*

Several tunnel options along Wayne Avenue were studied and they were found to have substantial impacts at the portal areas, including residential displacements, right-of-way impacts, traffic and access impacts, impacts to parkland and recreational areas, and high costs ($352 million for the tunnel compared with $179 million for the at-grade in shared lanes with added left turn lanes).

Between three and four residences on Wayne Avenue would have been potentially displaced as a result of the widening necessary to accommodate a tunnel portal and maintain two lanes of traffic in each direction. The tunnel would also impact the residences on the south side of Wayne Avenue, which are above the grade of the roadway,

with short steep driveways. The street widening required for a tunnel portal would have required property acquisitions from the front yards and driveways of these houses, as well as retaining walls in the front yards. In addition, left turn access into and out of driveways would have been eliminated for the 3 residences not displaced in the portal area. The tunnel option with the portal between Mansfield Road and Sligo Creek Parkway would also result in additional impacts to the school and park properties.

In addition, due to the increased costs associated with underground stations, the tunnel option did not include the stations at the Silver Spring Library and Dale Drive. As a result, no stations occur between the SSTC and Mansfield Place, an approximate 1 ½ mile stretch which otherwise would have served the residents of Silver Spring.

The affordability of the Purple Line project is a critical consideration when evaluating proposed alternatives. The MTA concluded that the high costs associated with a tunnel alignment along Wayne Avenue, along with the impacts to transit accessibility and residents in the portal areas, would be cost prohibitive (see Section 2.2.3 of the FEIS). When assessing the costs associated with tunnel options, the MTA considered both the Federal cost-effectiveness ratios prescribed by FTA as well as the overall cost in terms of affordability.

F.5 Dale Drive Station

Summary of Comments: Commenters opposed a station on Wayne Avenue at Dale Drive for a variety of reasons, often concern about rezoning around the station for new development.

Response: *Regarding a station at Dale Drive, the AA/DEIS included a station at this location to serve the surrounding residential community (see Table 2-5 of the AA/DEIS). After the AA/DEIS was issued, Montgomery County requested that the station be noted as "Under Study" in order to further assess the community's concerns regarding the need for the station and its impacts, but also recommended that the Purple Line be designed to accommodate the station in the future by providing space for the station platform and other amenities. The LPA, as announced by the Governor in 2009, included a commitment to study postponing the construction of the Dale Drive station. The FEIS states that the Preferred Alternative includes a station at the intersection of Wayne Avenue and Dale Drive (see Section 2.3.2 in FEIS).*

The Dale Drive station has been further refined throughout Preliminary Engineering; these refinements are reflected in the Preferred Alternative. Refinements include the addition of a left turn lane from westbound Wayne Avenue to southbound Dale Drive, improved access to the Silver Spring International Middle School to address safety concerns, and an offset of the travel lane to the platform edge. During this phase of the study, the ridership model and estimates were also updated. This update included a greater refinement of the zones surrounding the stations and the subdivision of zones, where appropriate, to more accurately project ridership. This update resulted in a reduction of anticipated ridership at this station, lower than presented in the AA/DEIS, because the refinements showed more trips would originate at the Silver Spring Library station.

FTA and MTA recognize that the area around Wayne Avenue and Dale Drive is a well-established, dense residential area. Montgomery County has no plans to re-zone this area due to the implementation of the Purple Line, and the County Council has confirmed this in a unanimous resolution signed February 26, 2008.

G. Suggestions to Consider other Modes of Transportation and/or Technologies

Summary of Comments: Approximately 30 comments included suggestions to consider other modes or technologies including heavy rail, tram/trolley, monorail, maglev, "rubber-tired" trains, and diesel and wireless technologies. Many of the people supporting heavy rail expressed their desire that the Purple Line be fully integrated with the WMATA Metrorail system.

Response: *Many of these modes were considered early in the scoping and planning process. Others were considered during the AA/DEIS phase and some are being tracked as the project moves forward. The MTA will continue to*

monitor the development and operational experience of wireless systems and as the design progresses and the time comes for vehicle selection, one of these systems may emerge as the most appropriate for portions of the Purple Line.

Following is a discussion of the reason each mode/technology was eliminated as an alternative for this project.

G.1 Other Modes

Summary of Comments: Commenters supported the use of heavy rail like the Washington DC Metro.

Response: Heavy Rail—*Heavy Rail transit options were examined as an option for this corridor several times within the project's history as documented in the East-West Transitway Feasibility Study (1986), Capital Beltway/Purple Line Study: Initial Findings and Recommendations (2002) and Bi-County Transitway Metrorail Loop Proposal: Alignment Evaluation (2005). These studies eliminated Heavy Rail as an alternative due to the high costs and limited return on public investment, as described below.*

WMATA's Metro system is a heavy rail system. It is powered by a high voltage "third rail" on the ground within the trainway. Because of the presence of the third rail and the potential danger of it, Metrorail must be in exclusive rights-of-way with no vehicular or pedestrian crossings of the tracks. Therefore, the entire system is fenced off to prevent anyone from accessing the track. Often the Metrorail tracks are elevated or located in tunnels. As outlined above, during the initial project development and scoping phase of the Purple Line, prior to the publication of the AA/DEIS, heavy rail was studied. It was deemed inappropriate to meet the goals and objectives established for the Purple Line. It would not optimize public investment, as costs would far exceed those of light rail, while very few additional benefits would be offered. It would also have high levels of community impact due to the need for an exclusive right-of-way. Light rail was determined to best serve the proposed project corridor's identified purpose and need and is much more flexible in design and can fit into the surrounding communities.

While it was determined that the Purple Line would be a light rail system, the connections to Metro remain an important aspect of the project. Station locations have been selected to provide convenient connections between the Purple Line and Metro. At Bethesda, the Purple Line station is planned directly above the Metro platform. The Purple Line would be directly connected to Metro through the new Bethesda Metro South Entrance project (being designed and funded as a separate project by Montgomery County) which includes elevators from Elm Street down to the Metro station. The elevators would include a stop at the Purple Line level for direct connections between the stations. In Silver Spring the Purple Line station would be located above the Metro platform, between the new SSTC and the existing railroad tracks. The Purple Line station access would be incorporated into the transit center with connections via elevators, stairs, and escalators to Metro and MARC commuter trains. At both College Park and New Carrollton, the MTA has located the Purple Line station platforms as close to the Metro entrances as possible.

Summary of Comments: Commenters proposed the use of a tram or trolley system.

Tram/Trolley—*The tram and trolley systems proposed in the comments were compared to the streetcars of the late nineteenth/early twentieth century. They are typically single car trains that are smaller and carry fewer passengers than typical light rail vehicles. The Preferred Alternative includes two-car trains, each car being larger than the typical tram or trolley car. A trolley/tram system would have limited passenger capacity. Without the addition of many more vehicles, the system would be unable to accommodate projected future ridership.*

Summary of Comments: Commenters proposed the use of Monorail technology for the Purple Line.

Monorail—*Monorail was dropped from further consideration as it would substantially add to the cost of the project and was determined to be an ineffective public investment that would not meet the desired operating capacity while operating within the constraints of the corridor. Monorail systems are based on a single rail, which acts as its sole support and guideway. Monorails are typically, but not exclusively, elevated and almost all modern monorails are powered by a "third rail" or electrified channels attached to or enclosed in their guidance beams.*

Therefore, they are always separated from other traffic and pedestrians similar to heavy rail. Monorail was considered during the Capital Beltway Purple Line Study and FTA/MTA concluded that it would not be a reasonable alternative based on capital costs, environmental/community impacts, and the other factors outlined above.

Summary of Comments: Commenters proposed the use of Maglev technology for the Purple Line.

Maglev—*Maglev (derived from magnetic levitation) is a system of transportation that uses magnetic levitation to suspend, guide and propel vehicles with magnets rather than using methods such as wheels, axles and bearings. Some but not all maglev systems are considered monorails (see above). Similar to heavy rail and monorail systems, maglev is always separated from other traffic and pedestrians and is typically elevated on structure. Maglev was dropped from further consideration as it would substantially add to the cost of the project due to its cost and the need for an exclusive right-of-way, would not achieve the full benefits of Maglev due to the constraints of the corridor and station spacing, and would not optimize public investment.*

Maglev trains move more smoothly and somewhat more quietly than wheeled mass transit systems. However, the noise is more comparable to highway noise and tends to be more noticeable. One of the key benefits cited for modern maglev systems is the higher speeds that can be achieved compared to other rail systems. However, the close spacing of the Purple Line stations limits the potential speeds in many portions of the corridor. Maglevs are generally unaffected by weather although they have not operated in a full range of weather conditions. Maglev is more expensive to construct but may require less maintenance as there is less wear between the wheels and the tracks than on conventional rail systems.

Summary of Comments: Commenters proposed the use of rubber-tired trains for the Purple Line.

Rubber-Tired Trains—*The rubber-tired trains proposed are a mix of rail and roadway technologies. They use rubber tires instead of steel wheels. They are designed in a transitway with guide bars that the rubber tires follow and sometimes have traditional railway steel wheels and steel tracks to address flat tires and facilitate crossovers. Most often, rubber-tired trains that are in use are powered by a "third rail" and therefore require an exclusive right-of-way. They were proposed for the benefit of reduced noise and visual effects as compared to the light rail alternatives.*

Rubber-tired systems can have smoother rides, faster acceleration/deceleration, less noise, and can climb steeper slopes. However, they can have higher energy consumption, are susceptible to tire blow outs, and can lose some of their traction advantage in inclement weather. In order to achieve a rubber-tired system without the visual effects of an overhead catenary system it would have to be designed with a "third rail" and require an exclusive right-of-way. Similar to the other modes requiring an exclusive right-of-way, rubber-tired trains were determined to substantially add to the cost of the project due to its cost and the need for an exclusive right-of-way, and therefore would not optimize public investment.

Summary of Comments: Commenters proposed the use of Diesel Light Rail Vehicles for the Purple Line.

Diesel Light Rail—*MTA conducted "A Comparison of Diesel Light Rail Vehicles to Electric Light Rail Vehicles, with Reference to the Purple Line" in April 2009 (see Supporting Documentation on Alternatives Development). The study concluded that the currently operating diesel electric vehicles are not appropriate for the Purple Line for a number of reasons. Chief among these is the inability of diesel vehicles to make tight turns, their slower acceleration, lower passenger capacity, and no ability to allow true low floor boarding.*

Summary of Comments: Commenters proposed the use of high speed gondolas for the Purple Line.

High Speed Gondolas*—The high speed gondolas proposed were similar to those found at ski resorts. High speed gondola systems in operation today have maximum speeds of approximately 13.5 mph. This would not provide the level of service required to provide an efficient alternative to current conditions and would reduce the projected ridership.*

G.2 Wire-Free Light Rail

Summary of Comments: Commenters asked MTA to consider "wireless" technologies for at least portions of the alignment in visually or environmentally sensitive areas—that is, transit vehicles that do not require overhead wires.

Response: *MTA is not opposed to the consideration of vehicles which could minimize impacts such as reducing the visual effects and concerns about tree branches overhanging the transitway in areas such as the Georgetown Branch right-of-way. These systems may also eliminate the need for some poles and wires and reduce the number of TPSS that are required. There are vehicles currently under development with other propulsion systems that do not require overhead wires; however their use is limited and there is not sufficient information on their operations or reliability. Depending on the technology, some vehicles are heavier with on-board batteries (sometimes reducing the person-carrying capacity) and can have operating limitations including running speeds, grades, and limited distance that they can run without recharge or overhead wires.*

H. Opposition to Build Alternatives or Options not included in the Preferred Alternative

Summary of Comments: Approximately 20 commenters expressed opposition to build alternatives or options that were analyzed in the AA/DEIS but are no longer under consideration in this FEIS, because they were not included in the Preferred Alternative. These comments included:

- Comments opposing BRT alternatives (the Preferred Alternative includes LRT)
- Comments opposing the Jones Bridge Road alignment (the Preferred Alternative follows the Georgetown Branch right-of-way)
- Comments opposing a tunnel along Wayne Avenue (the Preferred Alternative follows a surface alignment on Wayne Avenue)
- Comments opposing a tunnel in Silver Spring (the Preferred Alternative follows a surface alignment in Silver Spring)
- Comments opposing the Silver Spring Avenue/Thayer Avenue alignment option (the Preferred Alternative follows Wayne Avenue)
- Comments opposing an alignment along Preinkert Drive/Chapel Drive through the UMD (the Preferred Alternative follows Campus Drive through the UMD campus)

Response: *The opposition to each of these alternatives/options is noted. None of these is part of the Preferred Alternative, and none is recommended for further study or development relative to the proposed Purple Line project.*

I. Cost/Funding

Summary of Comments in General: Approximately 100 people commented on project costs, cost-effectiveness, and funding of the project. Commenters were concerned with how the project costs were calculated, the cost to build and maintain the project, and the high cost per rider. Positive comments were also received requesting that the project be designed in a cost-effective manner that will not slow down the implementation of the project, and that the best system that project costs will allow should be built. Comments were also received on corrections that should be made to tables in the *Operating and Maintenance Cost Technical Report*, dated September 2008. Corrections to the tables have been made and are included in the revised Technical Report, dated August 2013.

Response: *Corrections to the tables have been made and are included in the revised Technical Report, dated August 2013.*

I.1 Calculation of Costs

Summary of Comments: Comments stated that the AA/DEIS and accompanying technical reports do not contain the supporting data and analyses that the public need to fully evaluate the accuracy of MTA's calculations and methods MTA used to make these calculations. MTA failed to include replacement cost estimates in its capital cost estimates.

Response: *Chapter 5 of the AA/DEIS describes the costs and funding for the alternatives. The Operating and Maintenance Cost Estimate Technical Report and the Capital Cost Estimating Methodology Technical Report provide further detail of the methodology and the assumptions used for each analysis. Chapter 6 of the AA/DEIS then describes the factors involved in the evaluation of alternatives and the calculation of the cost effectiveness of each alternative, following FTA's New Starts process.*

Since the AA/DEIS, the selection of a LPA and its subsequent refinement allow the MTA to present a better estimate of capital and operation and maintenance (O&M) costs. Currently, the estimated cost to construct the Purple Line is $2.152 billion in year of expenditure dollars, and the annual O&M cost is estimated to be $38 million in 2012 dollars (see Chapter 2 of the FEIS).

The capital cost estimate in the AA/DEIS Table 5-1 is for the initial construction and start-up of the alternatives. The Equivalent Annual Cost used in FTA Cost Effectiveness Indices accounts for ASSET REPLACEMENT COST by incorporating "Years of Useful Life" for each major component category of the alternatives' capital cost estimate into the calculation and applying the discount rate discussed in the comment above. For instance, buses, as would be the primary vehicle purchase in the TSM and BRT alternatives, have a useful life of 12 to 18 years and light rail vehicles, the primary vehicle purchase in the LRT alternative, have a useful life of 25 years. Maintenance and upkeep of the vehicles are covered in the O&M Cost Estimate, shown in Table 5-2 of the AA/DEIS.

FTA reviewed the analysis and findings for the appropriateness of the methodological approach and data used given location and nature of the alternatives. When the information for the Preferred Alternative was submitted for the Request to Enter Preliminary Engineering, FTA accepted the information and the manner in which it was prepared.

As requested by certain parties, the MTA provided additional supporting information in manner required under the Maryland Public Information Act. The information provided by the MTA was sufficient to allow for an informed review of the information contained in the Purple Line AA/DEIS.

Following are specific items that commenters questioned:

Inflation Adjustments*—The AA/DEIS capital cost estimates (Table 5-1) and the Annual O&M Costs (Table 5-2) were shown as being in 2007 dollars. As pointed out in the comments, the capital cost estimates were adjusted for prices as of September 2007 (Third Quarter) and the O&M costs were adjusted for prices as of Second Quarter 2007. It is acknowledged, as pointed out in the comment, that there is a one quarter of a year difference in the price indices adjustment basis for the estimates. The AA/DEIS estimates are planning level estimates and the de minimis difference from this one quarter of a year price indices adjustment would be within the rounding of the numbers presented and has no material effect on the usefulness of the information.*

Inflation Rate*—The application of inflation rates in this case was not to the operation of an industrial construction project, but rather to the operation of a well-established (in operation for more than ten years at the time that the estimates were prepared), pre- existing government function that was well integrated into the regional economy. For this reason, it was deemed at the time that the CPI, the most broad-based measure of inflation in the regional economy during that time period, was the appropriate inflation rate to use. A different methodology that*

applies differential inflation rates to various cost elements is in use today, and the need to inflate old costs has been eliminated by FTA's guidance for which data is available. However, this was the way inflation of earlier year costs was typically approached at the time that these estimates were prepared.

***O&M BRT Guideway and Station Costs**—Experience with BRT, as with LRT, systems indicates that the vast majority of the cost of maintaining stations and guideway is related to labor costs. For example, MTA's labor costs non-vehicle maintenance (basically, running way and stations) averaged $7.6 million from 2003-2005 (as shown in Table 3-3). Non-Vehicle Maintenance Materials and Supplies was under $420,000, less than 6 percent of the corresponding labor cost and less than 1 percent of the total O&M cost. BRT guideway and station maintenance non-labor costs (excluding replacement/life cycle costs, which are not included in the estimates) are even lower than those of light rail. However, there is precedent within the Baltimore-Washington area for what the cost of these items was likely to be, and very little data available from other agencies in the National Transit Database (NTD) to guide the development of the non-labor cost elements of station and running way estimates. The NTD has since taken to asking agencies to separate BRT costs from those of other agency operations, but this data was unavailable at the time of the preparation of the AA/DEIS. Given the methodological uncertainty in assigning a number to these non-labor maintenance costs, and the very small amount of cost involved (less than 1 percent of the total O&M cost), the non-labor cost was omitted as it would have little effect on the integrity of the model or of the cost estimates.*

***O&M Vehicle Operations Materials and Supplies Costs**—All of the cost factor spreadsheets (Tables 3-3 through 3-5 of the Operating and Maintenance Cost Estimate Technical Report) assign "miscellaneous expenses" under Vehicle operations, materials and supplies to the peak vehicles factor. The issue is that Montgomery County assigned a large amount of expenses ($5.7 million, about 8% of its total annual operating cost for the years analyzed) to this category, whereas the other agency's assigned little or nothing to it. However, the model is applied consistently, and what expenses that were assigned to this category were included under the peak vehicles factor. For example, in Table 3-4, WMATA assigned $981 to this category, and this amount was assigned to the peak vehicles factor.*

***O&M Cost Validation Process**—The point of the validation was to prove that the variation within data for the years included in the model did not invalidate the model. The validation process followed the standard practice at the time of the AA/DEIS. FTA guidance now recommends that cost estimates be based only on a single, most recent available, year. Thus, the need for this internal validation has been eliminated.*

***Comparison to Other Transit Systems**—Comparison with other operating agencies was not included in the O&M cost estimating approach. Comparison with other agencies can be misleading, in that each agency has individual and regional variations in their labor market and practices, operating and maintenance standards, weather and operating conditions, passenger volumes, station spacing and many other elements of the operation and its operating environment. In this case, by far the obvious choice for development of the LRT cost model was the MTA's Baltimore LRT system, which is operated by the same agency and operates within the same regional economic and labor market. Generally, estimates only use data from a different agency in cases where a new mode is being added to the region. The proposed Purple Line is in a much more populous region, with a much higher cost of living, than most other US regions served by LRT. It is to be located in an area of much higher development and population/employment density than prevails in the areas served by most light rail systems in the United States. Projected ridership on the Purple Line system is higher than many other systems, and for these reasons it is likely that the Purple Line will be more efficient and productive, as measured in O&M cost per passenger, than most other US LRT systems.*

I.2 Cost Effectiveness

Summary of Comments: Commenters were concerned with the high cost of the project, and whether the benefits justify the cost.

Response: *The cost of the project has to be considered in light of its expected benefits, which include serving 74,160 riders daily and saving those using the system a total of over 34,800 hours daily. It provides a new, more reliable transit choice with improved transit travel times and access to other existing transit services and Metrorail across the corridor. It will also connect communities and provide access to housing and employment throughout the corridor and beyond. It results in a very cost-effective project when evaluating the cost per user benefit.*

The MTA and the State of Maryland believe that the benefits of this long-term transportation investment will justify the cost. Project funding is expected to be approximately 50 percent state and local and 50 percent federal. While the Purple Line would compete for funding with projects from all across the country, the Purple Line is competitive in projected ridership, cost-effectiveness, user benefits, and many other areas as compared to other projects receiving federal funds. The state of Maryland is identifying funding options for this priority project.

The design of the Preferred Alternative is the result of the environmental analysis, input from agencies, and the continued involvement of the community. Throughout the development of the Preferred Alternative, the MTA made refinements to reduce overall project costs and to maintain a cost-effective project while providing a high quality system.

I.3 Project Funding

Summary of Comments: Commenters were concerned that the State of Maryland does not currently have the money to fund its share of Purple Line costs; the availability of using the Transportation Trust Fund (TTF) funds is highly speculative since the TTF is facing substantial revenue shortfalls; the MTA has not demonstrated that is has a reliable plan for providing the funds necessary to finance the nonfederal portion of the project's capital needs, as well as the entirety of the funds needed to maintain and operate the system.

Response: *Currently, MTA and the State of Maryland anticipate being required to provide a fifty percent match of the estimated $2.2 billion in year of expenditure (YOE) dollars required for construction. In March 2013, the Maryland General Assembly approved the Transportation Infrastructure Investment Act of 2013. The Act will provide an average of $800 million annually to address a backlog of transportation maintenance and expansion projects, and is projected to support more than 8,800 jobs each year. In addition to supporting highway and transit projects throughout the State, the Act will provide critical funding for the Purple Line which will allow the engineering and property acquisition phases to proceed.*

An Application to Enter Preliminary Engineering (PE) was submitted the Federal Transit Administration (FTA) for the Purple Line LPA that was identified following the completion of the Purple Line AA/DEIS comment period. On October 7, 2011, FTA approved the Purple Line Preferred Alternative for Entry into Preliminary Engineering based on its rating of the application against its criteria. FTA stated in the Congressional 10-Day Notification attached to its letter of October 7, 2011 to Mr. Ralign T. Wells, Administrator, MTA, from Brigid Hynes-Cherin, Acting Administrator, FTA Region III: "The FTA has received sufficient project justification and local financial commitment information from the MTA to determine that the project meets the eligibility criteria and all other New Starts requirements to advance into PE." FTA project justification criteria include FTA's cost-effectiveness index measure. The MTA's Purple Line financial plan was the basis for FTA determination of the financial commitment.

I.4 Concerned About Underestimation of Costs

Summary of Comments: Commenters suggested that the new south entrance to the Bethesda Metro should not be excluded from the cost of the project, even though it is financed and undertaken by others. The commenters suggested that the same applies to the additional cost of construction and maintenance of the trail, even though maintenance will be Montgomery County's responsibility.

Response: *Chapter 5 of the AA/DEIS describes the costs and funding for the alternatives. The Operating and Maintenance Cost Estimate Technical Report and the Capital Cost Estimating Methodology Technical Report provide further detail. Chapter 6 of the AA/DEIS then describes the factors involved in the evaluation of alternatives and the calculation of the cost effectiveness of each alternative, following FTA's New Starts process.*

The Bethesda Metro South entrance is an independent project. It was planned and financed by Montgomery County as a separate initiative, which began in 1989 with a recognized need for improved Metrorail Red Line access for downtown Bethesda. Construction of the new Bethesda Metro southern entrance will be closely coordinated with the Purple Line construction. The entrance, without the Purple Line, is expected to draw an additional 700 trips by 2030 and will improve the access for the existing 9,000 trips using this station, many of which presently use the less-convenient north entrance. The existing Red Line Bethesda Station was built anticipating a future entrance to the south with "knock out" walls placed at the location of the new entrance. If the Purple Line LRT does not advance, the Bethesda Metro Station south entrance still will be constructed.

The Purple Line would take advantage of this planned and funded improvement. New projects that incorporate existing or planned improvements undertaken by others are not required to reflect the cost of those other projects in the new project cost estimate.

Regarding the cost of the trail, Montgomery County purchased the right-of-way of the Georgetown Branch in 1988 and has maintained the trail since that time, including significant capital investments, such as the rehabilitation of the Rock Creek Trestle. The trail would be a County-owned and maintained facility. The proposed improvements to the trail will be funded by Montgomery County. The trail would continue to be maintained by Montgomery County while MTA would maintain the transitway right-of-way and associated design elements. The impacts of the trail have been assessed in this FEIS; however funding of the trail would come from Montgomery County. Initial funding is included in their current Capital Improvement Plan. To better estimate total costs, the County-portion of the cost of the project has been included in Chapter 2 of this FEIS.

J. Ridership

Summary of Comments: Approximately 20 people commented that the ridership estimates are flawed or usage is being overestimated or underestimated. Concerns include not using market research or local employment projections (New Carrollton TOD, BRAC, etc.) to estimate demand (leading to underestimated ridership projections), using assumptions that are too aggressive (leading to overestimated ridership projections), as well as general concerns regarding methodology. One commenter noted that the Purple Line would only generate approximately one percent increase in total regional transit ridership over the No Build Alternative. One commenter noted that by comparing MTA's Purple Line LRT ridership estimates (59,000 to 68,000 riders per day) to the actual ridership average for comparable systems (40,000 to 45,000 riders per day) suggests that the AA/DEIS ridership figures may be 40% too high. The commenter also noted several errors and disagreements with the application of FTA formulas.

Response: *The methodologies for travel demand analysis are summarized in Section 3.1 of this FEIS and are described in detail in the Purple Line Travel Forecasts Results Report, March, 2013. As requested by certain parties, the MTA provided additional supporting information in manner required under the Maryland Public Information Act. The information provided by the MTA was sufficient to allow for an informed review of the information contained in the Purple Line AA/DEIS.*

The ridership on a given transit service is a function of many factors: the overall travel market is a function of the residential population, the employment, the regional and corridor travel patterns, and the type and location of commercial, retail, institutional and recreational destinations—among other factors. The usage of the specific service is influenced by the attractiveness and quality of the service relative to other travel options (autos and other

transit services), including the travel time, number of transfers, fares, convenience of access (how much time does it take to access stations and get to the destination), and other attributes of perceived benefits and costs.

The methodologies for travel demand analysis are established in the transportation planning industry and are reviewed and approved by FTA. FTA reviewed the MWCOG model at the beginning of the analysis. Per their guidance, an on-board transit riders' survey of the bus and rail services was conducted to aid in updating the model. FTA reviewed the updated model, and the initial and final results were used in AA/DEIS. Subsequent to the AA/DEIS, FTA reviewed the results and approved the forecasts for the Preferred Alternative to be used for the Application to Enter Preliminary Engineering. The Preferred Alternative was approved for Entry into Preliminary Engineering by FTA.

J.1 Increase in Regional Transit Trips

Summary of Comments: Commenters pointed out the growth in regional transit trips in 2040 due to the Preferred Alternative is small and provided this as evidence that the project would not be very effective and would only provide a small benefit.

Response: *It is true that the growth in regional transit trips in 2040 due to the Preferred Alternative is small, 28,627 or 1.7%. However, the region covered in the MWCOG model contains 22 jurisdictions and about 6,800 square miles and includes Washington, DC and parts of three states: Maryland, Virginia, and West Virginia; therefore it is not surprising that changes due to the Purple Line would only be relatively small. The daily trips in the Purple Line corridor are projected to be 69,300 for work and non-work trips in 2040 rising to an estimated 74,160 with the addition of UMD student, special event and special generator trips (See FEIS Table 3-4). While all of these are not new transit trips, the service provided by the Purple Line will be faster and more direct.*

J.2 Methodology

Summary of Comments: Following are specific items that commenters questioned in the travel forecasting methodology or results.

Response: Trip Ends*—The comment points out an issue with the presentation of "trips" and "trip ends". The label of Table 1-2 of the AA/DEIS should have read "Daily Transit Trip Ends, by District, 2000. Similarly, on page 1-8, the text in the first column, third paragraph, should read "transit trip ends" instead of just "transit trips."*

The statement on page 1-8, the text in the first column, third paragraph "By the year 2030, daily transit trips are forecast to grow by 52 percent or from 953,000 to 2,711,000" should read "By the year 2030, daily transit trip ends are forecast to grow by 52 percent or by 933,000 to 2,711,000". The 52 percent calculation is correct.

Notwithstanding these typographical errors, the point of the discussion—that transit usage in the region and the corridor will grow between the year 2000 and the year 2030—is not affected.

Fare and Transfer Policies*—Tables 2-6 through 2-8 in the AA/DEIS summarize the fare and transfer policies used in the ridership model. Metrobus does not charge a transfer fare, TheBus charges between $0.25 and $0.50 for transfer between bus and rail, and Ride On charges no transfer for local bus transfers and $0.35 for rail to bus transfers. Consequently, the current transfer policies used in the Purple Line corridor represent a range of costs from free to $0.50. The AA/DEIS further states that transfers between Metrobus and Metrorail and the proposed LRT will initially be free, and fare policies will be re-examined as the project advances. Transfers to Metrobus would be free, and transfers to other local services would be equal to existing bus-to-bus transfer policies. The assumptions and methodologies are shown in detail in the Travel Demand Forecasting Technical Report, 2008.*

Assumed Walking Radii*—Chapter 6 of the AA/DEIS references the radii within which people will walk to the station; typically ¼ to ½ mile; the ridership analysis used the ½ mile radius.*

Comparison to Existing Transit Lines—*Making a comparison of one transit line to another strictly on the basis of length of the systems (especially one with half the number of stations) is not a valid or reasonable comparison. As the comment acknowledged, comparing current ridership levels to the Purple Line alternative forecasts some 20 years in the future is not a reasonable comparison. The assertion that the AA/DEIS ridership figures may be about 40% too high by comparison to other LRT systems is not reasonable.*

User Benefit—*Table 6-3 of the AA/DEIS shows transportation system user benefits (TSUB) and the resultant Annualized Cost per Hour of User Benefit for each alternative, including the TSM alternative. A TSUB can be calculated relative to any two alternatives tested in the regional travel forecasting model; thus, a TSUB can be calculated for the TSM alternative relative to the User Hour Future No Build. While the most common application of the TSUB and the Annualized Cost per Hour of User Benefit is for the New Start process, these measures can also be used as part of an evaluation of a set of alternatives in an AA/DEIS. For the Purple Line AA/DEIS, the TSM alternative was one of the alternatives under consideration and therefore, in order to provide information on benefits and costs on a comparable basis, these measures were calculated relative to the No Build Alternative.*

K. Environmental and Social Concerns

Summary of Comments in General: Approximately 150 comments addressed specific sections of the AA/DEIS and the Purple Line's potential impacts to the environment. Many general comments agreed with the findings contained in the AA/DEIS, with people noting that some environmental loss is expected but should be limited and replaced where possible (e.g., planting new trees and sod). Other comments expressed a feeling that FTA and MTA have not done a complete and objective evaluation of the environmental impacts, specifically of putting the Purple Line along the Georgetown Branch right-of-way. Responses to the specific issues associated with the alignment along the Georgetown Brach right-of-way, consideration of BRT along Jones Branch Road, the alignment along Wayne Avenue, and the alignment through the UMD are addressed separately in Sections C, E, F, and N. Comments dealing with specific resources or environmental effects are addressed below by topic area, generally following the outline of Chapter 4: Environmental Resources, Impacts and Mitigation, Chapter 6: Section 4(f) Evaluation and Chapter 7: Indirect and Cumulative Effects Analysis of the FEIS.

K.1 General Environmental Comments

Summary of Comments: Commenters supported the Purple Line only if it is designed in a community- and environmentally-friendly manner and mitigates negative impacts to the greatest extent possible. All jurisdictional agencies must also be consulted. Several commenters also noted corrections that should be made.

Response: *The Purple Line Project is being planned and designed in accordance with all local, state, and federal laws and regulations. These regulations, including the National Environmental Policy Act (NEPA), set out specific criteria for environmental and social impacts and how they are to be avoided and/or mitigated against. Respective jurisdictional agencies have been and will continue to be consulted throughout the development of the project. The AA/DEIS discusses the potential environmental effects that could be expected to occur with the construction and operation of each alternative. The AA/DEIS summarizes these impacts, while providing further detail within the associated technical reports. Errors that have been pointed out in the AA/DEIS have been corrected in the FEIS.*

K.2 AA/DEIS Adequacy

Summary of Comments: AA/DEIS Adequacy—Commenters suggested that a more thorough analysis of economic and social impacts is needed—that the DEIS analysis fails to meet the rigorous standards of NEPA, did not clearly identify the need, did not objectively evaluate all reasonable alternatives, did not involve the affected public before decisions were made, and did not study construction impact sufficiently. Additionally, one commenter suggested that the Walter Reed relocation would require that a Supplemental DEIS be prepared to study its effects.

Response: *FTA has determined, and the EPA agreed, that the AA/DEIS is adequate and that it satisfied NEPA requirements. The AA/DEIS discusses the potential environmental effects that could be expected to occur with the construction and operation of each alternative. The AA/DEIS summarizes these impacts, while providing further detail within the associated technical reports.*

Since more than three years had passed since the circulation of the AA/DEIS in 2008, FTA prepared a DEIS Reevaluation, as required under FTA's regulations (23 CFR 771.129). The reevaluation was prepared in August 2012 to assess the significance of any new information or changed circumstances. It presented new information and changes in the affected environment, along with refinements made to the Preferred Alternative up to that point in time. The Reevaluation concluded that no changes in the affected environment or in the project required the preparation of a supplement to the DEIS.

Following are specific items that commenters questioned:

Identification of Need: *Following commenter suggestions, the need has been more clearly defined in Chapter 1 of the FEIS, and has been evaluated more fully in Chapter 9 of the FEIS. Although other evaluation criteria were suggested, the evaluation criteria discussed in the FEIS were developed based upon the needs identified in Chapter 1.*

Evaluation of Reasonable Alternatives: *Between 2004 and 2008 FTA and MTA examined a number of alternatives and design concepts. The screening process evaluated the alternatives based on a number of factors, including ability to meet the project's Purpose and Need, engineering feasibility, natural and social environmental impacts, preliminary cost estimates, and input from the public and agencies.-Alternatives that did not meet these criteria were not considered reasonable as described in FTA regulations implementing NEPA (23 CFR 771.123). Many alternatives met the reasonableness standard. In order to reduce this to a reasonable number of alternatives for study in the AA/DEIS, the screening process focused on weighing the relative merits or disadvantages of the various alignments or options under consideration within the definition of low, medium and high investment. For example, where two low investment surface options for a particular mode were under consideration, if one had appreciably greater impacts either to project goals, the environment, or the local community, it was eliminated from further consideration. This approach followed the Council on Environmental Quality's (CEQ) guidance for determining the range of alternatives in an EIS.*

Public Involvement: *FTA and MTA initiated the NEPA process for the Purple Line on September 3, 2003 with the publication of a Notice of Intent (NOI) to prepare an EIS. Upon publication of the NOI, FTA and MTA initiated the scoping process by inviting interested individuals, organizations, and agencies to provide their ideas, comments and concerns regarding possible modes, alignments, and station locations in the Purple Line corridor. Public and agency scoping meetings and early public participation activities (a newsletter and a project website) yielded discussion and assessment of concepts from previous studies, as well as new concepts. See Scoping Report, May 2004 for a description of the scoping process, the alternatives presented, and comments received. Beginning at scoping and continuing to this day, the MTA, in coordination with FTA, has conducted an extensive public outreach program throughout the project that has resulted in the development and refinement of the alternatives. This includes numerous large scale public open houses and hearings as well as smaller community group meetings. For a description of the public involvement process see Chapter 8 of the FEIS. Beyond these regulatory requirements, FTA and MTA, in conjunction with their local partners, have been working closely with communities and neighborhoods throughout the history of the project. Public involvement is an important aspect of the project and will continue throughout the completion of the design and construction process. Refer to Chapter 8 of the FEIS for more details on the past and on-going Public Participation activities.*

Analysis of Construction-Related Impacts: *Chapter 4 of the FEIS describes the impacts to each resource that are expected to occur during construction. As described in Section 4.5 of the FEIS and Chapter 8, MTA is committed to supporting local businesses in the Purple Line corridor during construction. MTA is concerned about potential*

impacts to the viability of these businesses during construction and has researched best practices in supporting small businesses through roadway or transitway construction. In speaking to other transit agencies, MTA has heard repeatedly it is most important to establish relationships and trust with the local businesses. Communication will be a critical factor in how well a small business handles the disruption resulting from the Purple Line construction. MTA is working with state and county agencies to identify and bring together existing resources that can support and strengthen small businesses.

Walter Reed Relocation: *as discussed above in Section E, Support for Jones Bridge Road, MTA studied the implications of BRAC and the Walter Reed relocation in the Bethesda area. The findings indicated that ridership would not be greatly increased due to the dispersion of employee home locations and the limited number of employees that are within the identified Purple Line service area. The maximum number of visitors expected to potentially use the Purple Line would be 149 daily. A summary of these analyses was included in the AA/DEIS and the supporting memoranda can be found in the FEIS Volume 2: Technical Reports—Alternatives Technical Report, they do not represent significant changes and do not warrant a Supplemental DEIS.*

K.3 Land Use, Public Policy, and Zoning

Summary of Comments: The National Capital Planning Commission suggested that the AA/DEIS needs to evaluate how the Build Alternatives support the principles and policies of the *Comprehensive Plan for the National Capital: Federal Elements.* The comments also suggest that the large federal campuses near the alignment be discussed.

Response: *Section 4.2 of the FEIS has been revised as follows: "The National Capital Planning Commission (NCPC) is responsible for planning activities involving federal land and federal facilities and operations in the Washington DC region; federal workplaces in the study area include the Walter Reed Army Medical Center-Forest Glenn Annex, the National Oceanic and Atmospheric Administration building, and the Internal Revenue Service campus. NCPC influences existing and planned land use through the* Comprehensive Plan for the National Capital: Federal Elements (2004)*." Additionally, the analysis acknowledges the federal guidelines that access to public transit must be a priority when locating new federal facilities or leases.*

K.4 Neighborhoods and Community Facilities

Summary of Comments: Numerous comments expressed the feeling that the Purple Line would have a negative impact on their neighborhood or community, while others feel that there would be a positive impact. Some of the reasons cited for negative impacts included safety concerns, property impacts, loss of parking, impacts to community cohesion, impacts to schools, and visual impacts. Some commenters believed incorrectly that the trail in the Georgetown Branch right-of-way would be permanently removed.

Response: *MTA has worked with community members throughout the development of the Preferred Alternative to address community concerns, as described in Section 4.3 of this FEIS. MTA would continue to consider adjustments to the design and the construction plan to avoid or minimize impacts to neighborhoods and community facilities. Property impacts and visual impacts are discussed separately below. Following is a discussion of the remaining issues noted by commenters.*

Capital Crescent Trail

Summary of Comments: Some commenters believed incorrectly that the trail in the Georgetown Branch right-of-way would be permanently removed.

Response: *The only time the trail would not be fully usable would be during construction. Once construction is complete, the Georgetown Branch Interim Trail will be incorporated into the larger Capital Crescent Trail network, creating a direct connection from Bethesda to the Metropolitan Branch Trail and SSTC in downtown Silver Spring. MTA will plan, design, and construct the Capital Crescent Trail between Bethesda and Silver Spring concurrently*

with the Purple Line. The Capital Crescent Trail would replace the existing Georgetown Branch Interim Trail, which currently extends from Bethesda to Stewart Avenue within the Georgetown Branch right-of-way. At the junction with the CSXT Metropolitan Branch (after the Georgetown Branch right-of-way ends), the trail is planned to continue on the north side of the CSXT corridor to the SSTC in Silver Spring. The completion of the trail along the CSXT corridor is contingent on agreement with CSXT on the use of their property on the north side of the CSXT tracks for the trail. The Capital Crescent Trail would be funded, owned, and operated by Montgomery County.

Community Cohesion

Summary of Comments: Commenters believed that the light rail would create a barrier in the communities through which is passes.

Response: *Light rail is very compatible with pedestrian environments and would not have an adverse impact on neighborhood quality or community cohesion. The Preferred Alternative would not result in a major change in community cohesion or neighborhood quality as it would operate in or adjacent to existing roadways along most of its alignment. Transit in general, and the Preferred Alternative in particular, would support community cohesion by adding stations and improving walkability in station areas. The reconstruction of roadways with bicycle lanes; the addition of new sidewalks, such as along the east side of Kenilworth Avenue; and the construction of the Capital Crescent Trail would all promote community cohesion.*

Safety

Summary of Comments: Commenters expressed concern about the safety of light rail in communities, particularly for pedestrians.

Response: *The Preferred Alternative is being designed to be a safe and efficient system. Special attention has been given to situations where traffic shares, is adjacent to, or crosses the transitway. Safety measures will include signing, signal phasing and coordination, the addition of turn lanes, and the inclusion of curbs, barriers, and gates, as appropriate. Pedestrian and bicycle enhancements are also included throughout the corridor, and pedestrian crossings will be well marked and delineated. New trail and sidewalk connections are included, as well as bicycle lanes along certain roadways. In addition, speeds will be limited in areas of high pedestrian activity such as on the UMD campus. Stations have been designed with safety in mind and have been located in areas with activity and nearby development. Station access will be well marked, safe, and convenient, and stations will be monitored by closed circuit television.*

Community Facilities

Summary of Comments: Commenters expressed concern about impacts to community facilities**.**

Response: *One community facility, the Silver Spring Post Office in the Spring Center shopping center at 8653 16th Street, would be displaced due to the Purple Line Project. The Preferred Alternative includes measures to minimize the impacts on the remaining community facilities. For community facilities with unavoidable partial acquisitions of property or changes in access, there are no impacts to the overall facility within the property. In addition, MTA continues to work to address changes in access or parking.*

Loss of Parking

Summary of Comments: Commenters expressed concern about the loss of parking.

Response: *As discussed in Chapter 3 of the FEIS, the Preferred Alternative would remove, 12 spaces from a parking garage, 220 on-street parking spaces, 897 spaces from non-residential parking lots, and 110 spaces from residential parking lots. Residential property owners will be compensated for the acquisition of parking spaces, but mitigation is not proposed. Mitigation of on-street parking impacts is not proposed except on Bonifant Street. The MTA has met with business owners along Bonifant Street to discuss the issue of lost parking. The MTA will work with the*

county to identify specific mitigation strategies such as changing the meters in the county-owned Bonifant parking lot to prohibit eight hours of parking to discourage commuter parking and adding additional spaces along the roadway or on adjacent lots.

K.5 Property Acquisitions and Displacements

Summary of Comments: Commenters expressed concern about right-of-way impacts on private property, especially associated with the surface alignment along Wayne Avenue; the potential for residential and business displacements; the taking of private property by eminent domain; and being clear about which communities would have displacements.

Response: *The Preferred Alternative was developed to minimize impacts to private property; however, some displacements will be necessary, as shown by neighborhood in Table 4-8 of Section 4.4 of the FEIS. MTA has coordinated, and would continue to coordinate, with affected property owners and tenants to develop means to avoid or minimize property acquisitions and displacements. As discussed in Section 4.4 of this FEIS, MTA would provide relocation assistance and compensation for displaced residents and businesses as required by the Uniform Act, Federal Transit Administration (FTA) Circular 5010.1D, Grants Management Requirements, and the Real Property Annotated Code of Maryland. One shopping center asked about specifically in a comment, the Spring Center, is included in the list of potential displacements. FTA and MTA anticipate that redevelopment will occur on the remainder of the property.*

Although shared lanes on Wayne Avenue were specifically aimed at reducing right-of-way impacts along Wayne Avenue to residential properties, in response to concerns expressed by residents along Wayne Avenue and at the request of Montgomery County Council and the County Executive, MTA conducted detailed comparative analysis of all options on Wayne Avenue, including several underground tunnel alignments. As a result of these evaluations, MTA has concluded that the high costs associated with a tunnel alignment along Wayne Avenue, along with the impacts to transit accessibility and residents in the portal areas, would exceed the range of cost-effectiveness required for continued consideration of a below-ground alignment as part of the Purple Line Preferred Alternative design in this area. A surface alignment would take minimal amounts of private property and would allow for parking on Wayne Avenue during off-peak hours, while the tunnel option would have substantial impacts at the portal areas and would require much greater associated expenses. Three or four residences on Wayne Avenue would have been displaced as a result of the widening necessary to accommodate the tunnel portal and maintain two lanes of traffic in both directions.

An extensive outreach effort was launched with numerous meetings with the community and business owners to inform people of the potential changes, get input, and present and get feedback on options to reduce impacts. Following are examples of where refinements have been to the project to minimize displacements:

- *To avoid several business/institutional displacements along Kenilworth Avenue, the transitway was moved to the median and the number of future lanes was reduced. The number of potential displacements was reduced from 9 to 3 including avoidance of a church, a bowling alley, two restaurants, a tire shop, and a bakery. (Note: Not all of these were included in the AA/DEIS as the potential future roadway widening was not known at the time.) The DEIS Reevaluation includes a broader discussion of the impetus for the change and a description of the outreach effort.*
- *Through targeted outreach activities, MTA met with residential property owners on Riverdale Road were provided opportunities to offer input on design concepts for the transitway. Their participation led to the decision to displace the properties, rather than partially acquire their front yards and change access to their properties. The MTA conducted an extensive public outreach effort with the affected residents and homeowners, which revealed that the majority of residents would prefer to be displaced rather than remain on*

a busy street that would be further widened, resulting in the loss of both substantial parts of their already small front yards, and full access and egress to their homes.

- *To reduce the business displacements along University Boulevard, MTA proposed the conversion of existing roadway lanes for transit use, which will avoid the need to widen the road. As the Preferred Alternative is now designed, two existing roadway lanes will be converted to transit lanes, thereby reducing the through lanes to two in each direction. This change has been made with the concurrence of the State Highway Administration.*
- *Refinements made to the Lyttonsville Yard further reduced the potential business displacements along Brooksville Road.*

K.6 Economic Effects

Summary of Comments: Commenters questioned the impact of the project on property values and rents; expressed concern that during construction there needs to be protection for businesses along the corridor; feel the Purple Line will have a negative impact to businesses in general; and questioned who the project was to transport. The latter commenters suggested that if the new service is assumed to carry blue collar workers, then it may not be needed as there are no blue collar businesses in Bethesda. Large numbers of commenters offered support for the light rail because it would create jobs and boost the economy; it would provide access to jobs; and it would decrease travel times.

Response: *The MTA has established a business outreach program that will continue to work with communities and agencies completion of design work and construction to further reduce impacts and develop more detailed mitigation and enhancements. This will include programs through ongoing coordination with local jurisdictional agencies to provide assistance to businesses during construction; these programs may include signage, promotions, advertising and other measures.*

MTA is engaging small business leaders in the Purple Line corridor in identifying opportunities and resources for technical assistance to businesses through entities such as the Maryland Small Business Development Center.

The Purple Line will provide new employment opportunities in the project corridor; mostly short term (construction) but some long term (operations and maintenance) as well. MTA and the Maryland Department of Labor, Licensing and Regulation (DLLR) have identified the most common jobs that would be needed for the construction and operation of the Purple Line. They have identified the skills and qualifications that workers would need for those jobs, and have compared that to the existing labor pool in the region. Where a shortage of particular workers exists, local job training and certification programs would be created. The MTA and DLLR are in the process of identifying partners, i.e. labor unions, local workforce agencies, contractors, schools, and community-based organizations, in Montgomery and Prince George's Counties with whom coordinated training efforts and pathways to employment can be developed.

Future development likely would create more jobs for local residents, improve mobility and accessibility for commuters, and reduce average transit travel times. Although potential indirect effects could include increased business expenses (e.g. rents) from increased commercial property values, these effects would likely be offset through increased customer markets for local businesses.

Prince George's County has recently completed an initial planning study of five transit station areas to determine a future vision for these communities and to ultimately develop planning strategies that seek to build both diverse and prosperous neighborhoods. A number of public assistance programs, including home and business improvement subsidies and public infrastructure funding, are in place in Prince George's County to address priority needs related to affordable housing, economic revitalization, and public services. Montgomery County also has developed Purple Line design recommendations and transit-oriented development plans for stations along the corridor. The Montgomery County Moderately Priced Housing Law, in effect since 1974, has facilitated the private development of over 13,000 affordable housing units between 1976 and 2010.

As discussed below in the response to the Comment on Environmental Justice, the MTA has discussed concerns regarding the preservation of affordable and low-income housing with both Montgomery and Prince George's Counties and will continue working with the counties and advocacy groups to support engagement of local elected officials regarding affordable housing and increased commercial rents resulting from increased property values as the project moves forward.

K.7 Parks, Open Space, and Recreational Resources

Summary of Comments: Commenters noted that had our public officials known then what we know now about the environmental and health benefits of preserving green space, they might have supported purchasing the right of way solely for parkland; that there will be potential health impacts resulting from the perceived loss of the trail due to a decrease in physical activity and increased obesity; that the AA/DEIS is missing information and should reflect the changes to the trail; that the document does not consider the need for greenspace or recreational trail in the future; and that the project will change access to the existing Georgetown Branch Interim Trail. Other commenters noted that the Purple Line will improve access to numerous recreational activities and facilities and existing trails, and it will allow for the construction of the permanent Capital Crescent Trail. Some agency comments indicated the need to expand the analysis to include all of the stream valley parks in the study area, an analysis required under the Capper-Cramton Act, as well as to include the Baltimore-Washington Parkway as a park resource.

Response: *The analysis was expanded in response to the comments indicating the need for additional analysis of stream valley parks not previously included. Additionally, discussions related to the Capper Cramton Act have been added to Section 4.6 of the FEIS.*

The Preferred Alternative would provide the opportunity to improve the overall health of the users of the Purple Line corridor. The Preferred Alternative would provide the opportunity to improve the overall health of the users of the Purple Line corridor. This would take place through the improvements and extensions of the trail system with the construction of the Capital Crescent Trail from Bethesda to Silver Spring, its connection to the Rock Creek Trail, Metropolitan Branch Trail and the Green Trail and the extension of the Green Trail to the Sligo Creek Trail, as well as the general upgrade of pedestrian and bicycle safety that will be implemented in conjunction with the Purple Line, as described in Section 4.3 and 4.6 of this FEIS.

Along the Georgetown Branch right-of-way where many residents on both sides now have direct access to the trail from their backyards, the Preferred Alternative will result in some changes in access to the trail. These trail users would need to use the 23 formal access points being constructed as part of the Capital Crescent Trail. These new access points would include paving, sidewalks, and ramps/stairs where necessary. While this is a change, it is not a barrier precluding access to the trail within the community.

K.8 Historic and Archeological Resources

Summary of Comments: Commenters noted concern about impacts to historic resources including the Columbia Country Club, the Trolley Bridge, various UMD buildings, and the Capital Crescent Trail, as well as impacts to archaeologically sensitive sites on the NIH campus. Commenters also disagree with the Section 106 analysis regarding the Columbia Country Club saying that they feel that the Preferred Alternative would significantly damage portions of the 15th, 17th, and 18th holes. One commenter argues that MTA has not fully complied with its obligations to consult with CCC and Montgomery County during the AA/DEIS process. The Advisory Council on Historic Preservation stated that they had no comments on the AA/DEIS at this stage of the environment review; the Maryland Historical Trust (MHT) suggested that the MTA and FTA complete the Section 106 review in consultation with the MHT. The USDOI suggested that additional information should be collected to determine whether the five archeological sites identified in the DEIS are eligible for listing on the National Register of Historic Places (NRHP).

***Response**: Historic resources have been identified and studied in accordance with Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations at 36 CFR Part 800. As described in Sections 4.7 and 4.8 of this FEIS, as well as the Section 106 Assessment of Effects for Historic Properties /Light Rail Alignment Areas Associated with the Purple Line Project, Montgomery and Prince George's Counties, Maryland, the Preferred Alternative would have an "adverse effect" to three historic properties because it would remove the resource (Talbot Avenue Bridge and portion of Falklands Apartments) or eliminate a contributing element (Metropolitan Branch). The MTA's on-going consultation with the State Historic Preservation Officer (MHT) as required by Section 106, has included determinations of property eligibility for the NRHP and the effects of the Preferred Alternative on those eligible properties, including assessments of the means to avoid or minimize effects on protected properties. FTA, MTA, and MHT are developing a Programmatic Agreement, a legal document that outlines the commitments to be met to advance the Purple Line project.*

***Columbia Country Club**—The Columbia Country Club historic resource boundaries include the current legal boundary as well as minor encroachments of holes 15, 17, and 18 on the former Georgetown Branch of the B&O Railroad as these encroachments were made during the period of significance, which is the period from its founding in 1911 through 1962, the year of its 50-year age consideration. The area impacted by the construction of the Purple Line would occur primarily within the boundaries of the Georgetown Branch trail right of way. However, in consultation with Columbia Country Club, the Purple Line alignment was shifted to the north-northwest to minimize alterations to the landscaping on the south side that is associated with holes 15 and 17. The Preferred Alternative would have "no adverse effect" to the Columbia Country Club since the project would not diminish the characteristics that render the resource historic.*

***University of Maryland**—The Preferred Alternative would also have "no adverse effect" to the UMD since the project would not diminish the characteristics that render the resource historic.*

***Other Resources**—The Trolley Bridge and the Capital Crescent Trail are not considered to be historic resources. The identified Preferred Alternative avoids the grounds of the NIH campus; therefore, the Preferred Alternative would not impact this resource. As suggested by the USDOI, additional studies were performed to determine if any sites within the Area of Potential Effect (APE) (identified either in the AA/DEIS or during subsequent studies) would be eligible for listing on the NRHP. These studies revealed that one potentially NHRP eligible archaeological site is located within the APE; however the project has been designed to avoid impact to this resource, as described in Section 4.8 of the FEIS.*

***Consulting Obligations**—According to 36 CFR 800.1(c): "The agency official must complete the section 106 process "prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license." This does not prohibit the agency official from conducting or authorizing nondestructive project planning activities before completing compliance with section 106, provided that such actions do not restrict the subsequent consideration of alternatives to avoid, minimize or mitigate the undertaking's adverse effects on historic properties." The Section 106 process was initiated during preparation of the AA/DEIS.*

Subsequent to the AA/DEIS, on March 9, 2012, FTA formally invited the Columbia Country Club and the Montgomery County Historic Preservation Commission to be Consulting Parties. The Columbia Country Club accepted; however, the Montgomery County Historic Preservation Commission did not.

K.9 Visual and Aesthetic Issues

Summary of Comments: Commenters noted that the Purple Line will be visually or aesthetically unpleasing in areas of the corridor and that the Purple Line needs to be incorporated in an aesthetically pleasing manner along the entire corridor, and they requested better and/or non-intrusive lighting and simple streamlined stations. Some comments suggested the vehicle technology include wireless or underground transmission of electricity to avoid visual impacts associated with catenary. The NCPC, as well as several commenters, asked that each

alternative be analyzed more thoroughly for potential visual and aesthetic impacts, and asks that photo simulations be provided to illustrate impacts in stream valley parks.

Response: *As discussed in Section 4.9 of the FEIS, in designing the Preferred Alternative, the MTA has made continual efforts to respect the visual quality and integrity of the neighborhoods in which the project would be built, using context sensitive design techniques. As discussed in Section G—Suggestions to Consider Other Modes of Transportation or Technologies, wireless technology has not been excluded from consideration.*

Through its extensive public involvement and stakeholder coordination program, the MTA has worked with communities and stakeholders to understand community concerns and visions. Project elements, such as the station shelters, were developed in response to community input. The MTA has been mindful of the need to consider carefully the location of power substations and, where appropriate, would provide landscaping or other screening to address the visual impacts of these structures. Specific examples of context sensitive design approaches include:

- *The National Park Service was presented with a range of options for the Baltimore-Washington Parkway bridges. With Park Service participation, the MTA was able to develop a design and a construction plan that is acceptable to the Park Service and would maintain the visual experience of the Parkway visitors.*
- *The MTA has met regularly with the Town of Chevy Chase Mitigation Advisory Group to discuss the design of the Purple Line and the Capital Crescent Trail. This collaboration has involved identifying opportunities to minimize visual and other effects associated with the project.*
- *The MTA has worked closely with UMD to identify and minimize visual impacts to sensitive resources; topics have included the design and location of the Preferred Alternative on campus and the relocation of the M and the removal of the traffic circle where it is located currently. The University recently endorsed the cooperatively-developed plans. The MTA will continue to coordinate with the University and the MHT through completion of design work and project implementation.*
- *The MTA has coordinated extensively with the Columbia Country Club (CCC) to maintain the existing views from the clubhouse and southern fairways and greens. The Country Club has provided input on landscape treatments and grading on the slopes of the railroad berm to reduce visual effects for both the playing areas and landscape views from the clubhouse area. MTA is committed to continuing coordination with the CCC to develop visual treatments of walls, fences, and landscaping to further minimize the visual and aesthetic effects.*
- *Montgomery County and MTA will continue to coordinate and consult on the design of the future Capital Crescent Trail to provide an aestheticallypleasing facility while meeting safety and ADA requirements.*
- *Coordination with elected officials and staff from Montgomery County, and the local community has been on-going regarding the design of the bridges over Connecticut Avenue.*
- *Coordination with M-NCPPC and the National Capital Planning Commission has occurred regarding the design and construction of the Rock Creek Bridges.*
- *MTA worked extensively on the location and design of the Lyttonsville and Glenridge storage and maintenance facilities to minimize visual impacts to surrounding areas.*

In addition, the Art-In-Transit program would be used to enhance many of the elements of the project, especially structural elements such as retaining walls, bridges, and ground planes.

K.10 Air Quality and Energy

Summary of Comments: Many commenters who stated that the Purple Line will improve air quality by removing cars from the road. Many of these comments noted that BRT would generate emissions whereas LRT does not. Some commenters expressed concern that removing the trail and trees will have a negative effect on air

quality in the area; while others stated that the tree removal associated with the Purple Line will have a negative or little effect on global climate change. Some commenters noted that LRT is not as energy efficient and/or environmentally-friendly as stated, while others noted that transit will reduce dependency on fossil fuels and reduce energy consumption and global warming.

Response: *Air quality analyses for the Purple Line were performed following EPA guidance. Embodied emission calculations for raw materials, including the extraction, manufacturing, and transport of project-related products are not required by the EPA. In other words, project-level studies do not include the production of electricity or fuel in the analysis.*

The Metropolitan Washington Air Quality Committee (MWAQC) coordinates air quality in the metropolitan Washington region by issuing a State Implementation Plan (SIP) outlining strategies to comply with the Clean Air Act. The current plans in place for the region are the ozone and fine particulate matter SIPs, and the carbon monoxide maintenance plan. In each of these plans, MWAQC prepares an inventory of all current emissions, future projections of emissions, and reasonably available control measures for reducing emissions to acceptable levels in the region. The emission sources include mobile (cars, buses, trucks); non-road mobile (lawn and garden equipment); stationary (utilities such as power generation); and area (consumer solvents).

MWAQC selects and enforces control measures on whichever source is the most beneficial to regulate. Depending on the future energy market and regulations on power plant emissions, the electricity generated to power the Purple Line could be produced by a variety of methods, some of which produce fewer emissions over the current energy mix. Also, implementation of advanced emission reduction technologies at power plants would decrease air pollutant emissions of particulate matter, sulfur dioxide, nitrogen oxides, and mercury.

At the project level, the Preferred Alternative is projected to remove over 16,790 vehicles from the road daily in 2040, which would contribute to the improvement of the region's air quality. Although the Purple Line is not expected to dramatically alter the existing energy conditions within the project corridor, it would offer a more efficient transit alternative to energy consumptive petroleum powered transportation.

Carbon dioxide ($C0_2$) and total energy consumption are the two most common measures of a project's impact on greenhouse gas emissions, which are often associated with climate change. As discussed in FEIS Chapter 4.10, greenhouse gas emissions generated for the Preferred Alternative in 2040 are estimated to be no greater than for the No Build Alternative. Furthermore, with the Preferred Alternative, mesoscale C02 levels and total energy consumption are expected to increase with the Preferred Alternative by 0.7 percent in the year 2020. Mesoscale CO_2 levels and total energy consumption are expected to decrease with the Preferred Alternative by 0.2 percent in the year 2040...

Where unavoidable forest impacts occur along the Georgetown Branch right-of-way as well as the rest of the alignment, the MTA would offset those impacts by planting trees in cleared areas (reforestation) and in areas not previously forested (afforestation). Based on the mitigation requirements set forth by MDNR, the MTA has preliminarily identified reforestation sites and forest mitigation banks with available credits that could be used to satisfy mitigation requirements.

K.11 Noise

Summary of Comments: Many commenters stated that the Purple Line will have a negative effect on noise levels near the alignment; a majority of these comments were received from people living near or along the Georgetown Branch right-of-way, Wayne Avenue, and Ellin Road. Comments reflected some concern over the noise generated by warning horns, but the majority focused on "wheel squeal." Some commenters requested that mitigation measures be applied to reduce noise levels while others stated that noise mitigation measures, such as sound walls, are ineffective. Other comments raised concerns over the impacts and mitigation of construction noise on residents and noise impacts, generally, on threatened and endangered species that reside in and around the Georgetown Branch of the CCT. Other comments were supportive of the quiet operation of the LRT as compared to BRT, citing examples in other parts of the country and in Europe of LRT systems that operate quietly and non-intrusively in urban areas and park-like settings. Commenters also suggested that MTA's technical analysis does not include the technical data and analyses that are necessary for the public to meaningfully comment on MTA's conclusions.

Response: *As described in the AA/DEIS and Section 4.11 of the FEIS, the MTA performed an impact analysis for noise following FTA noise guidance and assessed impact using FTA criteria. The guidance prescribes a method for predicting project sound levels based upon the frequency of trains, the distance from a train, and the speed of the train. The Noise and Vibration Technical Report describes the analysis inputs and assumptions used to predict the project-related sound levels, and the formulas used are detailed in the Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06 May 2006[3]) Given the development in the vicinity of the alignment, impacts to threatened or endangered species are not anticipated..*

Extensive noise impact analysis and monitoring have been performed and will continue to be analyzed as the project moves forward. Potential noise impacts from LRT line and yard operations and horn noise near stations and at-grade crossings were considered as part of the noise analyses performed. The Preferred Alternative includes several noise-mitigating measures as part of its design. These include "skirts" on LRT vehicles to cover the wheels, reducing sound levels by approximately 8 dBA, and short retaining walls/noise panels along the residential portions of the Georgetown Branch right-of-way, reducing sound levels by approximately 4 dBA. These measures go beyond what would be required for mitigation and, as designed, there would be no noise impacts along the Georgetown Branch right-of-way. East of the Georgetown Branch right-of-way, six residences and two apartment buildings (containing approximately six units each) would be moderately impacted due to warning horns associated with grade crossings or stations. Constructing sound barriers would block driveway access and pedestrian walkways, and not be reasonable to mitigate horn noise. .

Additional potential noise sources include the PA systems used to announce the arrival of the LRT vehicles, wheel squeal, and the hum associated with the TPSS. The PA system will have volume adjustment controls designed to maintain announcement volume at the specified noise level, as appropriate. With proper use, short-term noise from the PA system announcements is not expected to be a noise annoyance to sensitive receptors adjacent to stations. Regular maintenance of the wheels and brake pads would minimize the noise generated by wheel squeal. The TPSS will be designed in accordance with the MTA design criteria intended to minimize the noise from transformer hum.

MTA is committed to abiding by local noise ordinances, whenever feasible and reasonable. Possible noise minimization measures during construction include the following:

- *Conducting the majority of construction activities during the daytime as feasible*
- *Routing construction equipment and other vehicles carrying spoil, concrete, or other materials, where feasible, over designated truck routes that would minimize disturbance to residents*

[3] http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf

- *Locating stationary equipment away from residential areas to the extent feasible within the site/staging area*
- *Employing control technologies to limit excessive noise when working near residences*
- *Adequately notifying the public of construction operations and schedules*

Refer to Section 4.11 of this FEIS and the Noise Technical Report for more detailed information on potential noise impacts and any proposed mitigation measures and Section 4.13 of this FEIS for information on wildlife.

K.12 Vibration

Summary of Comments: Commenters expressed concern about vibration near the alignment, in general, and specifically near the UMD Campus and residential uses (both single-family detached residences and high-rise condominium uses). Comments from some homeowners and building supervisors near the proposed alignment expressed concern over the potential structural impacts to their homes resulting from vibration generated by construction activities. Commenters also suggested that concerns regarding vibration along the Campus Drive alignment through UMD are overstated or can be reasonably mitigated. Commenters also suggested that MTA's technical analysis does not include the technical data and analyses that are necessary for the public to meaningfully comment on MTA's conclusions.

***Response**: For the AA/DEIS, the Purple Line Project's impact on vibration related issues was studied according to the general assessment procedures outlined in the Federal Transit Administration's Transit Noise and Vibration Impact Assessment Manual (May 2006). The analysis was refined for the FEIS, resulting in impacts to four residences and one apartment complex, containing approximately six units. Regarding vibration near the UMD Campus, as agreed upon between UMD and MTA, MTA would analyze extremely vibration sensitive buildings located within the UMD campus through a detailed vibration study to be undertaken during completion of design.*

The formulas used to calculate the specific vibration levels associated with the project characteristics are detailed in Table 10-1 of the manual. Tables 2-15 through 2-20 in the Noise and Vibration Technical Report provide the inputs and parameters used for the calculations.

The apartment complex would exceed FTA impact threshold due to high existing vibration levels caused by daily CSXT freight train pass-bys. For areas identified with the potential for vibration impacts during LRT operations, MTA will identify mitigation measures that are feasible.

As agreed to with the UMD, where the Preferred Alternative transitway centerline would be within 100 feet of existing or potential UMD research laboratories, the transitway would be designed to meet the more restrictive of the ambient vibration levels or the National Institute of Standards and Technology (NIST) criterion of 42 VdB.

Refer to Chapter 4.12 of the FEIS and the Vibration Technical Report for more detailed information on potential vibration impacts and any proposed mitigation measures.

K.13 Habitat and Wildlife

Summary of Comments: Commenters expressed concern with the loss of forest, trees, and vegetation and their potential impact on habitat, wildlife, and the ecosystem. Some comments related potential economic development associated with the Purple Line that may result in additional habitat loss. They expressed desire for avoidance, minimization, and mitigation of these impacts. Additionally, commenters noted that invasive vegetation species already impact native vegetation.

***Response:** Where forest impacts occur, the MTA would offset those impacts by reforestation, which is planting trees in cleared areas, and afforestation, which is planting trees in areas not previously forested. Based on MDNR mitigation requirements, the MTA has preliminarily identified reforestation sites and forest mitigation banks with*

available credits that could be used to satisfy the requirements. The final forest planting obligation for the project would be negotiated between MTA and MDNR prior to construction.

As discussed in Section 4.13 of the FEIS, the MTA has and continues to strive to avoid long-term water quality and quantity impacts to aquatic biota by minimizing the amount of new impervious surface associated with the transitway, yard, and maintenance facility. Where practicable, the MTA has aligned the transitway and located associated facilities in areas of existing pavement and impervious surfaces, such as the Lyttonsville Yard site.

Project-related riparian impacts to a tributary to Paint Branch along Paint Branch Parkway, impacts to migratory fish species using the Paint Branch tributary, and stormwater discharge to Paint Branch were cited as concerns by the NMFS during the agency field review of the project on May 8th and 9th, 2012. In response to these concerns, the MTA shifted this portion of the transitway south to minimize impacts to the riparian zone. In addition, the project has been designed so that stormwater associated with the transitway would not be discharged directly into the tributary of Paint Branch.

As part of project-wide avoidance and minimization efforts, the footprint of the Glenridge Maintenance Facility was shifted east to minimize impacts to the buffer of a Brier Ditch tributary.

MTA will continue to coordinate with the NMFS and other regulatory agencies to identify measures to avoid or minimize:

- *Creation of in-stream barriers that block migratory fish from upstream spawning grounds*
- *Alterations of stream configuration, characteristics and hydrology*
- *Incremental changes to in-stream water quality from unavoidable deforestation of the riparian zone*

MTA will design proposed culverts and bridges to MDE standards to avoid or minimize secondary and cumulative impacts to migratory fish and to avoid alteration of habitat.

Impacts to habitat resulting from future new development associated with but not included as part of the Purple Line are addressed in Chapter 7 of the FEIS, and detail is provided in the Indirect and Cumulative Effects Analysis Technical Report.

K.14 Water Resources

Summary of Comments: Commenters noted concern about water quality, runoff, and erosion with some comments identifying the loss of trees associated with right-of-way development as a source of water pollution through erosion. Commenters were also concerned with the impact to Coquelin Run and the Rock Creek watershed. Other comments noted that transportation options that offered commuters an alternative to using personal automobiles would be positive for water resources and the health of Chesapeake Bay.

***Response**: As discussed in Section 4.14 of the FEIS, while the MTA has strived to avoid or minimize the water quality impacts, the project would increase impervious surfaces in the study area, which could increase the amount of surface runoff and potentially increase the level of contaminants such as heavy metals, salt, organic molecules, and nutrients in the surface runoff (Trombulak 1999).*

MTA is considering using green track, as described in Chapter 2.0, along the Georgetown Branch right-of-way and the CSXT right-of-way. Green track allows for some water absorption within the medium, thereby reducing the movement of contaminants to surface water bodies, reduces stormwater runoff, and increases local air humidity.

Most of the transitway east of Silver Spring would be located within currently paved areas along existing roadways, although some roadway expansions would be required to accommodate the transitway. Redevelopment of the Lyttonsville Yard site would almost completely overlie existing impervious areas, but the Glenridge Maintenance Facility and some stations and power substations would add new impervious surfaces.

The water quality within the Rock Creek watershed is discussed in detail in Volume 2: Technical Appendices—Water Resources Technical Report; however, it has been determined that no direct or long-term impacts to the Coquelin Run stream valley and its interior, such as tree clearing, are anticipated to occur by implementing the Preferred Alternative.

K.15 Environmental Justice

Summary of Comments: Commenters expressed concern regarding possible displacements and/or rent increases in low-income and minority communities around Takoma/Langley. A desire was expressed to minimize impacts to low income, fixed income, and immigrant populations. One commenter noted that the methodology for EJ does not make clear how disproportionate impacts were evaluated.

Response: *The Environmental Justice analysis in Section 4.19 of the FEIS describse the methodology for determining disproportionate impact: "The analysis of potentially disproportionate high and adverse effects is based upon the information developed for the FEIS. Based on the results of technical studies conducted for this project, the physical locations of adverse impacts were identified and a map analysis was conducted to determine whether patterns or concentrations of adverse effects occurred in areas with EJ populations." As discussed in that section, the Preferred Alternative is not expected to have a disproportionately high adverse effect on minority or low-income populations. On the positive side, the Preferred Alternative will provide the benefit of improved transit service to all study area populations. The proposed fare structure will be similar to bus fares and is described in Chapter 2.*

As further discussed in Section 4.19 of the FEIS, "Land use and zoning decisions made by the counties and cities in the corridor also would affect the stock and affordability of local housing. A potential indirect effect to EJ populations would be a reduction in affordable housing as a result of redevelopment of existing housing and increased commercial rents and property values. The MTA supports appropriate development around stations. However, a goal of the project is to serve transit-dependent communities, many of which are low income. The MTA has discussed concerns regarding the preservation of affordable and low-income housing with both Montgomery and Prince George's Counties. MTA will continue working with the counties and advocacy groups to support engagement of local elected officials regarding land use changes such as gentrification. Following is a summary of the progress each county has made regarding affordable housing in the Purple Line study area:

- *Prince George's County has recently completed the Purple Line TOD Study (M-NCPPC 2013, Draft), an initial planning study of five transit station areas to determine a future vision for these communities and to ultimately develop planning strategies which seek to build both diverse and prosperous neighborhoods. A number of public assistance programs, including home and business improvement subsidies and public infrastructure funding, are in place in Prince George's County to address priority needs related to affordable housing, economic revitalization, and public services.*
- *Montgomery County also has developed transit-oriented development plans for stations along the corridor. The Montgomery County Moderately Priced Housing Law, in effect since 1974, has facilitated the private development of over 13,000 affordable housing units between 1976 and 2010. In addition, Montgomery County released the 2012 Housing Policy Draft, A Housing Policy for Montgomery County, Maryland, to ensure that the objectives set out in the 2011 Housing Element to the Montgomery County General Plan are met by establishing action plans to meet the objectives."*

Extensive engagement with minority and low-income residents and businesses throughout the development of the project has been and continues to be valuable to MTA in understanding and responding to the concerns of the communities along the Purple Line corridor.

As described in Chapter 8 and Section 4.19, the MTA has implemented a robust outreach program, with an emphasis on meaningful exchange with minority and low-income populations, from project development initiation,

through the AA/DEIS phase, and continuing into development of this FEIS and completion of design work. In addition, throughout the early planning and design development stages of the Purple Line project, outreach was conducted with specific advocacy groups, such as Casa de Maryland and Impact Silver Spring, that support programs and policies on education, social justice, economic opportunity, and other community issues that affect low income, minority, and immigrant citizens and businesses within the study area. The outreach efforts were expanded during the current phase of the project with project staff canvassing the corridor visiting each business and meeting with owners/representatives. These efforts will continue through completion of design work and construction.

K.16 Section 4(f) Resources

Summary of Comments: The US Department of the Interior identified 4(f) park resources that needed to be included in the 4(f) analysis, including the Baltimore-Washington Parkway. Some commenters suggested that the DEIS should have considered the Georgetown Branch Interim Trail a Section 4(f) resource, this would have required a heightened analysis that would have highlighted the impact due to the loss of trees. Some commenters also suggested that the Columbia Country Club should have been considered in the DEIS.

Response: *At the time the AA/DEIS was published, a Preliminary Section 4(f) Evaluation Technical Report was prepared to identify resources eligible for consideration under Section 4(f) of the US DOT Act of 1966. This preliminary evaluation was updated and revised and is included as the Draft Section 4(f) Evaluation in Chapter 6 of this FEIS. These changes included the addition of resources identified by the US Department of the Interior, including the Baltimore-Washington Parkway.*

Georgetown Branch Interim Trail—*The Georgetown Branch right-of-way and the Georgetown Branch Interim Trail are not Section 4(f) resources. As stated in 23 CFR 774.11(h) (Section 4(f)'s Applicability) "When a property formally reserved for a future transportation facility temporarily functions for park, recreation, or wildlife and waterfowl refuge purposes in the interim, the interim activity, regardless of duration, will not subject the property to Section 4(f)."*[4]

Although the right-of-way is not a Section 4(f) resource, the impacts to forests and specimen trees has been studied. As described above, an FSD was conducted within all forested areas in the study area.

Columbia Country Club*—At the time the AA/DEIS was published, the eligibility assessment for the Columbia Country Club concluded that the Club's current property ownership boundaries were the same as the Club's historic property boundary; MHT had concurred in this conclusion (see the AA/DEIS's Architectural History Technical Report). At that time, the entire area within the Georgetown Branch right-of-way was considered to be outside the Club's historic property boundaries. The build alternatives in the AA/DEIS remained within the Georgetown Branch right-of-way (or were located along Jones Bridge Road), and therefore all build alternatives in the AA/DEIS entirely avoided encroaching on the historic property boundary of the Club. Since none of the alternatives analyzed in the AA/DEIS would take any of the Columbia Country Club property, the AA/DEIS concluded that there would be no "use" of the resource, as defined by Section 4(f) of the US DOT Act. The Columbia Country Club was, therefore, not included in the Preliminary Section 4(f) Evaluation Technical Report.*

As part of the FEIS efforts, MTA in consultation with MHT, further assessed the cultural significance of the Columbia Country Club and provided more detail than what was originally provided during the determination of eligibility (DOE) in September 2002. Based on the refinement of the determination of eligibility as part of the FEIS efforts, the period of significance was established (1911—1962) and contributing elements during the period of significance were defined, which MHT concurred in November 2012. This information was used in the Draft Section 4(f) Evaluation that is included with the FEIS.

[4] Cornell University Law School, Legal Information Institute http://www.law.cornell.edu/cfr/text/23/774.11, accessed 1/16/13.

K.17 Indirect and Cumulative Effects

Summary of Comments: Comment that the AA/DEIS ignores indirect and cumulative effects, and if the Purple Line is built it will bring unwanted development to the area. Some people stated that overdevelopment would lead to an exodus from the area, resulting in a negative impact on the quality of life. Comments also specifically questioned the Chevy Chase Lake development and its impact on Coquelin Run. A final comment noted that the ICE analysis could be improved by indicating specific foreseeable projects planned in the ICE study boundary.

Response: *A detailed Indirect and Cumulative Effects analysis was prepared for the Preferred Alternative. The analysis is provided in Chapter 7 of the FEIS. The list of foreseeable past, present, and future projects has been added, as suggested. As suggested, the Intercounty Connector has been added as a past project, as it was previously approved; however the improvements to the Capital Beltway have not been included, since that project was put on hold.*

Where Purple Line stations are located at existing Metrorail stations, past, present, and foreseeable planned development and redevelopment projects are primarily spurred by Metrorail service. In these station areas, including the Silver Spring Library, the identified planned developments are not induced by the Purple Line project. In station areas where no changes are foreseen in existing land use and zoning, such as Dale Drive, Manchester Place, and Campus Center, or where future redevelopment, such as East Campus, has been planned independent of the Purple Line, stations would not be expected to induce changes in development patterns.

In the other station areas of Chevy Chase Lake, Lyttonsville, Woodside/16th Street, Long Branch, Piney Branch Road, Takoma/Langley Transit Center, Riggs Road, Adelphi/West Campus, M Square, Riverdale Park, Beacon Heights, and Annapolis Road/Glenridge, the Purple Line would have the potential to induce development. In many cases, state and local land use planning and zoning actions undertaken in parallel with the development of the Purple Line anticipate the benefits of the Purple Line by facilitating mixed use redevelopment around the stations, often at higher densities.

While not the sole or primary driver of change, the presence of the Purple Line is likely to contribute to social and economic influences that may transform communities over time. For example, a 2006 report by the Center for TOD, Preserving and Promoting Diverse Transit Oriented Neighborhoods, looked at communities within a one-half mile radius of transit stations across the country and the social and economic characteristics of those communities.

Studies, using sales data, of the effect of transit on property value typically have indicated increased values for residential real estate closest to stations, with a reduced influence beyond a one-half mile radius[5]*. This premium depends on several factors, including the design of the station, the level of ridership, local real estate market conditions, neighborhood characteristics, and adjacent land uses. These economic effects can be a both a benefit and a burden. While implementation of the Purple Line may help communities effect positive economic growth, the diversity and the economic needs of the entire community must be considered. Throughout the development of the Preferred Alternative, MTA has been engaged with neighborhoods and businesses along the corridor to understand their concerns.*

MTA will work with Montgomery and Prince George's counties to create opportunities for project-related local economic benefits including workforce development programs.

MTA is engaging small business leaders in the Purple Line corridor in identifying opportunities and resources for technical assistance to businesses through entities such as the Maryland Small Business Development Center.

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5 Public Transportation Boosts Property Values" in *Transportation: A Toolkit for Realtors* 2nd Edition, National Association of Realtors, 2012 http://www.realtor.org/sites/default/files/transportation-toolkit-2012-05-29.pdf

The Purple Line would have an incremental effect on resources of interest in the context of all other past, present, and reasonably foreseeable actions in the cumulative effects study area. The Preferred Alternative is not anticipated to generate substantial cumulative resource effects in the cumulative effects study area. Minimal direct and indirect adverse environmental resource impacts have been identified as being generated by the Purple Line project. Throughout the planning phase of the project, MTA worked closely with agencies, institutions, and private landowners and developers to design a transit line that fits well within the existing and future environment.

***Chevy Chase Lake**—The development at Chevy Chase Lake has been discussed as early as 1990 in the Comprehensive Amendment to the Bethesda/Chevy Chase Master Plan, Approved and Adopted 1990. As such, this development has been included in the Indirect and Cumulative Effects analysis as a project likely to be implemented between 2012 and 2018. The development is also identified as a transportation-oriented development (TOD) in the land use analysis in Chapter 4 of the FEIS.*

The updated plan, the Chevy Chase Lake Sector Plan (M-NCPPC 2013, Draft) acknowledges that the Purple Line would be an integral part of the project by recommending a two-step amendment to the area's zoning. The first would precede the Purple Line and would rezone commercial properties in the Town Center along Connecticut Avenue between Chevy Chase Lake Drive and Manor Road to allow mixed residential and commercial uses.

The second, to be timed with Purple Line funding, would allow over one million square feet of new mixed-use development in remaining Town Center properties. This expanded level of development would allow more housing options, and community amenities such as parks and trails. It can be said that the Purple Line would induce the projects of the second step in the zoning amendments that would redevelop an urbanized area.

It is anticipated that any negative impact to water quality from the increased development would be avoided through the requirements of state and federal water quality regulations and the stated intent of the community to restore Coquelin Run.

L. Transportation and Safety Concerns

Summary of Comments: Approximately 50 comments related to concerns about transportation including public transportation (transit), highways/roadways, bicycle and pedestrian facilities, parking and safety/security. Some people were concerned that local bus service would be affected. Some felt that the Purple Line would not alleviate traffic congestion or lower travel times in the corridor; others noted concerns with the traffic effects at specific intersections or on specific roadways. There were comments relating to pedestrian access and circulation and requests for additional bicycle and pedestrian connections. There was a concern that the Purple Line would cause parking problems or result in the need for additional parking. Finally, there were concerns with safety and security along the Purple Line. Following is a discussion of each of these issues.

***Response:** Chapter 3 in this FEIS presents a more detailed discussion of the anticipated transportation effects of the Purple Line. Specific issues raised in the comments are addressed below.*

L.1 Public Transportation

Summary of Comments: Commenters stated concern about connectivity with other transit modes in the corridor. Commenters expressed concerns and asked questions about whether local bus services would be eliminated when the Purple Line service was initiated.

***Response:** FTA and MTA considered connections to other modes when planning the Purple Line. The four stations with connections to WMATA's metro system at Bethesda, Silver Spring, College Park and New Carrollton are projected to have the highest ridership followed by the Takoma/Langley Park station which is adjacent to the site of the proposed Takoma Langley Transit Center, the busiest bus stop location in the corridor. The Purple Line is not intended to replace or eliminate local bus service. It should eliminate the need for specific express bus routes such as*

WMATA's J4 which parallels much of the alignment and duplicative service such as the UMD Shuttle from campus to the College Park Metro station. In addition, local transit providers may make minor adjustments to bus stops to facilitate connections with the Purple Line stations.

L.2 Highways/Roadways

Summary of Comments: Some commenters stated the need to address congestion. Others were concerned about the impact of the Purple Line on local roads. Several comments were received relating to the effects at specific intersections, roadway crossings, or roadways:

- Several people cited concerns with crossing Connecticut Avenue at grade and the effects the Purple Line would have on existing congestion levels.
- Commenters were concerned about the intersection of Wayne Avenue and Fenton Street and feared that the Purple Line entering as a "fifth leg" of the intersection would worsen the traffic congestion at this location.
- Commenters were concerned about traffic operations on Wayne Avenue if the Purple Line were in mixed-traffic lanes.

Response: *While the Preferred Alternative will not cause a substantial reduction in area-wide roadway congestion, it would provide improved transit travel times and provide a new travel choice in this highly congested corridor. The Purple Line would provide improved travel times for transit riders because its use of dedicated or exclusive lanes will allow it to avoid back-ups and delays at many of the congested intersections in the corridor.*

Roadway and intersection improvements will be made throughout the corridor as part of the Preferred Alternative (see Chapter 3 of the FEIS) which would result in local improvement in congestion and levels of service. These include re-aligning intersections, and additional or longer turn lanes. The roadway changes will result in localized improvements to vehicular traffic operations. One example of this is the addition of left turn lanes along Wayne Avenue at Cedar Street, Dale Drive, and Manchester Road. The addition of dedicated left turn lanes at these key intersections and a left turn phase as part of the signal would improve traffic operations and further promote safety along the corridor. Another example is the re-alignment of Mustang Drive to connect to Riverdale Road directly across from 62nd Place. Eliminating the current "split" signal will improve traffic operations and facilitate safer pedestrian crossings. Finally, the addition of a dedicated left turn lane on westbound Riverdale Road at 67th Avenue will provide full-time, protected access to the Beacon Heights community. All of these improvements will result in improved local access and travel times.

Connecticut Avenue Crossing*—The Preferred Alternative includes a bridge carrying the Purple Line over Connecticut Avenue avoiding this potential conflict. In addition, the Capital Crescent Trail will cross Connecticut Avenue on a bridge adjacent to the transit bridge, eliminating the at-grade trail crossing of the busy roadway.*

Wayne Avenue and Fenton Street Intersection*—It is true that the Purple Line would require a new phase at this traffic signal when moving between Wayne Avenue and the library. The level of service is projected to be the same as under the no-build condition in the AM peak period, however in the PM peak period the level of service is projected to decline with the implementation of the Purple Line.*

Wayne Avenue Traffic Analysis*—Earlier traffic studies conducted along Wayne Avenue as part of the AA/DEIS have been updated and expanded in order to project future traffic operations, identify travel speeds and intersection delay, and to confirm appropriate intersection geometry and traffic control. MTA collected new traffic counts; conducted travel time runs; developed and calibrated traffic simulation models to reflect both existing and design year conditions; and worked closely with Montgomery County to establish all traffic study parameters.*

The resultant rail and roadway alignment provides slightly wider travel lanes to accommodate light rail vehicles in shared use lanes, along with new left turn lanes at Cedar Lane and Dale Drive, dedicated transit lanes approaching the Silver Spring Library and the Plymouth Tunnel, and an additional westbound lane through the Sligo Creek

Parkway intersection. The light rail will operate at or below the posted 30 mph speed limit and be subject to the same traffic signal control as all other traffic. Except for separate light rail signal phases at the intersections of Fenton Street, Dale Drive and the Plymouth Tunnel, traffic patterns are not expected to vary from existing conditions.

Although the Washington Metropolitan Regional Model projected a negative growth rate on Wayne Avenue, the Design Year traffic estimates assumed a 1% annual growth. In addition, the analysis included traffic expected to be generated by approved development in the immediate area. The study also included a projected mode shift from private autos to light rail of approximately three percent. Even with these higher traffic volume projections, plus the addition of light rail vehicles along the corridor, the analysis of the preferred alternative showed acceptable levels of service and delay.

L.3 Bicycle and Pedestrian Facilities

Summary of Comments: Commenters stated the need to improve bicycle and pedestrian facilities. One specific pedestrian enhancement that was recommended was to convert Bonifant Street to a pedestrian mall adjacent to the transitway and eliminate vehicular traffic and parking.

Response: *As described in Chapter 2 the Preferred Alternative includes the construction of the Capital Crescent Trail from Bethesda to Silver Spring with an increase in the number of formal access points to the trail. In addition to the trail, the Preferred Alternative includes numerous other bicycle and pedestrian facilities. Montgomery County's proposed Green Trail is included from Fenton Street to Sligo Creek Parkway and Trail. In-road bicycle lanes are being added to Piney Branch Road, University Boulevard, Kenilworth Avenue, and eastbound Veterans Parkway. In addition, a continuous bike path is being designed adjacent to the transitway through the UMD main campus. Where reconstructed, sidewalks are being upgraded to Americans with Disabilities Act (ADA) standards and new sidewalks are being added along Kenilworth Avenue, and wider sidewalks and crosswalks, pedestrian plazas and refuges will be constructed along University Boulevard where needed and feasible. The entire alignment is being designed to have safe, well-marked pedestrian crossings of the tracks. Stations are being designed with clearly marked, well lit, and accessible access and will have benches and bicycle racks as space permits. Montgomery and Prince George's Counties are also looking for opportunities for bike-share facilities at the stations. Secure scooter parking is not planned at this time.*

In response to the recommendation to convert Bonifant Street to a pedestrian mall, it should be noted that the Preferred Alternative retains parking between Georgia Avenue and Fenton Street on one side of the roadway and has one-way traffic on Bonifant Street. Montgomery County, the community, and local businesses have indicated that this block of Bonifant Street is an important link in the roadway network and that the businesses depend on adjacent parking.

As described in Section 3.3 of the FEIS, during construction there would be temporary sidewalk and trail route detours; alternate routing with appropriate signing would be designated. A Transportation Management Plan will address detours and temporary connections to maintain continuity of bicycle and pedestrian facilities during construction.

L.4 Parking

Summary of Comments: People expressed concerns that the Purple Line could cause parking problems and/or promote the need for additional parking. A specific parking recommendation included eliminating parking on Wayne Avenue.

Response: *Purple Line patrons are expected to access the system primarily by foot/bicycle and by transfer from other transit including Metrorail and bus. No new parking facilities would be constructed as part of the Purple Line. Publicly and privately-owned public parking garages exist near the Bethesda, Silver Spring, College Park and*

New Carrollton stations which are the stations with the highest projected ridership. In addition, some people who currently drive to a Metrorail station to park could instead walk to the Purple Line, and use that to connect to the Metrorail, reducing the need for parking.

The MTA understands concerns with impacts to parking along the corridor and continues to work with specific communities and business areas to address these concerns. While it is anticipated that most ridership will be "walk-up" or by transfer, if parking problems result from a specific station location the MTA will work with the community and County to identify the appropriate measure to address the issue. Potential measures can include time restrictions, which would allow local parking for businesses but eliminate all-day commuter parking.

The Preferred Alternative retains parking on Wayne Avenue during off-peak periods for the homes along that portion of the roadway.

The SSTC, College Park Metro Station, and New Carrollton Metro Station have kiss-and-ride facilities available that would be convenient for dropping off and picking up Purple Line patrons.

L.5 Safety and Security

Summary of Comments: Commenters stated concerns about the safety of light rail operations in roadways for traffic, pedestrians and bicyclists. Specific comments included:

- A comment outlined crime rates at WMATA Metro stations and suggested that extending the system beyond College Park would connect higher crime areas to low crime areas on the western end of the corridor.
- Residents of the Edgevale community expressed concern with losing access to the Capital Crescent Trail as this access serves a safe route to Bethesda-Chevy Chase High School (avoiding East West Highway) and provides a secondary access to the neighborhood (by foot) in emergencies if roadway access were cut-off.
- Comments wanted to ensure that school safety was a consideration in the analysis and evaluation of the alternatives. While some comments were general and others only mentioned one particular school, the main schools along the corridor are highlighted below.
- The Town of Chevy Chase requested that the MTA maintain access to the Capital Crescent Trail at Lynn Drive from the south side of the right-of-way.
- Commenters stated concern about the safety of shared use of the CSXT corridor.

Response: *The Preferred Alternative is being designed to be a safe and efficient system. Special attention has been given to situations where traffic shares, is adjacent to, or crosses the transitway. Measures will include signing, signal phasing and coordination, the addition of turn lanes, and the inclusion of curbs, barriers, and gates, as appropriate. Pedestrian and bicycle enhancements are also included throughout the corridor, and pedestrian crossings will be well marked and delineated. New trail and sidewalk connections are included, as well as bicycle lanes along certain roadways. In addition, speeds will be limited in areas of high pedestrian activity such as on the UMD campus. Finally, MTA will design the station platforms using their design principles to increase visibility and surveillance opportunities. Station access will be well marked, safe, and convenient, and stations will be monitored by closed circuit television. Stations located in areas of high visibility and activity also deter crime.*

Specific comments relating to safety and crime are responded to below:

Only Build from Bethesda to College Park*—Changing the project's eastern terminus to College Park would not meet the overall purpose and need of the project and also is not necessary as a public safety measure; the system and stations are being designed with security measures and monitoring..*

***Edgevale Community**—As part of the Preferred Alternative, a new path is included from East West Highway under the transitway and trail to Kentbury Drive across from Sleaford Road. This would provide improved access to the school as the current access across the trail is up and down steep slopes over tree roots, planks, and railroad ties. Residents of Edgevale could access this new path through private yards (as some do today) or from East West Highway. The entrance to the path along East West Highway is less than 300 feet along the sidewalk from the intersection with Edgevale Street. Residents wanting to walk into or out of the neighborhood via the trail could access this path via stairs adjacent to the path from Sleaford Road or via a ramp to the path just to the east along Kentbury Drive.*

***School Safety**—School safety is of paramount concern as is safety along the corridor. Special consideration was given to areas with expected high pedestrian levels, especially areas with high student activity.*

- ***Bethesda-Chevy Chase High School**—The trail is currently used by many students to access the high school. Some students travel along the trail while others cut across the trail. As described above, the path included between Kentbury Drive across from Sleaford Road and East West Highway would serve as access to the school for neighborhoods south of the trail and east of East West Highway. There are also ramp and stair connections to East West Highway from the trail. Finally, a grade separated trail connection from Lynn Drive under the transitway would provide access from the Town of Chevy Chase to the trail and connections at East West Highway.*
- ***Rosemary Hills Elementary School**—The transitway is located behind Rosemary Hills Elementary School and will be separated by a retaining wall and/or fence. Wider sidewalks are included along Talbot Avenue and on the Talbot Avenue bridge over CSXT.*
- ***Silver Spring International Middle School (SSIMS)**—FTA and MTA have worked with the Montgomery County Department of Education on the reconfiguration of the access and parking for the SSIMS. The design will improve the safety of the entrance along Wayne Avenue, improve the student drop-off zone, minimize conflicts between students and traffic, and channel students to sidewalks and crosswalks. In the vicinity of Dale Drive the school zone would be maintained at 25 mph for the light rail and automobile traffic. The light rail would essentially operate in middle lanes of the roadway, similar to a bus that would travel along Wayne Avenue. Access to the station would be via a well-marked crossing at the intersection with Dale Drive.*
- ***University of Maryland**—FTA and MTA continue to work with the UMD on the design of the Purple Line through campus. Trains would not exceed 15 mph through the center of campus with the highest levels of pedestrian activity. The Purple Line and UMD would also share security measures at campus stations.*
- ***Glenridge Elementary School**—The Glenridge Maintenance Facility would be located behind Glenridge Elementary School. The Maintenance Facility would be located below the grade of the school fields and would be totally fenced off from the surrounding areas. In addition, the design of the Maintenance Facility allows land currently being used for the park maintenance facility to be converted to additional recreational space for the school.*

In cases where construction would be on or adjacent to school property, FTA and MTA will continue to coordinate with the public schools to minimize disruptions to school activities.

***Lynn Drive**—After an extensive safety analysis, the MTA has determined that the risks associated with an at-grade crossing of the alignment are too great. The MTA has developed several grade-separated options which it is reviewing with the Town of Chevy Chase and Montgomery County.*

***Shared Use of the CSXT Corridor**—The MTA, the CSXT, and WMATA are all cognizant of the risks associated with the operation of their trains in adjacent rights-of-way. CSXT has a light rail policy in place to maintain safe distances and protections. CSXT requires either a 50-foot separation between the centerline of the nearest CSXT track to the centerline of the nearest light rail trail, or if a crash wall is used, a 25-foot separation between the*

centerline of the nearest CSXT track and the crash wall, with an additional 7.5-foot separation between the crash wall and the nearest light rail track.

The MTA will provide these minimum separations and crash walls where the Preferred Alternative parallels the CSXT tracks. The MTA will meet all safety requirements specified by CSXT, including appropriate vertical separation where a structure is constructed over the CSXT tracks. Chapter 2 of the FEIS includes a figure that illustrates the typical section of the light rail adjacent to the CSXT tracks, with a crash wall between the two sets of tracks. Chapter 2 also includes a similar figure that incorporates an extension of the Capital Crescent Trail into the CSXT right-of-way. As previously noted, completing the trail along the CSXT corridor is contingent on agreement with CSXT on using their property on the north side of the CSXT tracks for the trail.

The proposed location of the trail on the north side of the CSXT Metropolitan Branch corridor is dependent on an agreement between CSXT and Montgomery County. Appropriate safety requirements for the trail would be identified in this agreement.

M. Specific Design Comments

Summary of Comments: Approximately 70 comments dealt with more detailed design issues such as a shift in the alignment, the location of a station or access to a particular business or planned project. These comments are addressed below and fall into the general categories of station location and design, storage yard and maintenance facility, trail design and access, local access, track layout and design, vehicle design/method of payment, re-use of existing structures, streetscape elements, maintenance, and design coordination.

Response: *As the project moves through Preliminary Engineering, FTA and MTA will continue to work with property owners and communities on specific design issues. Some of the issues noted below have been resolved while others will be addressed as part of completing design work on the project.*

M.1 Station Location and Design

Summary of Comments: Several comments were received on the location and design of the stations.

Response: *Station locations were determined based on ridership, geometric constraints (stations need to be located on straight sections of track), and accessibility while trying to reduce impacts to surrounding homes, businesses, and environmental resources. Stations are being designed to provide a pleasant patron experience. They would be well lit and attractive; distinguishable from Metro; made of durable, low maintenance materials; and include communications including next train information, ticket vending machines, and safety and security coverage. Although some commenters requested that retail be added to the station areas, this would occur separately from the Purple Line project.*

Lyttonsville Station

Summary of Comments: Some comments requested that the station be located closer to Stewart Avenue and others suggested it be closer to Grubb Road (or to add another station at Grubb Road).

Response: *Since the publication of the AA/DEIS, the MTA has worked with the Lyttonsville community in locating the proposed Lyttonsville station. The station planning efforts have resulted in the station being located just east of Lyttonsville Place as shown in the Preferred Alternative. Many factors went into this decision including design constraints, access, and visibility of the station. There are curves along the alignment on either side of the Lyttonsville station area from Rock Creek Park on the west and to the CSXT corridor on the east. Some shift of the station was possible; however after studying the area, the location included in the Preferred Alternative, just east of Lyttonsville Place was deemed the most appropriate location.*

The track alignment near Grubb Road is on a curve making it difficult to place a station in this location. An additional station at Grubb Road would be too close to the Lyttonsville station and relocating the Lyttonsville station to Grubb Road would move it farther from the high density employment at the Forest Glen Annex and neighborhoods to the east. The Lyttonsville station would be accessible to people in the Grubb Road area through the local street system as well as the future permanent Capital Crescent Trail. There is a proposed trail connection at Grubb Road and a walk to the station from this point would be just over ¼ mile.

At the request of the community, MTA also looked at shifting the station closer to Stewart Avenue. Due to the curve in the alignment at this location, it would not be possible to shift the station all the way to Stewart Avenue. A slight shift would move closer to Stewart Avenue and the Forest Glen Annex; however the limited right-of-way would result in additional impacts. More importantly, this would place the station "out of view" of Brookville Road, Stewart Avenue, and Lyttonsville Place which was deemed less desirable from an urban design, safety, and security standpoint. The proposed station location at Lyttonsville Place has a strong visual connection to the roadway above. Patrons from the Forest Glen Annex or neighborhoods to the east could access the station via Brookville Road to Lyttonsville Place or via the future Capital Crescent Trail from Stewart Avenue to the station. The walk from Stewart Avenue to the proposed station is less than 1000 feet. In addition, the design of the station is being developed to have a strong visual identity at the street level so people can locate the station and MTA and the County recognize the need to upgrade sidewalks along Brookville Road.

Kenilworth Avenue/Riverdale Park Station

Summary of Comments: Comments noted that the Riverdale Park station could be an important catalyst for growth and redevelopment in the surrounding area.

Response: *The Preferred Alternative includes an elevated station in this area tied to the bridge over the intersection of Kenilworth Avenue and East West Highway. M-NCPPC—Prince George's County has included this station in their TOD study for the area and envisions redevelopment around this transit station and public space. The station is being designed to complement the plan with special attention to the design of the station and public plaza below.*

Connecticut Avenue Station

Summary of Comments: Several comments referenced a proposed station at Connecticut Avenue, mostly in reference to traffic impacts and development.

Response: *The Preferred Alternative includes a station at Connecticut Avenue. The AA/DEIS included some alternatives that crossed Connecticut Avenue at-grade which would have affected traffic but the Preferred Alternative crosses over Connecticut Avenue on a bridge eliminating any conflict between the light rail trains and traffic on Connecticut Avenue. One comment expressed opposition to the bridge stating that it would deface the area and be a visual intrusion. FTA and MTA understand that the bridge is a new visual element over Connecticut Avenue and have worked with Montgomery County on the design of the structure. The Connecticut Avenue station is projected to have good ridership, serves and area with planned development, and without that station there would be no stops between Bethesda and Lyttonsville, a distance of approximately 2 ¾ miles.*

M Square/River Road Station

Summary of Comments: Comments on the AA/DEIS stated a preference that the M Square Station along River Road be located at Rivertech Court in order to better serve residents of Riverdale.

Response: *Since the AA/DEIS, MTA met with representatives of the UMD (the owners/developers of M Square), the Town of Riverdale, property owners, and the community to discuss options for the station location. Based on these discussions, consensus was developed to move the station from Rivertech Court to Haig Drive/University Research Court. This shift of approximately 700 feet was determined to best balance the needs of M Square and the community. It was farther from the College Park Metro station serving a different part of the development and was*

still accessible to the community either via River Road from Rivertech Court or from a newly proposed path from Tuckerman Street in the community directly to the station area and park.

M.2 Storage Yard and Maintenance Facility

Summary of Comments: There were several comments about the storage and maintenance facilities.

Response: *Since the AA/DEIS, MTA has worked with the communities, Montgomery and Prince George's Counties, and Prince George's County Parks to reduce the size of the facilities, minimize potential impacts to the surrounding communities, and reduce redundancies between the two locations. As a result the Lyttonsville site will be primarily the storage yard and operations center and the Glenridge site will be primarily the maintenance facility. In addition, the location of the Lyttonsville yard was shifted and the configuration of the Glenridge facility was changed to respond to community concerns and to reduce impacts to surrounding communities. A summary of the efforts that went into this decision and a description of the two facilities can be found in Chapter 2, in Sections 2.2.2 and 2.3.2. Each has been designed to fit into the surrounding area.*

M.3 Trail Design and Access

Summary of Comments: Numerous comments related to the design of the Capital Crescent Trail including its width, access points, and connections. Most comments were based on the popularity of the trail and its importance in a broader, well connected trail network. Some suggested that the trail extend the entire length of the Purple Line. Some suggested that the trail be constructed on the south side of the Purple Line alignment, particularly between Bethesda and Connecticut Avenue. Many people supported the trail continuing through the "tunnel" in Bethesda

Response: *The trail is part of the Preferred Alternative included in the FEIS and is described in more detail in Chapter 2. It would be constructed at the same time as the Purple Line but is a separate project that will be funded and maintained by Montgomery County providing a continuous off-road trail between Bethesda and Silver Spring. Montgomery County has included funding for the trail in its current Capital Improvements Program (CIP).*

In response to the suggestion that the trail extend the entire length of the Purple Line, the issue is one of available right-of-way. Montgomery County purchased the Georgetown Branch right-of-way for use as a transitway and trail. As stated above, the Capital Crescent Trail is a Montgomery County project that would be constructed at the same time as the Purple Line. The MTA is not able to purchase right-of-way to construct a trail and there is no comparable right-of-way east to New Carrollton. However from Silver Spring, the Capital Crescent Trail would tie into a broader trail network including the Metropolitan Branch Trail and Green Trail. In Prince George's County,M-NCPPC studied future bicycle and pedestrian access throughout the corridor and is looking to implement additional improvements throughout the area. While not a continuous trail, the Purple Line Preferred Alternative includes bicycle and pedestrian improvements throughout the corridor. They are described in more detail in Section L—Transportation and Safety.

The suggestion that the trail be constructed on the south side of the alignment. This was studied in the planning phase of the project and the north side alignment was determined to be preferable. The concrete pillars associated with the East West Highway bridge over the trail constrain the design. Siting the trail on the north side of the alignment allows for the maximization of green space between the trail and the transitway. Additionally the amount of retaining wall needed is reduced with the trail on the north side.

The trail through the "tunnel" in Bethesda was part of the LPA and included in many of the alternatives studied in the AA/DEIS. Following the publication of the AA/DEIS, the Preliminary Engineering phase of the project included more detailed engineering analyses that revealed the high cost and risk associated with carrying the trail through the tunnel. Montgomery County concurred that the cost and risk associated with this concept was too great for the trail experience that would be provided and a decision was made to follow a street running alignment from Elm

Street Park to the current Capital Crescent Trail towards Georgetown. MTA is working with Montgomery County to determine future opportunities to continue the trail under Wisconsin Avenue when and if the existing buildings redevelop. In response to County requests and concerns of community members the Preferred Alternative includes a 5-7 foot sidewalk through the tunnel. This sidewalk would provide access to the Purple Line Station, Bethesda South Metro Entrance, Elm Street and Woodmont Plaza and would avoid the need to cross Wisconsin Avenue at-grade.

M.4 Local Access

Summary of Comments: The following are comments related to local access issues that were not covered in other sections of the response to comments.

- Access to Langley Park Plaza with the removal of a traffic signal on Unviersity Boulevard.
- One comment suggested making Dartmouth Avenue between Wayne Avenue and Dale Drive a cul-de-sac to prevent cut-through traffic

Response:

Langley Park Plaza Shopping Center*—The alternatives in the AA/DEIS would have eliminated an existing traffic signal along University Boulevard that provided access to the Langley Park Shopping Center, restricting the entrance to right-in/right-out access. Since that time, MTA has worked with the property owner to retain the signalized entrance and it is included in the Preferred Alternative.*

Dartmouth Avenue*—The Preferred Alternative includes the addition of left turn lanes at Wayne Avenue and Dale Drive which is projected to improve the operations of that intersection. The dedicated left-turn phase at Dale Drive should make northbound trips more efficient and reduce the desire for motorists to cut through the neighborhood. Southbound vehicles could turn right at Wayne Avenue as they do today without interaction with the Purple Line. If the neighborhood desires changes to this local roadway the residents would have to contact the Montgomery County Department of Transportation and have a broader study and discussion with all of the residents. The Preferred Alternative maintains the intersection of Dartmouth Avenue at Wayne Avenue.*

M.5 Track Layout and Design

Summary of Comments: Several people commented on the track layout and design. This included comments on the number of tracks and the type of track bed.

- There was one suggestion to use girder rail on the project.
- There was a suggestion to add a third track for the entire length to limit the effects of maintenance or track closures.
- Commenters suggested single tracking portions of the Purple Line to reduce impacts.
- Prince George's County initially requested that the LRT run in dedicated lanes in this area.

Response:

Track Type*—Tracks along the corridor will vary by area and primarily include embedded, ballasted, direct fixation, and possibly green track. These are described in more detail in Chapter 2. Both ballasted and green track sections are pervious to varying extents, minimizing stormwater and runoff effects. In some locations the track is dictated by the design (i.e., when sharing with traffic tracks need to be embedded) while in other locations different types of track can be considered. The type of track is being assessed based on design, maintenance, and other considerations.*

Girder rail will not be used as it is no longer produced in the US and there are project requirements for domestically produced materials. It is no longer an industry standard and is hard to replace.

***Addition of a Third Track**—The costs and impacts associated with a third track for the entire length of the project make this infeasible. Cross-overs (places where the train can move from one track to another) are being placed at regular intervals to minimize delays during a track closure.*

***Single-Track**—MTA studied single-tracking sections of the line. The analysis and findings were documented in the report "Opportunity for the Use of a Single Track along the Georgetown Branch Right-of-Way," updated July 8, 2010. The study found that introducing a single-track segment between Bethesda and Connecticut Avenue would significantly compromise travel time savings, service frequency, passenger carrying capacity, and the maintenance and operating reliability of the entire Purple Line, thereby reducing the effectiveness, efficiency, and the return on a more than billion dollar investment. These issues are compounded for the Purple Line because of the restriction on having a tail track or pocket track at the Bethesda terminal station and train lengths limited to a two-car train. Because of the tightly constrained width of right-of-way the amount of tree clearing would be no different for a single track proposal. The reduction in the amount of tree clearing hoped for from building a trail and single-track segment would not be achieved because of the amount of space needed to construct the permanent trail, associated buffers, and the transitway. A single-track segment between Bethesda and Connecticut Avenue would have adverse impacts to the entire Purple Line system in Montgomery County and Prince George's County. These impacts would be:*

- *Longer travel times to the riding public—due to the need to wait for trains in the opposing direction; a delay along any part of the entire line would be compounded by this single-track section.*
- *Less frequent service—trains would not be able to operate at six-minute headways, resulting in a less convenient, less attractive service.*
- *Lower passenger capacity due to less frequent service and inability to add trains, which will limit future ridership growth.*
- *Difficulty in operating the trains on a reliable schedule. The use of single track segments requires that the trains operate on a very strict schedule. The fact that much of the Purple Line would be operating on existing roadways and would be exposed to interactions with other traffic makes maintaining a predictable schedule a challenge. For example, a westbound train coming from Silver Spring that has been slightly delayed by traffic on Wayne Avenue could hold up the departure of an eastbound train in the Bethesda station.*
- *Overall restrictions to operations and maintenance, requiring night-time maintenance work or total service shut down between Bethesda and Silver Spring to perform required maintenance.*

The projected ridership for the Purple Line is quite high, and the state of Maryland had concerns about the fiscal prudence of investing in a project of this scale with capacity constraints in the face of increased ridership.

***Dedicated Lanes on Paint Branch Parkway**—The decision was made to use shared lanes based upon project cost, right-of-way takings, and environmental impacts.*

M.6 Vehicle Design/Method of Fare Payment

Summary of Comments: Commenters asked what kind of vehicle would be used for the Purple Line. One suggestion was to have windows that open in the vehicles; another suggested the use of "split axles."

***Response:** The exact vehicle has not been determined at this time; however a general "family" of vehicles was determined. Vehicle specifications will be developed during completion of design work. As noted in a comment, windows that open can provide fresh air on nice days but most recent vehicles are outfitted with fixed windows that allow more efficient temperature control (hearing and air conditioning) and safety measures. Another comment*

suggested the use of "split axles" to reduce noise from the wheels; however, this technology is typically used with 100% low floor vehicles, not the "regular" 70% low floor vehicles proposed for this project. Finally, the Purple Line is planned to be compatible with the WMATA SmarTrip card.

M.7 Re-use of Existing Structures

Summary of Comments: One comment suggested that the existing trestle bridge carrying the trail over Rock Creek be re-used in the Purple Line.

Response: *The layout of the LRT and trail bridges is not conducive to the reuse of the existing bridge lengths. The project is lowering the existing grade in the area to assist in the widening of hill tops to support both the LRT and the trail. Due to the sensitive nature of Rock Creek, the goal is to span the creek without putting additional pier supports in the stream. The existing prefabricated trusses are not long enough to facilitate this construction. However, MTA and Montgomery County are looking to re-use portions of the bridge for other trail connections in the County.*

M.8 Streetscape Elements

Summary of Comments: Commenters stated support for the inclusion of "streetscaping" in the plans.

Response: *Urban design and streetscape elements will be further incorporated into the plans during completion of design work. Many of these elements are conceptual at this phase. Lighting is being designed appropriate for the area, limiting spill-over into adjacent residential areas. Landscaping will be incorporated into the design at stations and along the corridor. TPSS will be landscaped, fenced, or have other treatments appropriate to their location. Finally, there is an Art in Transit program with a goal "to make the light rail station distinct in its design and artistic impact; encourage civic pride; and reinforce meaningful neighborhood identities." FTA and MTA are working to identify and prioritize opportunities for artistic enhancement along the entire project including stations, structures, walls and fences. An overall concept is being developed to tie together elements and system-wide approaches for art along the Purple Line. There will be community involvement as the program moves forward.*

M.9 Maintenance

Summary of Comments: Commenters stressed the importance of maintenance on the Purple Line, especially from the impacts of weather.

Response: *The Purple Line is being designed to criteria that have been developed for the safety, performance, and sustainability of the system. This will minimize the effects of weather including snow and ice on the tracks. The future maintenance of elements of the system such as shared roadways, snow removal, maintenance of stormwater facilities, etc. will be the subject of agreements with partner agencies such as the Maryland State Highway Administration, Montgomery County, Prince George's County, M-NCPPC, and the UMD.*

M.10 Design and Construction Coordination

Summary of Comments: Commenters stated concern that design and construction need to be coordinated with other agencies and projects. There was also a concern about the safe removal of hazardous materials.

Response: *FTA and MTA will continue to coordinate detailed design and construction issues with partner agencies and the public as the project moves forward. As requested by Maryland Department of the Environment, removal of above ground or underground petroleum storage tanks, as well as general solid waste associated with construction, will be performed and disposed of in the appropriate manner and in accordance with applicable state and federal laws and regulations.*

M.11 Construction Phasing

Summary of Comments: Several people and Prince George's County suggested starting construction on the east end of the project in New Carrollton,

Response: *Chapter 5 of the FEIS identifies construction areas and mentions that construction would likely begin simultaneously in several places. Some elements will require the full five years for construction. A sequence of construction by area has not been developed. A minimal operable segment (MOS) has not been analyzed.*

N. Concerns with Alignment through University of Maryland

Summary of Comments in General: The UMD as well as a few commenters identified issues with the alignment through the UMD and its potential impacts. Several other commenters identified the benefits of having the alignment through the campus.

Response: *Subsequent to submitting these comments, UMD and MTA formed a Purple Line Work Group. The collaborative partnership resulted in the design of the MTA's Preferred Alternative of the Purple Line alignment through the College Park campus and the group continues to coordinate as the design is developed in more detail. In addition, a Term Sheet was developed to address the University's concerns with the Purple Line project and it will serve as the basis for a future agreement between the MTA and the University..*

N.1 Preinkert Drive Alignment

Summary of Comments: Many comments stated that the Preinkert Drive alignment would be more supportive of the University's Master Plan goal of closing Campus Drive to through traffic. Other comments stated that the Preinkert Drive alignment presents safety hazards due to pedestrian and bicycle traffic between LeFrak Hall and the South Campus Dining Hall. Additional concerns cited visual and historic impacts to the Morrill Hall Quadrangle as a result of the Preinkert Drive alignment.

Response*: MTA evaluated the Preinkert/Chapel alignment carefully to try to find an alignment that would meet the project's needs. This initial analysis is included in the "Technical Memorandum Evaluation of the Use of the Preinkert Drive Alignment for the Purple Line," available on the project website. While the alignment, and therefore the station location, is not as central as the Campus Drive alignment, its location is acceptable; however, the physical constraints imposed by the topography and the proximity of the existing buildings result in an operating environment that is not acceptable. The restricted sight lines for the light rail operator create conditions under which the MTA could not agree to operate the system. The risk to pedestrians and bicyclists from the pinch points, limited sightlines, and the impossibility of ensuring that no pedestrians would be in the prohibited area is too great to be accepted by the MTA. UMD and the project study team also evaluated tunnel alignments, but all were dropped from further consideration due to impacts and costs.*

Subsequent to this and other evaluations MTA and UMD agreed on some modifications to the Campus Drive alignment and abandoned further consideration of the Preinkert Drive alternative. Further, UMD adopted its 2011-2030 Facilities Master Plan, which includes the Purple Line on Campus Drive.

N.2 Other Alignments

Summary of Comments: A few comments suggested other alignments on the "outskirts" of campus including alignments that followed Knox Road and/or alignments around Comcast Center.

Response: *MTA reviewed numerous alignments through and around the University of Maryland Campus. Through consultation with the University it was decided that the Preferred Alternative should serve the core of campus and follow Campus Drive. Alignments along Knox Road and around Comcast Center each had*

engineering and physical constraints and impacts associated with connecting back to the overall alignment each of campus.

N.3 Construction and Operating Agreements

Summary of Comments: the MTA should enter into both a construction agreement and an operating agreement with the University before the Regents grant access to the MTA or any others to construct a regional transportation system on University land. Construction must be managed to ensure the University can continue its educational and research activities unhindered.

Response: *Subsequent to the AA/DEIS, UMD and MTA Purple Line Work Group, worked together to design the MTA's Preferred Alternative of the Purple Line alignment through the College Park campus. Early in the Work Group efforts, a Term Sheet was developed for consideration by the UMD Board of Regents. The Term Sheet addresses the University's concerns with the Purple Line project as described in the AA/DEIS and presents alignment modifications/options and mitigation measures mutually acceptable to MTA and UMD. The term sheet has informed ongoing coordination and serves as the basis for the Memorandum of Agreement (MOA) currently under development between UMD and MTA. This MOA would supersede the Term Sheet should the project move forward.*

Through the ongoing efforts of the Work Group and detailed design reviews, UMD and MTA will further identify and define the portions of the alignment requiring mitigation for sensitive research. The mitigation will be included in the MOA.

N.4 Electromagnetic Interference

Summary of Comments: There is concern that the LRT vehicles would produce electromagnetic interference (EMI) potentially affecting several major science research buildings (especially those which use modern electron beam instrument operation).

Response: *MTA and UMD together and separately identified the existing conditions on campus as they relate to existing electromagnetic fields and the potential electromagnetic interference (EMI) generated by LRT vehicles of different consist sizes and travel speeds, and they documented the sensitivities of research equipment, such as scanning electron microscopes, used at several University buildings. MTA proposes a combination of design and mitigation remedies that would allow the light rail system to operate through the campus without causing undue problems due to EMI for the sensitive instruments on the University campus. As discussed in the "MTA Purple Line Technical Memorandum Electromagnetic Emissions and Mitigations" (available on the Purple Line website), a combination of automatic controls limiting the speed and acceleration rate of the light rail vehicles as they pass through the campus and a double feeder power supply system would reduce the EMI associated with the operation of the light rail vehicles. If necessary, this strategy will be supplemented with active cancellation or passive shielding that would protect individual research equipment (existing and future) within a certain distance of the LRT alignment. EMI mitigation was also a component of the Term Sheet. Through the ongoing Work Group and design reviews, UMD and MTA will continue to work together to define the areas requiring mitigation and the type of mitigation most appropriate.*

N.5 Vibration

Summary of Comments: There is concern that several research buildings would be affected by vibration associated with the passby of the LRT vehicles, making current research buildings unsuitable for highly sensitive work.

Response: *As agreed upon between UMD and MTA as an outcome of the Work Group, MTA will analyze extremely vibration sensitive buildings located within the UMD campus through a detailed vibration study to be*

undertaken during completion of design work. The study will establish criteria, guidelines, monitoring requirements, exceedence protocols, and timetables for the future operation of Purple Line LRT vehicles within the UMD Campus. MTA will design the guideway adjacent to vibration-sensitive facilities to minimize ground-borne vibration consistent with proven industry practices and maintenance requirements to meet the greater of the ambient vibration levels or the NIST-A within 100 feet of the nearest track centerline at existing and potential research laboratories for a period of 30 years. After that time, UMD and its research partners will design their research activities to accommodate the background conditions resulting from the Purple Line.

Where the Preferred Alternative transitway centerline would be within 100 feet of existing or potential research laboratories, the transitway would be designed to meet the more restrictive of the ambient vibration levels or the NIST criteria of 42 VdB.

N.6 Noise

Summary of Comments: The AA/DEIS does not make clear what FTA Land Use Category was used for the University. While much of the campus is dedicated to Category 3 uses (institutional daytime uses), significant portions could be considered Category 2 uses (residential) and Category 1 uses (sensitive buildings), such as those buildings which are involved with noise sensitive research.

Response: *The Purple Line Noise Technical Report for the FEIS details FTA Land Use Category applied to each site. Eight representative locations were identified within the UMD campus. Six sites were classified as Category 3 for institutional uses, which include schools, libraries and theaters where it is important to avoid interference with such activities as speed, meditation and concentration on reading material; and two were classified as Category 2, representing dormitories and other housing. No Category 1 sites were identified on the campus. Category 1 is defined as buildings or parks where quiet is an essential element of their intended purpose, and it includes National Historic landmarks with significant outdoor usage as well as recording studios and concert halls. A screening distance of 350 feet from each side of the centerline of the track was used to identify sites to be evaluated.*

To help reduce future noise exposure during daily line operations, vehicle skirt panels were included in the design for the LRT vehicles. The skirt panels would reduce the noise caused by the interaction of, and friction between, the wheels pressing down on the rails as the train travels along the transitway, reducing vehicle noise by 8 dBA along the entire length of the project corridor. With this design feature in place, MTA found that no noise impacts would result to the uses on the UMD campus based on FTA criteria. Should UMD identify buildings for which the Category 1 use would apply, the MTA would predict the project's effect on those buildings to determine if they would be impacted by the project, and if so, MTA would design mitigation measures to avoid or minimize the impact.

Additional potential noise sources to the campus receptors include the PA systems used to announce the arrival of the LRT vehicles, wheel squeal, and the hum associated with the TPSS. The PA system would have automatic volume adjustment controls designed to maintain announcement volume at a specified few dBA above ambient noise levels. With proper use, short-term noise from the PA system announcements is not expected to be a noise annoyance to sensitive receptors adjacent to stations. Regular maintenance of the wheels and brake pads would minimize the noise generated by wheel squeal, and the TPSS facilities would be designed in accordance with the MTA design criteria intended to minimize the noise from the transformer hum. It should be noted that the TPSS locations were identified to reduce potential noise or EMI effects on campus activities. The proposed TPSS are located off the main campus away from sensitive research locations; one on the south side of Campus Drive near the Adelphi/West Campus Station and one in East Campus adjacent to Ritchie Coliseum. Similarly, the stations are located adjacent to Adelphi Road near UMUC, in the center of Campus near the Cole Student Activities Building, and in East Campus near the new proposed mixed-use development. These locations are also away from most potential noise sensitive resources.

Additionally, UMD and MTA have agreed that MTA will establish a monitoring program to verify the efficacy of the design and operational criteria in meeting the limits detailed in the various studies and documents prepared by the MTA and UMD. MTA shall be responsible for the costs of the monitoring program, and it will perform the monitoring in conjunction with UMD.

O. Comments on the Alignment along Ellin Road and the New Carrollton Station Area

Summary of Comments: Less than 20 comments were received regarding the alignment along Ellin Road and the New Carrollton Station area. Comments include concerns over the Ellin Road alignment including concerns about pedestrian safety, traffic and parking; potential impacts to homes; and environmental concerns relating to noise and vibration. Most of the comments came from residents of the Hanson Oaks/Old Ardwick-Ardmore Community which has homes backing to Ellin Road and only one access point. Some residents expressed a preference for an alignment along Harkins Road rather than Ellin Road. People asked for efficient transfers between the Purple Line and WMATA at New Carrollton and some noted a desire to design the alignment to accommodate a future extension beyond New Carrollton. Finally, comments noted the need to continue to work closely with the community to minimize impacts.

Response: *FTA and MTA continue to work to address community concerns and to minimize impacts in the New Carrollton area. The Preferred Alternative follows Ellin Road to the New Carrollton Metro station and the design continues to be refined to further minimize potential impacts. As described below, the Preferred Alternative includes design refinements that moved the tracks further from the Hanson Oaks Community and reduced environmental impacts.*

O.1 Pedestrian Safety, Traffic and Parking

Summary of Comments: Commenters stated concern about pedestrian safety in the area, particularly at the intersection of Hanson Oaks and Ellin Road.

Response: *The Preferred Alternative includes the addition of a new traffic signal at Hanson Oaks Drive and Ellin Road. This would help facilitate left turns out of the neighborhood, something people noted is sometimes difficult today and they were concerned would become more difficult with the introduction of the Purple Line. The need for gates at this intersection will be determined based on the design of the intersection. Some in the community have stated a desire for gates to give an extra measure of safety. If gates are installed, they would not impede emergency access to the neighborhood. School buses could still stop at the corner and sidewalks would provide a safe place for students to wait. Improved pedestrian connections are included from neighborhoods to the south along Veterans Parkway improving access to both the Purple Line and Metro. Finally, although the Purple Line patrons are expected to walk or transfer from bus or Metro, the future plans for the area around the Metro station includes additional parking; therefore no parking impacts are anticipated within the neighborhood.*

O.2 Impacts to Homes

Summary of Comments: Commenters expressed concern about the proximity of the light rail to residences in Hanson Oaks.

Response: *The Preferred Alternative has been modified. The Purple Line is now mostly shared within traffic lanes on Ellin Road rather than being located on the side of Ellin Road adjacent to the Hanson Oaks community. This results in the alignment being further from the community.*

O.3 Environmental Concerns

Summary of Comments: Commenters stated concern about noise impacts to the Hanson Oaks community from light rail operations.

Response: *As shown in Sections 4.11 and 4.12 of this FEIS, detailed noise and vibration studies have been conducted. Due to the proximity to a grade crossing, which would require horns to be blown, one apartment building along Ellin, containing approximately six residential units, would be moderately impacted. There are no anticipated vibration impacts in the community.*

As explained below under Community Involvement, the community was able to reach out to the SHA through the Purple Line project. This has resulted in SHA determining that the Hanson Oaks / Old Ardwick-Ardmore community is eligible for highway noise barriers. The noise barriers are not part of the Purple Line project but will mitigate against the adjacent highway noise and provide an overall reduction in anticipated noise levels in the neighborhood. The refinement to the design described above also results in a reduction of potential stream and forest impacts.

0.4 Harkins Road

Summary of Comments: Commenters asked that an alignment on Harkins Road, instead of Ellin Road, be further evaluated.

Response: *At the request of the Hanson Oaks community, the MTA prepared a more detailed analysis of light rail alternatives on Harkins Road and verified and prepared a more detailed explanation of why Ellin Road was selected for the LPA. The study, including an explanation of the factors considered in the decision-making process, is summarized in "Comparison of Harkins Road to Ellin Road for the Purple Line Alignment," December 2009, included in "Supporting Documentation on Alternative Development."*

In this study, MTA considered three different options on Harkins Road: at-grade on Harkins Road, turning southwest at the New Carrollton Metro station; at-grade on Harkins turning northeast at the New Carrollton Metro station; and a tunnel underneath Harkins Road and under the existing Metrorail and Amtrak/MARC tracks. All three of these options could be constructed, but all are problematic, with substantial issues. However, the cost of a tunnel underneath the existing Metrorail and Amtrak/MARC tracks is so high that the tunnel was eliminated from further consideration.

The at-grade options on Harkins Road were not substantially different from each other in cost or impacts. Both had a substantially lower cost than the tunnel and they met the purpose and need of the Purple Line Study. However, the at-grade variations would either preclude Prince George's County's plan to extend the Purple Line further south or not provide a convenient connection to the existing Metrorail/Amtrak/MARC platforms. The Harkins Road options all resulted in impacts, including displacements, to local businesses.

The Ellin Road alternative is faster, meets project goals of connectivity to Metro, MARC and Amtrak better, minimizes impacts to businesses, and facilitates a future extension without incurring excessive project costs. While the transitway would pass by residential areas, this is typical of other areas of the project alignment and has minimal impact to the communities. The property adjacent to the light rail would be landscaped to provide a visual screen. Plans for this would be developed in a cooperative process with local residents. The study concluded that the Ellin Road option did not have unacceptable impacts to the local communities, and would work best from a transit operations perspective.

0.5 Connections to Metro

Summary of Comments: Commenters stressed the importance of a good connection to Metro at New Carrollton.

Response: *The proposed New Carrollton Purple Line station is located immediately adjacent to the entrance to the New Carrollton Metro and MARC station to facilitate efficient transfers. FTA and MTA continue to coordinate with WMATA on the reconstruction of the existing bus loop and kiss and ride lot as well as ongoing plans for future TOD on the site. All of the plans recognize the importance of convenient and efficient transfers.*

O.6 Future Extensions

Summary of Comments: Prince George's County requested that the Purple Line be designed to facilitate a future extension at New Carrollton.

Response: *Tthe eastern end of the Preferred Alternative in New Carrollton has been designed to facilitate a future extension of the Purple Line, if desired.*

O.7 Community Involvement

Summary of Comments: Commenters stated the need for community engagement in the Hanson Oaks area.

Response: *Since the publication of the AA/DEIS, MTA met directly with the Hanson Oaks Community four times including one neighborhood walk with community members. In addition, the MTA held Community Focus Group and Neighborhood Work Group meetings for the New Carrollton area and larger Open Houses throughout the corridor, including two in the New Carrollton area. Finally, MTA met with local elected officials to discuss the concerns of the community. These meetings have resulted in refinements to the Preferred Alternative. FTA and MTA will continue to coordinate with the community as part of the ongoing outreach efforts for the project. Of particular note, at the request of the community, MTA asked the SHA to attend some of the community meetings to address existing noise issues associated with the nearby highways. This opened a dialogue with the SHA and resulted in updated noise studies and analysis which showed that the community met the criteria for noise walls. As a result, SHA continues to work with the community on the future implementation of a noise wall project.*

P. Suggestions for Extensions or Connections to Purple Line

Summary of Comments: Less than 20 comments included suggestions to extend the Purple Line alignment beyond the termini at Bethesda and New Carrollton or to add connectors to the system. Most of these comments were in conjunction with support for the project. Extensions that were suggested include the following:

- Continuing the system around the entire Capital Beltway
- Extending from Bethesda to Virginia, tying into the Orange Line, Tysons Corner, or Dulles Airport
- Extending from Bethesda along the Georgetown Branch to Georgetown and Washington DC
- Extending to Washington DC and Anacostia
- Extending from New Carrollton to FedEx Field, Landover, Largo, Prince George's Community College, Suitland, Andrews Air Force Base, Branch Avenue, National Harbor, Fort Washington, or to Virginia via the Woodrow Wilson Bridge
- Extending from New Carrollton to Anne Arundel County and Annapolis
- Extending from New Carrollton to Waldorf and Charles County
- Extending or connecting to Olney
- Extending or connecting to Bladensburg or Prince George's Hospital Center
- Connecting to Glenmont
- Connecting to the I-95/I-495 Park and Ride

Response: *Each of the suggested extensions and connections would serve different areas and would provide additional access and connectivity within the region. They are outside of the limits of this particular study; however, they may be considered in the future as the local jurisdictions and the State plan for an expanded transit and transportation network. While extending the alignment to the west in the Bethesda area would be challenging,*

the eastern end of the Preferred Alternative in New Carrollton has been designed to facilitate a future extension of the Purple Line. In addition, many of these areas are the subject of other studies for transportation and transit improvements, and each of those studies should consider the Purple Line in its planning.

Q. Suggestions for Other Alternatives

Summary of Comments in General: Approximately 210 comments supported alignments or options not included in the Preferred Alternative and/or suggested alternative routes or configurations. This includes support for the TSM and expanded bus service, reduced fares on the bus and Metro system, support for alignments that followed the Beltway for all or part of their length, tunnel alternatives for all or part of the alignment, grade-separated crossings, exclusive transitway, support for alignments or options not included in the Preferred Alternative, different termini, and other alignments/configurations. This response does not include alternatives discussed in separate responses such as alternatives along Jones Bridge Road or tunnels along Wayne Avenue.

Response in General: *The alternatives development and evaluation process is summarized in Chapter 2 of this FEIS and additional information can be found in the Summary of Alternatives Analysis, 2008 to Present (2012) and the Definition of Alternatives Report (2008).*

Q.1 TSM Alternative and/or Expanded Bus Service

Summary of Comments: A TSM Alternative has been included in the project since its initiation in 2003. As described in Chapter 2 of the AA/DEIS, the TSM Alternative included improvements to transit service that would enhance mobility without the construction of a fixed guideway throughout the corridor. The TSM alternative included improved and expanded bus service with "express" service in the corridor with more frequent service, fewer stops, queue jump lanes, and signal priority.

Response: *The TSM Alternative does not meet the purpose and need of the project. Buses would still be subject to traffic delays and would not provide high level, reliable transit service throughout the corridor. Further suggestions for additional bus routes, service, reduced fares, or amenities such as benches should be addressed to the local and regional transit providers.*

Q.2 Alignments that Followed the Beltway

Summary of Comments: Several comments suggested alignments that followed the Beltway for all or a portion of their route. These included the Metrorail Loop, tunneling under the Beltway, using the median of the Beltway, and following the outside of the Beltway.

Response: *Following is a discussion of each of the suggested alignments and why they were not carried forward.*

Metrorail Loop*—Following scoping, the then Montgomery County Executive proposed a heavy rail alternative that would have connected the Metrorail Red Line from Bethesda to Silver Spring along the Capital Beltway. The Metrorail Loop is described in more detail in Chapter 2 of the AA/DEIS. It generally extended from the Medical Center Metro Station in Bethesda in a tunnel under the Capital Beltway, followed the north side of the Capital Beltway mostly on structure, and then crossed back over the Beltway south along the Metropolitan Branch/CSXT corridor to the SSTC. FTA and MTA conducted additional analyses of this proposal as summarized in Appendix A, Metrorail Loop Proposal Alignment Evaluation of the 2008 Definition of Alternatives Report. As shown in the study, it was concluded that the proposal should not be carried forward for detailed study as it did not meet the purpose and need of the project. It also had negative environmental and cost impacts. As described in Section G, no heavy rail alternatives were carried forward for further study.*

Tunnel under the Beltway*—See discussion of tunnels below. While an existing transportation corridor can be an attractive location to consider for other transportation uses, the curves along the Beltway, especially in Montgomery County, make this an inefficient route for tunnel construction. In addition, most origins and destinations along the corridor are slightly removed from the Beltway, and stations would be hard to locate and/or access.*

Median or Parallel to and Outside of the Beltway*—Much of the Capital Beltway through the study area has no median with the inner and outer loops separated by a concrete barrier. There are segments with a median but they are not contiguous. In order to locate the Purple Line down the middle of the Beltway, the Beltway would have to be widened which would result in significant environmental impacts and displacements. Similarly, an alignment adjacent to and outside of the Beltway would also result in significant environmental impacts and displacements. Finally, as stated above, most origins and destinations along the corridor are slightly removed from the Beltway, and stations would be hard to locate and/or access.*

Q.3 Tunnel Alternatives

Summary of Comments: Many people proposing tunnels did so in conjunction with suggesting that the Purple Line be a part of the WMATA Metro system. Metro is a heavy rail system requiring exclusive right-of-way due to the electrified "third rail" that powers the trains.

Response: *As discussed in Section G, heavy rail technology was considered and dropped from further study due to the high cost and limited return on public investment. Other comments suggested tunnels as a mean of avoiding impacts along the trail, crossings of major roads, and/or community impacts. Tunnels were suggested under the Beltway, under the Capital Crescent Trail, through Bethesda and Chevy Chase, under East West Highway, to NIH, and in downtown and east Silver Spring. Even with modern tunneling methods, tunnels are very expensive as compared to an at-grade system. Tunnel alternatives would result in very costly below-grade stations; requirements for costly fire, and safety measures; and impacts in portal areas and associated with ventilation towers. The tunnels do not provide sufficient added user benefits to justify their level of expenditure of public funds. Therefore, tunnels were dropped from further consideration except where required due to physical site limitations.*

Q.4 Grade-Separated Crossings

Summary of Comments: Some comments suggested bridges to grade-separate portions of the alignment or particular intersections.

- A suggestion was made to grade-separate the transitway and the roadways at Piney Branch Road and University Boulevard.
- There was a suggestion to stay on aerial structure from the SSTC over Bonifant Street, possibly with a station at the existing parking garage, staying on structure over Georgia Avenue to a second level station at the library, crossing over the intersection of Wayne Avenue and Fenton Street, and coming back to grade on Wayne Avenue.

Response: *Following is a discussion of each of the suggested crossings and why they were not carried forward.*

Piney Branch Road and University Boulevard*—The suggestion to grade-separate the transitway and the roadways at this intersection was thought to reduce impacts to traffic and business access and facilitate more efficient and safe pedestrian movements. However, in order to take one roadway over the other, driveway access to businesses would be cut off in the interchange area and/or service roads would be required. The loss of access and/or space needed for the service roads would result in some business displacements. An overpass is not consistent with the themes of making the area more pedestrian and bicycle-friendly and is contrary to the goal of reducing the size of the intersection. The M-NCPPC's ongoing sector planning effort is looking to make roadway and pedestrian improvements in the area.*

Aerial segment in Downtown Silver Spring—*There was a suggestion to stay on aerial structure from the SSTC over Bonifant Street, possibly with a station at the existing parking garage, staying on structure over Georgia Avenue to a second level station at the library and crossing over the intersection of Wayne Avenue and Fenton Street coming back to grade on Wayne Avenue. This option would be very costly. A station at the garage would be located too close to the station at the transit center and would not serve as many people. In addition, this concept is in conflict with the design of the library that is under currently under construction. Finally, this concept would introduce visual impacts into downtown Silver Spring, which was a key concern of stakeholders early in the scoping process.*

Q.5 Exclusive Transitway

Summary of Comments: One comment suggested having an exclusive transitway for the entire length of the corridor.

Response: *This would provide improved travel times and reliability; however, it would not take advantage of the flexibility of light rail to fit in different environments. An exclusive transitway would need to be either underground (discussed above) or aerial. An aerial structure would be prohibitively expensive and would have extensive impacts, particularly visual, and it would not optimize public investment.*

Q.6 Support for Alignments or Options not Included in the Preferred Alternative

Summary of Comments: Comments also stated support for alignments or options that were not included in the Preferred Alternative. This category does not include other alignments or options discussed elsewhere in specific response areas such as Jones Bridge Road or tunnel options in Silver Spring. There were several comments that specifically supported the High Investment LRT alternative.

Response: *Following is a discussion of each of the suggested alignments or options and why they were not carried forward.*

Support Silver Spring/Thayer Alignment—*MTA evaluated all of the alignment options in the Silver Spring area and identified Wayne Avenue as the most desirable alignment for the Preferred Alternative. The Silver Spring/Thayer Alignment included a long, costly tunnel. It also precluded a station at the Silver Spring Library. Finally, the Silver Spring/Thayer alignment resulted in increased impacts at the crossing of Sligo Creek.*

Support North Side of CSXT Corridor—*MTA evaluated the alignment options along the CSXT Corridor and identified the transitway running along the south side of CSXT from Lyttonsville to Silver Spring as the most desirable alignment for the Preferred Alternative. The north side of CSXT required an expensive tunnel under the CSXT corridor and resulted in additional private property impacts along that length of the corridor.*

High Investment LRT alternative*-The identification of the Preferred Alternative included a consideration of the judicious use of public funds. The High Investment LRT Alternative was not selected because many of the higher cost elements did not provide sufficient travel time or ridership benefits to justify the cost. However, many elements of the high investment LRT are included in the Preferred Alternative.*

Q.7 Different Termini

Summary of Comments: There was a comment that the system should end at the Grosvenor Metro station instead of Bethesda.

Response: *Bethesda was identified early on in the project development and scoping efforts as a primary market for transit and a major connection for patrons travelling into Washington, DC via Metro. Ending the service at Grosvenor would facilitate travel to the north, but would make trips into DC longer. It would not serve one of the major employment centers included in the Purpose and Need.*

Q.8 Other Alignments/Configurations

Summary of Comments: Several comments addressed specific alignment suggestions or configurations, such as a single lane busway along the Capital Crescent Trail that would travel "in" during the am peak and "out" during the pm peak, an alignment along Colesville Road (US 29), and an alignment along East West Highway between Bethesda and Silver Spring.

Response: *Alignments along both Colesville Road and East West Highway were considered in the scoping phase of the project, the reasons for not carrying them forward are described in Chapter 2 of the AA/DEIS. Following is a discussion of each of the suggested alignments and configurations.*

Single Lane Busway—*The single lane busway that would travel "in" during the am peak and "out" during the pm peak can work on linear projects that serve a central business district, such as a line that goes from suburban communities into and out of a downtown area, where most people travel downtown in the morning and back out in the evenings. However, the Purple Line corridor crosses between the developed areas within Montgomery and Prince George's Counties and has heavy ridership in each direction in both the morning and evening rush hours.*

Colesville Road (US 29)—*Colesville Road is six lanes wide with a reversible center lane. It is a heavily-used major arterial surrounded mostly by single family homes inside the Beltway except in downtown Silver Spring. The heavy traffic and constrained right-of-way make it difficult to implement dedicated or exclusive lanes for transit. In the 1990s, the Montgomery County Department of Transportation conducted a feasibility study for a busway on US 29. After this study, both the Montgomery County Council and M-NCPPC recommended that US 29 not be considered for either a busway or LRT. One particular suggestion was to follow US 29 to Four Corners and then University Boulevard to Langley Park. This alignment was proposed in part to provide a different route than those proposed between downtown Silver Spring and Langley Park. It would be approximately 1.8 miles longer than the Preferred Alternative, which would result in impacts to travel time, ridership, and operations. In addition, it would not serve the East Silver Spring or Long Branch areas. Montgomery County has targeted Long Branch for improved transit to support economic development and revitalization. For all of the reasons noted above, alignments along US 29 were dropped from further consideration.*

East West Highway—*As outlined in Chapter 2 of the AA/DEIS, this segment of East West Highway was not carried forward for more detailed analysis due to several factors including a very narrow right-of-way that would have extensive property impacts, steep grades making light rail difficult, opposition from the community and elected officials (including a resolution from the City of Takoma Park), and consideration of which areas would or would not be served. A tunnel along this alignment is discussed above with the discussion of other tunnels.*

R. Suggestions to Fund Other Projects

Summary of Comments: Several comments suggested that funds should be used for other projects rather than the Purple Line or provided comments on other projects. Some of these comments were in conjunction with statements of overall opposition to the Purple Line. Some relate to projects that are under study or construction, some were for new or suggested projects, and others were for increased funding or expansion of existing systems. In no particular order, the projects discussed included the following:

- WMATA Green Line extension to BWI Airport
- Corridor Cities Transitway / Transit from Damascus to Rockville
- Bus Service in Laurel
- Bus Stops in Downtown Baltimore
- WMATA Red Line extension to and/or past Frederick

- MARC Commuter Train expansion
- WMATA Red Line expansion
- InterCounty Connector
- Transit expansion in Anne Arundel and Howard Counties
- BRT on Georgia Avenue and Veirs Mill Road
- Charles County Connector

Response: *Comment noted. State transportation projects are identified and funded through the Consolidated Transportation Program (CTP). The CTP is Maryland's six-year capital budget for transportation projects. The Capital Program includes major and minor projects for the Maryland Department of Transportation and the modal agencies and related authorities within the Department, including the Maryland Aviation Administration, the Motor Vehicle Administration, the Maryland Transit Administration, the Washington Metropolitan Area Transit Authority, the Maryland State Highway Administration, the Maryland Port Administration, and the Maryland Transportation Authority.*

Working together with Maryland's citizens, local jurisdictions and the local and State delegations, projects that preserve transportation system investments, enhance transportation services and expand transportation opportunities throughout the State are added to the CTP. The CTP is updated on an annual basis and citizens are provided an opportunity for input into its development.

S. Comments Regarding Public Outreach

Summary of Comments: Amongst the comments on the AA/DEIS and the Purple Line, there were several comments regarding public outreach efforts and the presentation of materials. People commented on the quality of the outreach efforts, timing and location of the public hearings, outreach in specific communities, specifically the Wayne Avenue area, the graphical renderings included in the FEIS, the conduct of the Master Plan Advisory Group (MPAG) meetings, and a feeling that MTA had set up a project support/advocacy group.

Response: *FTA and MTA continue to expand the public outreach program associated with the Purple Line in an effort to share information and gain input into the project. The following is in response to specific comments. The broader outreach efforts are summarized in Chapter 8 of this FEIS.*

S.1 Public Hearings

Summary of Comments: One person commented that the timing, prior to Thanksgiving, was inconvenient. There was an additional comment about the location of the hearings not being convenient to Metro, although the person noted that was part of the need for the project.

Response: *The hearings on the AA/DEIS were scheduled in November 2008 following the October release of the AA/DEIS. A longer than usual 90-day comment period was allowed for comments. In addition, there were 4 different hearing dates throughout the corridor which could accommodate geographic issues as well as schedules if someone were busy on one particular date. Over 750 people attended the 4 hearings and over 3000 comments were received during the comment period. This level of engagement and involvement shows that despite the timing, people were able to be involved in the process.*

The requirement for large facilities with multiple rooms made scheduling hearings close to Metro difficult. Some of the locations were more convenient from transit than others. Since that time, MTA has strived to have at Open Houses in more transit-convenient (Metrorail and or bus) locations including in the Silver Spring, College Park, and Takoma-Langley areas.

S.2 Community Outreach

Summary of Comments: Commenters stated the importance of community outreach. Some felt it was not sufficient on the Purple Line; while others praised MTA for the project's outreach.

Response: *The Purple Line project includes an extensive public outreach plan including large hearings and open houses, Community Focus Group and Neighborhood Work Group meetings, meetings with community associations and other stakeholder groups, and meetings with individual property or business owners. In addition, the project has a website, newsletters, fact sheets and a mailing list of over 60,000 individuals. Since the AA/DEIS outreach has expanded with community outreach events, and the use of social media including Facebook and Twitter. To address one specific comment regarding Wayne Avenue, the MTA met with the various community associations and work groups over 15 times specifically on the Wayne Avenue area. See also Section F—Opposition to the Wayne Avenue Surface Alignment, Support for a Tunnel Under Wayne Avenue, and Opposition to a Station at Dale Drive for a discussion of the additional studies and analyses conducted for residents along Wayne Avenue.*

S.3 Graphics and Renderings

Summary of Comments: Commenters both praised and criticized the graphics and renderings used for the Purple Line study. Some comments believed that the renderings were not accurate and that, in particular, trees were shown too large and landscaping was shown as it would be when full grown.

Response: *MTA appreciates the comments provided on the graphics and renderings in the document. FTA and MTA attempt to use graphics to help portray the ultimate design of the facility. Comments about the "reality" of some renderings were taken seriously. Since the time of the AA/DEIS renderings were developed in more detail, new trees were shown smaller rather than how they would appear in the future, and plans and displays were clearly marked that landscaping was shown for illustrative purposes and did not represent the existing or proposed future conditions. Renderings in this FEIS have been reviewed for clarity, accuracy and presentation.*

S.4 Master Plan Advisory Group

Summary of Comments: Comments were received on the Montgomery County Planning Board Master Plan Advisory Group (MPAG).

Response: *In support of the effort to develop their Purple Line Functional Plan, in May 2007 the Montgomery County Planning Board authorized the establishment of a Purple Line MPAG. The MPAG membership was composed of more than 30 representative stakeholders along the alignment within the County. The MPAG met 19 times between October 2007 and October 2008 when the Purple Line AA/DEIS was released. During that time, the group reviewed many of the technical and process issues inherent in large projects of this type and provided input to the staff memorandum and technical review of the AA/DEIS.*

The MPAG also met on seven additional occasions since the release of the AA/DEIS to further examine issues in the context of the Planning Board, County Council, and State recommendations on the Purple Line. In addition, the Planning Board held a work session in December 2008 and a hearing and work session in January 2009 as part of its outreach during deliberations on reaching a recommendation for the LPA for the Purple Line.

MTA was invited to some of the meetings and provided information to the County and MPAG to inform their discussions. MTA did not plan or conduct the meetings and cannot speak to the process, how differing views were received, or the make-up of the group.

S.5 Support/Advocacy Groups

Summary of Comments: A comment suggested that it was inappropriate for FTA or MTA to have formed a group to push support for the project. While the comment referenced "Go Purple Line," MTA believes they were referring to "Purple Line Now."

Response: *According to their website, Purple Line NOW! is a coalition of business, labor, environment, neighborhood, and civic organizations that works with local, state, and federal government officials in pursuit of their mission to build the Purple Line. FTA and MTA did not create this group and have no relationship with this or any other support or opposition group that has been formed in relation to the project.*

T. Information Requests

Summary of Comments: Approximately 160 requests for information or in regard to procedural matters were received, including:

- People requesting the Public Hearing schedule, meeting times and/or locations
- People requesting clarification of information
- People asking to be added to/removed from the project mailing list
- Requests from individuals or groups seeking a meeting with or briefing by MTA regarding the project

Response: *Requests for information relating to the public hearing schedule, times and locations were responded to upon receipt of the request to facilitate maximum attendance and participation. Items were clarified, additional data provided, and all names were added to or deleted from the project mailing list. Finally, requests for meetings were addressed upon receipt of the request and meetings were scheduled, as appropriate.*

U. Comment Reference

Records of the AA/DEIS public comments are documented in Tables A-1 through A-4. Table A-1 lists the commenters and topic of interest, by agency. Table A-2 lists the elected officials and topic of interest. Table A-3 lists the commenters and topics of interest by organization. Table A-4 lists the petitions that were received and their topics of interest. Finally, Table A-5 lists the public commenters alphabetically by last name, followed by their topics of interest. The actual comments can be found on the DVD on the inside sleeve of the printed document, or via the website www.purplelinemd.com. Copies of the DVD can also be requested via the website. Finally,

Table A-1: Agency Commenters and Topics of Interest (federal state regional local)

Agency	Commenter	Topics of Interest
Federal		
Advisory Council on Historic Preservation	Dwin Vaughn, Charlene, AICP	K
Department of the Navy, National Naval Medical Center	Zinder, D.J.	E, J, K, L
National Capital Planning Commission	Koster, Julie	A, K
National Institutes of Health	Wheeland, D.G.	H
United States Department of Interior, Office of Environmental Policy and Compliance	Taylor, Willie R., Director	K
United States Environmental Protection Agency Region III	Arguta, William	K
State		
Maryland Department of Planning, State Clearinghouse	Janey, Linda C. , J.D., Assistant Secretary	A, E, K, M
Maryland State Highway Administration	Slater, Gregory I.	K
University of Maryland	Wylie, Ann, Ralston, Steve & Phillips, Colin	A, N
WMATA, Assistant General Manager, Planning and Joint Development	Bottigheimer, Nat	A,L,M
County		
Montgomery College, Vice President/Provost	Stewart, Brad	A
Montgomery County Chamber of Commerce	Godwin, Georgette	A
Montgomery County Commuter Services	Carlson, James	T
Montgomery County Department of Transportation	Johnson, Gary	T
Montgomery County Department of Planning- Property Mapping Section	Engelberg, Eric	T
Prince Georges Community College	Dukes, Charlene, President	A, Q
Prince George's County DPW&T	Weissberg, Victor	A, K, M
Prince George's County DPW&T, Director	Hijazi, Haitham A.	A, K, M
Prince George's County Planning Department	Piret, Fern V.	A, H, K, L, M, N
Local		
Fairland Master Plan CAC	Rochester, Stuart, Chair	A
Town of Chevy Chase, Council Member	Barnes, Linna	B, D, E, I, R
Town of Chevy Chase (submitted by Sidley Austin LLP)	Wilson, Stacey L.	I, J, T
Villiage of North Chevy Chase	Hirsh, Lawerence	A

Table A-2: Elected Officials and Topics of Interest (state mayor council)

Position	Commenter	Topics of Interest
State		
Delegate, 16th Legislative District	Bronrott, William	A
Delegate, 18th Legislative District	Carr, Al	E
Montgomery County, Council Member	Ervin, Valerie	A, F
Senator, 16th Legislative District	Frosh, Brian	A
Delegate, 21st Legislative District	Frush, Barbara	A
Delegate, 20th Legislative District	Hixson, Sheila	A
Delegate, 20th Legislative District	Hucker, Tom	A
Delegate, 16th Legislative District	Lee, Susan	A
Senator, 18th Legislative District	Madaleno, Richard S., Jr.	B, D, I
Delegate, 20th Legislative District	Mizeur, Heather	A
Senator, 22nd Legislative District	Pinsky, Paul	A
Senator, 20th Legislative District	Raskin, Jamie	A
Senator, 21st Legislative District	Rosapepe, Senator Jim	A
Delegate, 18th Legislative District	Sol Gutierrez, Ana	A
Senator, 18th Legislative District	Tsikerdanos, Scott	B, I
Delegate, 18th Legislative District	Waldstreicher, Jeff	C, E, R
County		
Montgomery County Council, President	Andrews, Phil	A
Prince George's County Council Member	Campos, William	A
Prince George's County Council, Chairman	Dean, Samuel H.	A, Q
Prince George's County Council Member	Dernoga, Tom	A
Montgomery County Executive	Leggett, Isiah	A
Montgomery County Council, Council Member	Leventhal, George	A
Prince George's County Council Member	Olson, Eric	A
Local		
Town of Riverdale Park, Mayor	Archer, Vernon S.	A, L, M, Q
Town of Brentwood, Mayor	Bailey-Schmiedigen, Bettyjean	A
City of College Park, Mayor	Brayman, Stephen	A
City of Greenbelt, Mayor	Davis, Judith F.	A
Town of Berwyn Heights, Council Member	Dennison, Patricia D.	A
City of New Carrollton, Council Member	Dodro, Katrina	A, T

Table A-2: Elected Officials and Topics of Interest (continued)

Position	Commenter	Topics of Interest
Local		
Town of Kensington, Mayor	Fosselman, Peter	A, E
City of Hyattsville, Mayor	Gardiner, William F.	A
City of New Carrollton, Mayor	Hanko, Andrew C.	A, M
City of Greenbelt, Council Member	Herling, Konrad	A, Q
Town of Chevy Chase, Council Member	Lublin, David	C, D, E, I, J
City of Greenbelt, Council Member	Mach, Leta	A
City of College Park, Council Member	Molinatto, Jonathan	A
Edmonston, Mayor	Ortiz, Adam	A, H, M
Town of Kensington, Council Member	Scott, Sharon	C, E, Q
Town of Riverdale Park, Council Member	Sharpe, Katherine	A
Town of Chevy Chase, Mayor	Strom, Kathy	C, D, E, K, M
City of College Park, Council Member	Stullich, Stephanie	A
Town of Landover Hills, Mayor	Walker, Lee P.	A, K, M, T
City of Takoma Park, Mayor	Williams, Bruce	A, L, M
City of College Park, Council Member	Wojahn, Patrick	A

Table A-3: Civic and Community Organizations and Special Interest Groups

Organization	Commenter	Topics of Interest
1000 Friends of Maryland	Stewart, Douglas	A
Action Committee for Transit	Riemer, Hans	A
Action Committee for Transit	Ross, Ben, President	A
Alliance for Smart Transportation	Gonella, Geoff	B, E, I
Bethesda Civic Coaliton	Skalet, Linda	C, E
BeyondDC.com	Malouff, Dan	A
Bicycle and Trails Advisory Group	Shaffer, Fred	A, L
Board of Riviera of Chevy Chase Condominium	Duvall, William, President	K, M, T
Branch Ave Focus Group	Green, Teena, Chairperson	Q
Casa de Maryland	Alvarenga, Nestor	A, K
Casa de Maryland	Johnson, Guy	A
Casa de Maryland	Pinto, Laura	A, K
Chatham Council Civic Association	Becker, Kevin	T
Chesapeake Bay Foundation	Girard, Alan	A
Chesapeake Bay Foundation	Prost, Alison Hooper	A
Chevy Chase Hamlet Homeowner's Association	Woodyard, Shawn, President	C
Chevy Chase Hills Civic Association	Marsh, Mike, President	C
Chevy Chase West Neighborhood Association	Lukas, Theresa	C, E

Table A-3: Civic and Community Organizations and Special Interest Groups (continued)

Organization	Commenter	Topics of Interest
Citizens Against Beltway Expansion	Davies, Joseph	A
Citizens Coordinating Committee for Friendship Heights	Tripp, Ron	C, E, K
City Homes of Bethesda	O'Bryon, David	E, Q
Clean Water Action	Fellows, Andrew	A, Q
Coalition for Smarter Growth	Cort, Cheryl	T
Coalition for Smarter Growth	Schwartz, Stewart, Executive Director	A
Coalition for the Capital Crescent Trail	Gray, Peter	A, C, M
College Park Area Bicycle Coalition	Kelly, Bill, Chair	A
Co-op America	Zakai, Yochanan	A
Columbia Country Club	Gallagher, Kevin P.	B, C, I, J, K, L, T
Columbia Country Club	Pillote, Bob	B, I, K
Coquelin Run Citizens Association	Peek, Eric	C, D
Demarche Alliance	Cleckley, Eulois	A
East Bethesda Citizen's Association	Saltzman, David, Ph.D., Vice President	B, C, E, I, K, L, M, S
East Silver Spring Citizen's Association	Colvin, Bob	F, K
East Silver Spring Citizen's Association	Roper, Karen	F, J, K
Eastern Village Cohousing Community	Jennings, Thomas F.	A, F, K
Edgemoor Citizens Association	Jais-Mick, Maureen	T
Edgevale Civic Association	Curtis, Robert	C, D, E
Edgevale Civic Association	Curtis, Verna	B, C, E, Q
Edgevale Civic Association	Nash-LeBon, Judith	C, D
Forest Grove Citizens Association	Cook, Margot	A
Georgetown University Cycling Team	Sikes, AJ, President	C
Glenbrook Village HOA	Michaels, Debbie, President	A, H, Q
Greater Bethesda Chevy Chase Coalition	Wolf, Mier, Chairman	C, E
Greater Bethesda/ Chevy Chase Chamber of Commerce	Morenoff, Jerry, Ph.D.	A
Greater Silver Spring Chamber of Commerce	Walker, James	A
Greater Washington Board of Trade	Black, Sam	A
Greater Washington Board of Trade	Dinegar, CAE, James C.	A
Greater Washington Board of Trade	Flores, Daniel	A
Hanson Oaks Association	Johnson, Artis J., President	O
Indian Spring Citizen Association	Hausner, Tony	A
Jews United for Justice	Saks, Robert	K
Jews United for Justice	Meyers, Sarah	A, K
Jews United for Justice	Schapiro, Mike	A, K

Table A-3: Civic and Community Organizations and Special Interest Groups (continued)

Organization	Commenter	Topics of Interest
Kennedy High School and Montgomery County Student Government Association	Nadel, Marcy	A
League of Women Voters of Montgomery County	Bond, Marcia	A
League of Women Voters of Montgomery County	Hibino, Diane, President	A
Linden Civic Association	Cooper, Fredric C.	A, E, Q, T
Locust Hill Citizens Association	Hohman, Kristen	A
Lyttonsville Civic Association	Tyson, Patricia A.	
Maryland's International Corridor and Community Development Corporation	Kelly, Laurie, Exec. Director	
Maryland's International Corridor and Community Development Corporation	Kapastin, Marc, Chairman	
Montgomery Bicycle Advocates (MoBike)	Cochrane, Jack, Chair	
Montgomery County Affordable Housing Conference	Bennett, Ralph	
National Association of Railroad Passengers	Capon, Ross B.	
Neighborhood Design Center	Townsend, Jan	
New Creation Christian Church & Ministries, Pastor	Burrell, Dawn	
North Chevy Chase Citizens Association	Zorn, Richard	
North Chevy Chase PTA	Durbin, Eden, President	
North Chevy Chase Transportation Committee	Kaplan, Howard	
North Woodside-Montgomery Hills Civic Association	Brosnan, Woody	
Northmont Citizens Association	Heide, Jean	
Oakview Citizens Association	Walters, John	
Old Ardwick-Ardmore Citizens Association	McNeil, Alice D., President	
Old Blair Auditorium Project, Inc.	Moore, Stuart C., President	
Park Hills Civic Association	Richardson, Chris	
Park Hills Civic Association	Bowser, Alan	
Peachwood Civic Association	Meyers, Richard	
Petition to Save the Trail	Browning, Pam, Organizer	
PG Advocates for Community Base Transit/Maryland Convention Council	Wilson, Bill	
Prince George's Advocates for Community-based Transit, co-chair	Pope-Onwukwe, Karren	
Progressive Cheverly -Environmental	Heikal, Clareen	
Progressive Maryland	Dennis, Rion	
Progressive Maryland	Ettel, Herb	
Progressive Neighbors	Sylvan, Stephan	
Purple Line Now	Sanders, Harry	
Purple Line Now	Smedley, Webb L.	

Table A-3: Civic and Community Organizations and Special Interest Groups (continued)

Organization	Commenter	Topics of Interest
Rethinking the Purple Line	Jais-Mick, Maureen	
RRC Community Association, Inc.	Newman, Marty	
SEIU Local 500	Cuttitta, Merle	
Seven Oaks Evanswood Civic Association	Gabriele, Mark, President	
Seven Oaks Evanswood Civic Association	Jay, Jonathan	
Seven Oaks Evanswood Civic Association	Kavanaugh, Jean	
Sierra Club Montgomery County Group	Hauck, David	
Silver Spring Advocates	Elkind, Jonathan	
Silver Spring Advocates	Singh, Ravi	
Silver Spring Advocates	Mintzer, Irving	
Silver Spring Citizens Advisory Board	Unger, Darian	
Silver Spring Urban District Advisory Committee	Lourie, Jon	
Silver Spring/Thayer Opposed to the Plan	Rosenberg, Robert	
Small Businesses in Langley Park	Sactic, Jorge	
South SIlver Spring Neighborhood Association	Sylvan, Rachel	
South Silver Spring Neighborhood Association	Glass, Evan	
Takoma/ Langley Park Crossroads Development Authority	Teague, Neel, President	
Templeton Knolls Civic Assoc	Wertz, Sharon	
TOP Condominium Association	West, Joy C.	
UMCP Student Government Association	Friedson, Andrew	
University Landing Tenant's Association	Pinto, Laura	
University of Maryland SGA, President	Sachs, Jonathan	
Washington DC Building and Construction Trades Council	Ayers, Vance	
West College Park Citizens Association	Balacaudran, Suchitra	
West Lanham Hills Citizens Association	Rowe, Lee	
Woodside Civic Association	Anderson, Casey	
Woodside Park Civic Association	Ditzler, Barbara, President	
World Resources Institute	Fuhs, Greg	

Table A-4: List of Petitions

Organizer	Signatures	Topics of Interest
Demarche Alliance	162	A
Silver Spring Advocates	113	A
Carole Highlands Neighbors	7	A
Casa de Maryland	136	A
Residents of the East Silver Spring/Wayne Ave. Area	62	A, F
Town of Somerset Purple Line Supporters	39	A
Supporters of the Purple Line in Woodside	33	A
Purple Line NOW (1)	2756	A
Purple Line NOW (2)	24	A
Bicyclists in Support of the Purple Line and Capital Crescent Trail	13	A
Residents of Chase Apartment Building	13	A
Petition to Support Inner Purple Line (Silver Spring Area)	24	A

Table A-5: Public Commenters and Topics of Interest

Commenter	Topic of Interest	Commenter	Topic of Interest
Abell, Karen S.	C	Albertson, Todd	C
Abood, I.	L	Albores, Richard	A
Abu, Godbless	A	Alden, Edward	C
Ackermann, Drew	T	Alderman, Joan	T
Acosta, Alex	C, D	Alevizos, Dr. Ilias	C, E, Q
Acuña, Mike	C	Alexander, Arthur	C, D, Q
Adams, E.	A	Alexander, Jonathan	A
Adams, Stephani	T	Alexander, Tamara	A
Adler, Leonard	A	Allmond, Aleta	Q
Afflerbach, Peter	F, K	Allred, Willis W.	A
Agouridis, Georgio	A	Alpher, Bernard and Penny	C
Aiyar, Shekhar	C	Altevogt, Bruce	A
Akinbami, Lara	A	Altman, Fred	K
Akst, Elaine	C	Altman, James	A
Albaugh, Sharon	Q	Alvarez, Jose Luis	A
Alberg, Penny	A	Amaya, Fidelina	A

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Ambler, Anne	A	Aukamp, Liz	A
Amezcua, Javier	A	Aurecchia, Steven	C
Amster, Michael J.	C	Ausema, John	M
Anastasi, Daniel P.	B	Avery, Carolyn L.	A, C, M, Q, R
Anderson, Amy	C, T	Ayers, Rob	C
Anderson, Carol and John	B	Ayodele, Marlen	C
Anderson, Fenwick	A	B., Cristina	A
Anderson, Robert	B	Bacigalupo, Elizabeth	C
Anderson, Sarah B.	C, Q	Bado, Marjorie	A
Andrea, Susan	F	Bahta, Tsedal	A
Andrews, Mary	A	Baide, Lourdes	A
Andrews, Rachel	A	Bailey, Charles	A
Angeles, Melinda	A	Bailey, James and Mary	C, D, E
Aniba, Ramzi	A	Bailey, Leigh	C
Anspacher, David	A	Bailey, Wendy	C
Anthony, John	A	Bain, Christopher	C
Antoine, Richard	T	Bair, Ashley	A
Antonelli, Erica	K	Baker, Dave	A, M
Applestein, Cara	A	Baker, Gavin	A
Aranguren, Gabriel Ernesto	C	Baker, George	B, I
Argani, Sholey	A	Baker, Mike	A
Argueta, Santos	A	Balcombe, Jonathan, Ph.D.	A
Arkin, Richard	A	Bales, Gabriel	A
Armstrong, Emily M.	C	Balfour, Guillermo A., M.D.	C
Armstrong, Scott	B, I, Q	Ballard, Thomas	A
Armstrong, Tom	F	Banegas, Sister Carmen	K
Arness, II, John E.	C	Banks, Dontres	A
Arnold, Agnese Reforzo	C, E, Q	Banks, Terry and Karen	B, C, D, E, J, R
Arnold-Lourie, Christine	F, K	Barber, Melissa, BS, BA	A
Arons, Nancy and Michael	C	Barber, Michael Jared	A, P
Arriaga-Western, Claudia	C	Bardin, Jacob	A
Ash, Jon F.	C	Bardwell, Mark	A
Asher Prince, Leland	C, Q	Barinum, Barbara	C, E
Asher, Edward Hall	A	Barker, Jack	D
Asher, Jana	A	Barker, John	A
Asher, Jules	C, G	Barnes, Mary W.	A, H
Ashford, Roslyn	F	Barnett, Beth	B, C, E, I, J
Asmar Jr., Charles S.	C, E	Barreto, Eric	A
Asmuth, Genie	B	Barry, Fatima	A
Atkinson, Charlotte	A	Barry, Michael	A

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Bartfeld, Ruth	C	Bernhardt-Lanier, Jason	A
Barton, Hanna Jane	A	Berninger, Carl J.	C
Bathgate, Pamela	P	Berns, Brian and family	C
Batstone, Ian	A	Bernstein, Catharina	C, E
Baumann, Ginny	A	Bescher, Karen E.	C
Bausch, Elizabeth and Justin	C	Beshers, Martha	C
Baxt, Leonard	C	Beshers, Martha F.	C, E
Bayerl, John	A	Bevacqua, Frank	A
Bayhurst, Paul M.	T	Beveridge, Jennifer	A
Beach, Ben	C, E	Bhatt, Ajay	C
Beard, Bob	Q	Bhattacharya, Andrew	A
Beard, Matthew	A	Bickley, Joe	B, I, P
Beardsley, Donald	C	Bierbower, Eleanor Deane	C
Beauchamp, MaryAnne	T	Bimson, Dr. William	A
Beauregard, John and Cindy	C	Bindeman, Sherry	C
Becher, Elise C.	C	Binder, Wendy	F, K
Beck, Nick	A	Bingham, Sheila	T
Beck, Nancy, Ph.D.	A	Birch, Jeremy	A, M
Becker, Richard	B	Birndorf, Jesse M.	A
Beckerman, Peter	C, Q	Birsun Bramson, Valerie	C
Beckett, Amy	F	Bisengo, Agaba	A
Beckham, Don	E, G, L	Bisers, Dan	A
Bedore, Ruth	A	Bishop, Eli	C
Behler, David	A, L	Bittman, Ann W.	B, C, I
Bell, Lisa	C	Bittman, Robert J.	C
Belling, Doug	A	Bjornlund, Gina and Erix	C
Belliveau, Paul	C	Black, Thomas, PhD	A
Belsky, Alan	A, Q	Blair Fitzgerald, Martha	C
Beltz, Kristin	A	Blair, Crystal	S
Bender, Randy Michele	C	Blais, Catherine	A
Bender, Tim, Melissa, Alex and Brooke	C	Blake, Nathan	A
Benezra, Alexander	A	Blank, Lawrence	C
Bennett, Katherine	C, E	Blank, Peter	A
Benson, Michael	C	Blasey, Paula K.	C
Benzmiller, Andrew	C	Blasey, Thomas M.	C
Berger, Seth	A, M	Blevins, Catherine	C
Bergman, Stephen	F	Blizzard, Keith	C
Berman, Nathaniel	A, K	Bloom, Aaron	A
Bermudez, Tomas	C	Blum, Jason	A
Bernard, Warren	B, I, J	Blum, Rick	T

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Blumenstock, Michael	A	Brancato, Richard	I, K, L
Boden, Barry	C, E, Q	Brand, Carole	A
Bogut, R.	C, Q	Brand, Nick	A
Bokern, Susan	C	Brandt, Ed	A
Boland, Leanne	B, C, Q	Branson, Robert	C
Bombard, Hilary	C	Braun, Rachel	A
Bombard, Mike	B, I	Bravo, Robert	C
Bond, Marcia	A	Breckbill, Steven	F
Boniface, Duane	C, J	Breckenridge, John	C
Boniface, Keith, MD, RDMS	C	Breen, Philip	A
Bonmartini Brophy, Gioia	C	Brennan, Mike	C
Bono, David	A	Breslin, Bill	C
Boone, Robbie	C	Breslin, Katie	C
Boone, Theodore S.	A	Breslow, May	C
Bopf, Michael	A	Brezny, Rastislav	A
Borger, Marc	P	Brice, Patrick	I, N
Borneman, Marcy	B	Brigati, Joseph	C
Bort, Christopher J.	C, Q	Briscuso, Ray	C, E
Borwegen, Bill	A	Brochin, Elana	A, K
Bosc, Joyce	K, L, T	Brocker, Barbara	C
Bottoms, Glen D.	A	Brockman, Catherine J.	C
Bottrell, Eileen	A	Brockman, Johanna	A
Boucher, Timothy	C, Q	Broderick, Michael	C
Boulter, Sally	C	Brody, Abraham	A, G
Bour, Gerald	A	Brooks, Craig	C
Bowen, Mary Beth	C	Brophy, John, Jr.	Q
Bower	E	Brown, C.J.	A
Bower, Stephen and Donna	A	Brown, Carin	A
Bowers, Connie J.	A	Brown, Doug	A
Bowles, W. Alexander L.	C	Brown, Dr. Edward A.	C
Boyce, Constance	A	Brown, Edward A., Ph.D.	T
Boyce, Don and Donna	A	Brown, Jenny	C
Boyer, Laura	C	Brown, Kenneth	A, Q
Boyle, Lochlann	A	Brown, Mary	A
Boynton, Jane B.	C	Brown, Mike	C
Bracken, Todd	T	Brown, Paul	A, Q
Brader, James	A	Brown, Roberta K.	C
Bradford, Kevin	A	Brown, Roderick Edmund	A, T
Braithwaite, Jeanine	A	Browning, Pam	C, E, H, Q
Branca, Marisa	C, Q	Brozena, Alexandra	C

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Bruce, Brandon	Q	Busse, Wilfried	C, E
Bruce, Gloria	C	Bussey, Lucas	A
Bruce, Marney	A	Byrne, Lisa	A
Bruch, Anabella	A	Cahill-Tully, Susan	C
Bruck, Jonathan	A	Cain, Colyn	C
Brudnick, Ida	S	Calabrese, Michael	C
Bruhn, Arlene	C, T	Callahan, Joseph B.	C
Bruno, Victoria	B, C, F, I	Calomiris, Leon	B, H
Brush, Stephen	A, N	Cameron, Gary	F
Brutz, Heather	A	Campbell, Arch	C, Q
Bryant, Alex	A	Campbell, Kirk	A
Bryant, Carolyn	A	Campbell, Michael	C, D
Bryant, Kathy	A	Campos, Tereza	B, K
Buchanan, Bill	B, I	Cantor, Kenneth P.	F
Buchanek, Elizabeth M.	B, C, E	Cappa, Fred	T
Buchholz, Frank	T	Cardona, Wilfredo	A
Buck, Robin	A	Carle, Glenn L.	C
Buck, Stephen	A	Carlson, Lamar	T
Buergler, Jean	A	Carnahan, Ira and Kitty	C
Bullock, Brian	A	Carpenter, Ursula	C
Bunch, Michon	A	Carpenter-Israel, Stephen and Wendy	Q
Bund, Malcolm	C, Q	Carr, Cathy	A
Bunnag, Chatkan	A, L	Carr, Peggy	A
Buonanno, Andres	A	Carrier, Steve	C
Burda, Patricia	E	Carrington, William J., Ph.D.	A
Burger, Aaron	A, T	Carrington, William & Patricia	C
Burgett, David	C	Carroll, Ginger & John	A
Burka, Eric	C	Carroll, John	A
Burka, Kristin	C	Carroll, Paul	C
Burke, Jim	C	Carruthers, Robin	A
Burke, Malcolm	C, E	Carson, Charles	A
Burke, Melissa	A	Carta, Mary Lou	F
Burkhart, Joe	C	Carty, Thomas	C
Burkhart, Shannon	C	Casagrande, Giovanna, M.D.	C, E, Q
Burnett, Dan	C	Casey, Patrick	C
Burnett, Susan	C, E	Cassaberry, James	A
Burns, Maya	B, D	Castanuela, Ava	F
Burnside, Leah	A	Castellan, James	A
Burtraw, Dallas	A	Cattaneo, Elizabeth	A
Business Owner	K, M	Cavanaugh, Jean	F, K

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Cech, Thomas R., President	A	Cimino, Andrea	A
Celebic, Lejla	C	Cimino, Steve	Q
Celeste, Sue	C	Clabault, Meg	A, L
Cepler, Jamie	A, Q, T	Clark, Bob and Sara	C
Ceruzzi, Paul	A	Clark, Jerry	C
Chaison, Ken	C	Clark, Maureen D.	A
Chall, Joelle	C	Clark, Nicholas	A
Chalmers, Rolande Valerie	A	Clark, Thomas	T
Chambers, Tim	A	Clarke, Elaine	A
Chamblee, Andrea	C	Clarke, James	A
Chamorro, Maria Pilar	A, K	Clarke, Maud	A
Chan, ShuPing	A	Claude Cowey, Colette	C, D
Chang, Peter	A	Clauss, Mark A.	C
Chao, Nuno	A	Clay, Kevin	B, I, K
Charrier, Anne	C	Clifford, Catherine	C
Charrow, Veda R., Ph.D.	C	Clifford, John	A
Chase, Wilbur P. and Katherine F.	C	Clifford, Patricia	C
Chen, Sike	A	Clifton, Tara	C
Cheney, Sheldon	A, Q	Clime, Linda M.	C
Cheng, Alice	C	Clingenpeel, Jon	C
Cheng, Dinah	A	Clive, Michelle	A
Childress, Monique	T	Coates, Kevin	G
Chin Family	C	Coates, Kevin	G
Chin-Lee, Alex	A	Cobbett, Mary and Billy	A
Chmilewski, Jay	A	Cody, George D.	C, E
Chockalingam, Sundar	T	Coffey, Pamela Sumner	A
Cholka, Joe	F, J, K, L	Coffin, Gabrielle	A
Cholka, Joe	F, K	Cohen, Edward	A, Q
Choppin, Timothy	A	Cohen, James	A, E
Choquette, Lynn	C	Cohen, Laurie	C
Chorrinsky, David	A	Colcock, Robert H.	O
Choukas-Bradley, Melanie	C	Cole, Alex	C, Q
Chovan, Michelle	A	Cole, Elizabeth A.	A
Chrislip, John	L	Cole, Josh	A
Christensen, Tyler	A	Coleman, Roger	C
Christopher, Louis G.	C, E	Colgary, Laura and James	T
Churan, John	A	Colindres, Alvaro	A
Churchill, John	C	Colino, Stacey	C, D
Cicerchia, Monique	C	Collazos, Juan	A
Cicerchia, Spartaco	C	Collier, Anne	C

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Collins, Phil	C	Coyne, Micheal	A
Collyer, Philip	C	Craig, Kristi	C, E
Colter, Haig	A, M	Crandall, James	J
Comer, Ed	A, M	Crane, Martin	A
Compton, Addie	A	Cranor, David	K
Condon, Ellen	A	Crayton, Vivian	C, K, L, T
Conklin, James	A	Creel, Alisha	A
Connell, Genevieve P. and James R.	C	Creer, Laura, Brad, Rebecca, and Lauren	C
Connelly, Saunya	A	Crilley, Jim	C, I, Q, R
Connor, Michael J.	A	Crist, Delanson	C
Conrad, Brad	A	Criswell, Doris	C, Q
Constantian, Alan	A	Crockett, Rochelle	A
Constantine-Davis, Jean	A	Crosson, David	A
Conway, Maureen	A	Cruz, Jose	K
Cook, Bejamin H.	C	Cruzat, Kristi	A
Cook, Erene P.	C	Cullen, Genevieve	C
Cook, Geoffrey	A	Cullen, Maura	B, C, I
Cook, James	A, Q	Cullen, Patrick	B, I
Cooke, Kathy	C	Cuming, Don	A
Cooper, Karen S.	A	Cummings, Terry	A
Coover, Edwim R. and Sue B.	A	Cunningham, Charlotte	C
Coplan, Michael	C, D	Curry, Farris	T
Coplan, Tina and Michael	C, E	Curtis, Jade	C
Cormier, Sarah	C	Curtis, Robert	C
Cornelius, Linda	A	Curtz, Elisabeth	C
Cornwell, Michele	A	D'Achille, Michael	C
Cort, Cheryl	A	Dack, Leonard J.	C
Cosgrove, Ellen	A	Daigon, Glenn	A
Cotterill, Sarah	A	Dailey, Jeff	T
Cottle, James	B	Dailey, Terry	C
Cottrell, Robert	C	Daisley, Linda and Bill	C
Coughlan, Richard	A	Daken, John	A
Coughlin, Laura	C	Daley, Maureen	A
Coulibaly, Tiemoko	T	Damania, Richard	C
Couvillon, Anna	A	Damkevala, Zal	A, M
Covell Sands, Susan	C	Damtoft, Russell	A
Covell, Maria L.	C	Dandois	C
Covell, Matt	C	Daniel, Adam	A
Covell, Timothy M.	C	Danton, Mary Jo	A
Cox, Tom	C	Daubon, Ramon E.	C, E

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Davico, Ricardo	A	DePoy, Martin	C
Davidovich, Stuart	A, H, N	Dernoga, Matt	A
Davidson, Doug	E	Desmond, Ned	C
Davidson, Melissa	C	Devincenti, Juan Claudio	C, E
Davies, Cornelius	C, E	Diamante, John	A
Davis, Alan M.	C	Diamond, Rev. Karen W.	C
Davis, George	G	Dianis, Nancy L.	C
Davis, Graham	C	Dibble, Catherine	A, Q
Davis, Kathryn	C	Dick, Vanessa	C
Davis, Neil	D	Dickman, Michael	A
Davis, Patricia, C.S.A.	A	Dieterich, Christine	A
Davis, Paul W.	A	Dietrich, Karen B.	C, E
Davis, Shalyn	B, L, Q	Dietrich, Margaret	C
Davis, Suzanne	C	Diggs, Audrey	A
Davis, Timothy H.	A, M	Diggs, Blair	B, D
Davis, Tony	A, L, Q	Dildine, Dave	A
Dawson, Frank	C	Dimmock, T. Herbert	A
Day, Jeff	A, M	Dingle, Sola	T
de la Cruz, Regine	A, T	Dinsmoor, Anastasia N.	C, E
de Souza, Boris	A	DiSciullo, Laura	A
Dean, Peter	A	DiTullio, Donna	A
Dean, Peter	A	Ditzler, Brian E.	A
Dearmon, Alexander	A	Djawdan, Betty	A
DeCaro, Thomas	F, K	Dlhopolsky, Heather	A
Dede, Justin Anthony	A	Dobeck, Brad	C
Deerin, Sloan	C	Dobrosky, Nanette	A
Dehoff, Jeffrey	C	Dolan, MaryEllen	C
Deitemyer, Grace	A	Dombo, Fred	C
Deitz, Judith	A	Dombroski, Marian	A, Q
DeKona, Tanya	A	Dominguez, Maureen	C
del Campo, Emilio	A, M	Donahue, Meghan	C
Delahunty, Alicia	C	Donatelli, Ted	C
Delany, Devin	C	Donn, Majory M.	A
Delany, Gael M.	C	Donnellan, Michael	B, C
Delany, Shannon	C	Donnelly, Catherine	C
Dellatorre, Laura	A	Donohoe, James	A
Demarcus	A	Donovan, Michael	C
Demiraydin, Murat	A	Door, Lale	A
Denbo, Bev	C	Doorley, Bill	C, D
Denney, Christopher	A, Q	Doren, Sandra	A

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Dorsey, C.	T	Eberling, Felicia	A
Dorsey, Douglas and Sylvia	B	Eck, William	A
Dotson, Keenan	A	Eckert, Angela Calle, Jaime Henriquez and Robert	C
Dotson, Sarah	A	Eco, Christopher	C
Douek, Beth	C	Edelstein, Carole	C
Dougherty, Barbara	A	Eden, Timothy S.	C
Downey, Leslie	A, K, L, Q	Edmonds, Amanda	C
Downey, Phil	K, T	Edwards, Amber	A
Doyle, Christo	C	Edwards, Kenya Marie	A
Doyle, Garrett	A	Edwards, Kevin and Angela	C
Dozier, Daniel P.	A	Edwards, Tilden and Mary	A
Drayne, Michael	T	Edwards, William	C
Drazin, Lisa	C, E	Effer, Ann	C
Drescher, Laura	A	Egeth, Hillary B.	A
Drew, Seth	C	Eghtesadi, Parvin	C
Driscoll, David	A	Ehat, Grant	A
Druskin, Janie and Brian	C	Ehrenstein, Gerald	A
Dub, Jay	B	Ehrman, James and Sylvana	F
DuFour, R. Dennis	C	Eichner, Ronald	A
Dufresne, Jacqueline	A	Eiden, Lee	C, D, E
Duke, Christopher	C	Eisele, Ellen	C
Duke, Mary	T	Eisemann, David	A, Q
Dukstein, William	C	Eisen, Sandy	A
Duncan, John	E	Eisenberg, Elliot	A
Dunham, Renee	C	Eisenberg, Lloyd	B
Dunkelberger, Evelyn	C	Eldridge, Raymond	A, Q
Dunkelberger, Peter K.	C	Eldridge, Shemeka K.	A
DuPont, Helen	C	Eligen, Sarah	A
Dupree, Jamie	C, E, G	Elizalde, Margaret	A
Dura, Joe	C, E	Elkind, Jonathan	J, L
Durling, Ellie	C	Ellepola, Christopher	A
Dyballa, Cindy	A	Ellis, Adele	A, K, M
Dziduch, Beverly	A	Ellis, Ebonique	A
Eades, Caroline	A	Ellis, Elaine	F, J, K
Eagan, Marge	C	Ellis, Robert A.	C
Eardley, Brian	C	Ellsworth, Ruth G.	A
Earnest, Daniel J.	C, Q	Elms, Pete	C
Eaton, Seth	A	Elrod, Bryan	A
Ebbeler, Jonathan	A	Elswick, Linda	A
Ebbin, Robert	A	Emmet, Eileen	Q

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Emmet, Peggy	B, C, I, Q	Feldman, Paul	C
Englar, Carolyn	A	Feldman, Phil	C
Enz, Cliff	A	Feldman, Steven	A
Epps, Donald	A	Felling, Bill	A
Epps, Helen C., Ph.D.	C	Fellows, Carletta	T
Epstein, Helene P. and Leonard G.	C	Fendrick, Anne-Marie	E, Q
Epstein, James	A	Fendrick, Lila	C
Epstein, Yanka	C	Fenimore, John	A
Erwin, Jared	A	Fennell, Piers	C
Esquerre, Rosa	C	Fernandez, Jared	A
Esterson, James	A	Fernandez-Turton, Samuel	C
Evans, Sharon J.	A	Fernando, Ingrid	C
Ewing, William	A	Ferrell, Gentry	A
Ezichi, Amarachi	T	Field, Randi	A
Ezzelle, Elizabeth	C	Figueres, Muni	C
F., Tom	B	Figueroa, Michael	Q
Fagan, Patrick	A	Filice, Ross	Q
Fahler Hogwood, Mary	C	Finley, Andrew	C, D, Q
Fahler, Amanda	A	Finnegan, Amy	C, Q
Fainberg, Joseph	A	Finnegan, Natasha	B, C
Falk, Andrew	C	Finnegan, Yvonne	C, Q
Faller, Alyson	A, K, Q	Firestone, Ken	A
Faller, Erica	A	Fishbein, Anna	C
Farasy, Thomas	T	Fisher, Lawrence R.	C, E
Farber, Amanda	C	Fisher, Shalomf	A
Farthing, Carol	F	Fishman, Samuel	E
Farwell, Josephine	C	Fishpaw, Heidi	A
Fasalojo, Funke	A	Fitzgerald, John	A
Fatal, Erica	A	FitzGerald, John H.	B, C
Fausold, Howard	A	FitzGerald, Karen	F
Fay, John	A	FitzGerald, Peter J., Jr.	C
Faye, Jon and Nina	B	Flaherty, Judith	A
Fedelino, Annalisa	C	Flam, Eli and Lucy	A
Feehan, David	A	Flammia, Thomas	C
Feinberg, Rita	F	Flanigan, Mike	C
Feinstein, Debbie	C, Q	Flatow, Daniel	A
Feldman, Debra and Howard	C	Fleshner, Robert	C
Feldman, Gregory	C	Floyd, John, II	A
Feldman, Harry	B	Fluggs, Mark	A, M
Feldman, Luke	C	Flynn, Chris	C

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Flynn, Francis	C	Frye, Sandei	A
Flynn, Gregory E.	C	Fu, Lily	A
Flynn, Patrick and Jessica	C	Fuge, Jeff	C
Fogel, Ariel	A	Fugier, Nadine	C
Foltin, Richard	A	Fulmer, Deborah Huguely	C
Fomalont, Jessica	A	Fulmer, Todd	C
Fonseca, Vinicio	B	Fulvio, Monica	A
Foong, Yvonne	A, M	Furlano, Jennifer	C
Forbes Cameron, Cynthia	A	Fye, Allan	A
Forbes, Beth	C, K	Gagarin, Gregory	A
Ford, Sharon	K, S	Gagarin, Gregory G.	A
Forrest, E.M.	A	Gage, Kit	A
Fothergill, Kate	C	Gagliardi, Joel	A
Fought, Phillip	A	Gaige, Laura	C
Fowler, Mary	C	Gaines, R.	T
Fowler, Pamela	C, E	Galbraith, Ken	C
Fragomeni, Vincenzo	C	Gale, Morgan	A
Frankl, Aaron	C	Galer, Meghan	C
Frankl, Joe	C, E	Gallagher, Ann	C
Frankl, Joseph	B, C, I, Q	Gallagher, Kevin	B, C, E
Frankl, Leah B.	C	Galleher, Kathy	A, Q
Franklin, Sandra	A	Galli, Shinae	A
Franks, Shannon	A	Galvin, Peter	A
Franz, Bill	C, E	Galvin, Theresa	C, Q
Frazier, Lee	B	Ganiban, Jody	T
Fredieu, Brian, Esq.	A	Gannon, Rick	C
Freeland Raymond, Megan	C	Garbarino, David J.	A
Freeman, David, PsyD	A	Garcia, Kristina	B, C, Q
French, George	B	Garcia-Casellas, Ada	C
Fresquez, Danielle	A	Gardiner, John	C
Friauf, Julie	C, Q	Gardner, Carol R.	A
Friauf, Ken	C, Q	Garg, Arjun	A
Friedman, Aron	C, E	Garrand, Betty	C
Friedman, Diana	A	Garrett, Ann	T
Friedman, Jane M.	C	Garrido, Christian	C
Friedman, Julie	A	Garrido, Karina	T
Friedman, Robert	C	Gartner, Susan L., Ph.D.	C, D
Friend, Julius W.	C	Garvey, Carol	A
Frisch, Mathias	A	Garvey, Patrick and Patty	C, D, Q
Frost, Ashley	A	Gaskill, Brenda	A

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Gass, Connie	C	Glasser, Josh	C
Gassler, April	A	Glasser, Matt	C
Gaster, Robin	J, T	Gleichman, Norm	A
Gaudet, Katherine	C	Glenn Court, Helen	C
Gavidia, Elena	C, E	Goel, Vijay	A
Gayaldo, Liz	C	Goh, Mark Y.	A
Geck, Gary	A, Q	Golas, Sandra	A, Q
Geffroy, Marc	C, D, Q	Goldberg, Al	C, E
Gehman, Nancy	A	Goldberg, Bruce	A
Gehshan, Shelly	A	Goldberg, Lisa	T
Geier, Edward	C, D, Q	Goldenberg, Barton	C
Geist, Eric	A	Goldman, Paul	A
Gelfand, Matthew D.	C	Goldman, Scott	A
Gemeny, W. Gordon	J	Goldstein, Michael	A
Gemmell, Marie	A	Goldstein, Nelson	A
Gendelman, Jill	C	Goldstein, Robert, M.D.	C
Gentry, Donna	A	Gonzalez, Alberto	C
Gerson, Jeffrey I.	A	Gonzalez, Piero	A
Gerson, Mr. and Mrs. Donald	A	Goodman, Keith	T
Gertler, Edward	A	Goodman, Robert	A
Gervino, Gerald and Joan	C	Goodwin, Paul	A
Geselowitz, Daniel	B	Goozner, Karen	A
Gettinger, Dan	C	Gorbaty, Jane	H, T
Ghanadan, Gabe	Q, T	Gordon, Aaron Michael	A
Gholkar, Preeya	T	Gordon, Joseph	A
Gibbs, Russell	A	Gordon, Stephen L.	C
Giblin, Walter J., M.D.	C, D	Gormally, James F	A
Gilbert, Jonathan	A	Gottfried, David	A
Gilley, Jeff	A	Gottlieb, Gail	A, Q
Gilley, Kay	A	Goulet, Denise C.	C
Gilmore, Michael	C	Grabowski, Beatrice, Ph.D.	A
Gilroy, Brett	A	Grady, Denise A.	A
Giorgis, John D.	T	Graeter, James H	C
Gitchell, Joe	C, D	Graf, Tami	C
Gitterman, Ed	B, P	Grageda, Martha	A
Givens, David	D, K	Grant, Robert E.	C, E
Glaros, Dannielle	A	Graves, Ashlea P.	A
Glasgow, Darren	T	Gray, Ann	A
Glassell, Ashton	T	Gray, Kerri	C
Glasser, Gabrielle	C	Grayson, W. Cabell "Cab"	C

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Green, Bradley	A	Gunter, Adria	T
Green, David P.	A	Gurney, Brent and Laura	C
Green, Doug	A	Guter, Lev	A, K
Green, Linda S.	A	Gwadz, Joyce and Robert	A
Green, Matt	A	Haag, Eric	A
Green, Stephen A., M.D.	C	Haanes-Olsen, Grayce	A
Greenberg, Julie	A	Hagerty, Thomas G.	B, I
Greenberg, Shelly	C	Haggerty, Patrick	C, E
Greene, Jane	T	Haglund, Kurt	C
Greene, LaTosha	A	Hahn, Robert	B
Greene, Margaret H.	A	Haibel, Betsy	A
Greene, Neil R., AIA	A	Hain, Nicola	A
Greenstein, David	C, E	Haines, Sigrid	A
Greenstein, Jenna Nober	C, E	Hains, Mary Ann Wagner	C
Greer, Claudia	C	Hairston, Donald	A
Greer, George	A	Hairston, V.	O
Greer, Tom	C	Halimi, Nathalie	A, M
Gregerman, E. M.	G	Hall, C.M.	A
Gregorio, Santos	A	Hall, Leslie	A
Gregory, Henry	A	Hallett, Judith	A
Griffin, Jon	B	Hallivis, Cheryl Lynn	C
Grimley, Dan	C, Q	Halpern, Jonathan	F
Grine, Gregory	C	Halverson, Derek	A
Groff, Jay	F	Ham, James T.	A
Groff, Lauren	F	Hamdallah, Myriam	C
Grogan, Glenda	C, Q	Hammer, Lauren	A
Grohs, R.L.	B, Q	Hampp, Charles W., Jr.	C
Gross, John	A	Hanan, Susan	C
Gross, Naomi	C	Hanks, Stephen	A, M
Gross, William	C, E	Hanley, John	E
Grotenstein, Neal	C, K	Hanlon, Rich	A
Grotsky, Gary	C	Hanna, William	A, K
Groves, Brenda	T	Hanson, Christopher	A
Grow, Brian and Amanda	C	Harden, Frank and Berit	A
Grunby, Eugene	A, M	Hardesty, Duane	A
Gubbings, John	A	Hardin, Melissa	C
Gubits, Jon	A	Hardt, Timothy R.	A
Gubits, Jonathan	A	Hardy, Bernice and John	B, C
Guinnessy, Paul	B, K, L	Hargus, Sally	C
Gullo, Thomas	A, M	Harper, Blaney	C

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Harper, Scott	A	Henriquez, Victor	D, Q
Harper, Timothy	C	Herbert, Patricia	C
Harrington, Aaron	N, Q	Herlihy, Candy Perque	C
Harrington, Nathan	A	Hernandes, Lucia	A, K
Harriot, Dorothy	C	Hershey, Robert	A
Harris, Mike	A	Herson, Linda and Jay	C
Harris, Oliver	A	Hertzberg, Elisabeth	C
Harris, Richard	C	Hibey, Jim	C
Harrison, Ken	T	Hickay, Bill	B, E, I
Harry, Joseph	C	Hickey, William	B, C, I
Hartigan, John D.	G, N	Hicks, Peter C.	B
Hartigin, John	D, E	Hicks, Robert	A
Hartley, Diane	T	Hidalgo, Dario, Ph.D.	D
Hartman Family	C	Hidey, Adam M.	A
Hartman, Nancy	C	Hiebert, Mary	C
Haselswerdt, Jacob	A	High, Michelle	C
Hatch, Pao Lin	A	Hileman, Refael	B, F, I, K, L, Q
Hatton, Emily	C, D	Hill, Andrew	C, E
Hausner, Tony	A	Hill, Andy	C
Hautamaki, Jared	B	Hill, Drew	B, I
Hawkins, Chris	C, Q	Hill, Fred C.	C
Hawkins, Sue	O	Hill, Lori	A
Haworth, Larry	A	Hill, Mark	A
Hayat, Nosheen	A	Hill, Susan	C, E, J, K
Hayes, Burke	C	Hillary, Maxine	T
Hayes, Chris	B, C, E, I	Hilton, Joy	C
Hayes, Jada	C	Himmelfarb, Anne	C
Hayes, Mike	A	Hines, Gerald	A
Haywood, Charles, Sr.	C, G	Hinga, Kenneth R., Ph.D.	A
Healey, Peter F.	C	Hinnant, Anthony	T
Heard, Anna	A	Hintersehr, Steve	B, I
Heard, Nathan	A	Hinton, Cary	J
Hefter, Jackie and Larry	C	Hirschhorn, Eric	C
Heidenberger, Betsy	C	Hirschhorn, Joel S., Ph.D.	B
Heidenberger, Steve	C	Hirtle, Alex	A
Heise, Erin	A	Hishmeh, Jed	C
Helfgott, Maxwell A., MD	B	Hitchens, Richard	A, Q
Hellkamp, Lori	A	Hobson, L.	C
Hennemeyer, Chris	C	Hoddick, Andrew	B
Henriquez, Pedro	A	Hoffman, Elaine	C

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Hoffman, J. David	C, D	Humerick, David	A
Hoffman, Mary Anne	C, E, K	Hunt, Fern Y.	A, H, K
Hoffman, Matt	A	Hunter, Lynne	A
Hoffman, Scott	C	Huntington, Anne Marie, Grace, Mary Ann and Kent	C
Holbrook, Wm A., MD	C	Huntington, Mary Ann	C, E
Holbrook, Michael T.	C	Hutchinson, Fred	K, L
Holbrook, Michelle	C	Hutchinson, Wendy	C, L
Holland, Griffin	C, E	Hutton, Glen	C, G
Holland, Kent	B	Hwang, Ta-Mao (Eric)	A, M
Holland, Nancy	A	Hyer, Lewis	C
Holland, Rich	C	Iaquinto, Kevin	C
Hollander, Anne	A	Ibach, Maryilyn	A
Hollenberg, Linda	A	Ibici, Beyhan	A
Holloway, Sean	A	Ikels, David	B
Holman, Amy	F	Ikle-Khalsa, Sat Jiwan	A
Holmay, Kathleen	A	Ingham, Ken & Glenda	A
Holmes, Ethan P.	A	Ingraham, David	A
Holmwood, Amy	C	Ingram, Susan	C
Honigman, Robert	A	Iolster-Izquierdo, Pia	A
Hooke, Patricia	C	Irani, Sands K., MD	C, E
Hooshangi, Jennifer	A	Irving, Andrew	A
Hopkins, Catherine	C	Ishaq, Fota	C
Horner, Marie-Josephe, MSPH	C	Ivey, Jennifer	C
Horton, Mark and Nancy	C	Ivey, Xavier	A
Horwitz, Shelly	A	Iyer, Sriram	A
Hostetler, Susan	C	Jackson, David	M, T
Hostler, Louis	A, T	Jackson, Nick	A
Hotchkiss, Michael F.	C	Jackson, Oscar F.	T
Houston, Robert	T	Jacobin, Dave	C
Howard, Eve	C	Jacobs, Cindy	A
Howard, Loni	A	Jacobs, Myra	C
Howe, Eleanor	T	Jacobs, Sr., Ronnie	A, K
Howell, Norman	A	Jacobson, Austin	A, K
Hoye, Richard	A	Jacobson, Lisa	A
Huang, Priscilla	A	Jacobus, Headley	A
Hubbard, Bob	A	Jaffe, Peter	A
Hudalla, John	B, P	Jaffee, Gail	C
Hughes, Allison	A	Jaffee, Michelle Koidin	C
Hughes, Christopher & Elizabeth	C	Jagoe, Armiger	B, C, K
Huguely, G. Scott	C	Jahnig, Katherine	C

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Jais-Mick, Maureen	C, E	Jones, Richard	C
Janssens, Miebeth	A	Jones, Samuel	Q
Jantac, Lubomir	A	Jones, Tom	C
Jarvis, William	C	Jordan, Matthew	A
Jasinski, Matthew	A	Jorstad, Anne	A
Jefferson, Deborah	A	Joseph, Frank	A
Jenci, Krysten	C	Jurkovich, Celesta	C
Jenkins, Nneka	T	Jusufbegovic, Nadir	C
Jenkins, Peter	A	Juzenas, Eric	F
Jennings, Jeanne	A	Kadden, Jeremy	C
Jensen, Patty	C	Kadow, Brian and Ellen	C
Jentz, Kathy	A	Kadunc, Edward	A
Jentz, Kathy	A	Kailo, Gail	A
Jeweler, Leslie	C	Kalmanson, Jennifer	A
Jin, Albert, Ph.D.	F	Kalmanson, Phillip	A, Q
Jobe, H. Daniel, II	C	Kamani, Nehal	C
Jobe, Lisa and Daniel	C	Kameras, David	A
Johansson, Erin and Christopher	A	Kane, Steve	A
John, Diane	C	Kantor, Aileen	C
Johns, Jayne	K	Kaplan, Howard	B, D, E, Q
Johnson, Angela	T	Kaplan, Roger	C
Johnson, Elizabeth	A	Kapsalis, Glenda	A
Johnson, Floretta	T	Karasik, Joan	A
Johnson, Frank	B	Karp, Robert	C
Johnson, Gregory	A	Kassinger, Alice	C
Johnson, Jim	A, K, T	Katz, Linda Sobel	A
Johnson, Julia	C, D	Kaufman, Diane	A, M
Johnson, Katherine B.	C, D	Kaufman, Marc	C
Johnson, Michael F.	C, E, Q	Kaupert, William H., Jr.	F
Johnson, Michaela	A	Kaushal, Sujay	A
Joice, Paul	A	Kavanaugh, Patricia K.	C, D
Jolly, Paul	A, M	Kawaja, Galib	A
Jones, Anne	A	Kay, David	A
Jones, Carol	F	Kaylor, Robert	C, Q
Jones, Elaine	O	Keane, Gabriela	C
Jones, Jacqueline	A	Kearns, Martin	A
Jones, Kristina	A	Keating, Kevin	C
Jones, Lois	C	Keefer, Carol	A
Jones, Mitch	A	Keeley, Kevin	A
Jones, Carol A., Ph.D.	F	Kefer, Jennifer	A

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Keitelman, Charis	C	Kippax, Jonathan	Q, T
Kelada, Samir	A	Kirchner, James	C
Keller, Rachel	A	Kirkland family	A
Kelley, M.	A	Kirkland, Rachel	A
Kelly, Byrne	A, I, K, L, M, Q	Kirlin, Timothy J.	C
Kelly, Byrne H.	A, I, K, L, M, Q, S	Kirmse, Robert	C
Kelly, Francesca	C, E, Q	Kissel, Mark	T
Kelly, Ian	C, E	Kiyonaga, Paul Y.	B, I
Kelly, Joyce	A	Kleiderer, John	T
Kelly, Laurie	A	Klein, Beverly	D
Kelly, Lynn and Chris	C	Klein, Lorraine Gill	C
Kelly, Suzanne	C	Klim, Jake	C
Kelson, Lance	A	Klion, Catherine	C
Kenary, Joseph	C	Klippel, Jason	T
Kenary, Mary Lou	B, C, M	Knable, Michael	C
Kenep, Marcia	A	Knight, David	A
Kennedy, Jean	C, E	Knight, DeDario	A
Kennedy, Patricia	C, Q	Knight, Rogina	A
Kennet, Mark	C, Q	Knopf, Norman G.	C
Keplinger, Helen	C	Knowles, LaShawn	A
Keppler, Dianne M.	C, E	Knox, Elizabeth	A
Keppler, John	C, E, K	Knutsen, Linda	C
Kershow, Mike	C	Knutson, Marilyn	C
Keto, Laurin	C	Ko, Susan	A
Kevles, Beth	D, E	Kodish, Douglas	B, P
Khafra, Dia	Q	Koehler, Tom, CFA	B, K
Khamphong, Natthavee	A	Kohler, Arthur and Zoila	F
Khanna, Rohit	B, C, I, K, L	KoKopeli, Peter H.	A, M
Khatchadourian, Kelley	A	Kollin, Cheryl	C, E, Q
Kiernan, Vince	C	Koneff, Alexandra	B, I
Kikvidze, Irma	A, Q	Koneff, Douglas A.	C
Kilcullen, Dennis	C	Koo, Charlie	A
Kim, Jay	A	Koppelman, Charles	A
Kimm, Peter	C, D	Kornhaus, Cindi	C
Kindle, Gretchen	A	Koslow, Diane	C
King, Edward	A	Kostant, Amy.W	C, E
King, Joan	A	Kosterlitz, David S.	A
King, Marylyn	A	Kotschoubey, Nicolas	A
King, Natalie	A	Kountoupes, Cary	A
King, Richard	A	Krainman, Elizabeth	A

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Kramer, Elizabeth	C, D	Larson, Paul and Lenore	C, D
Kramer, Susan	C	Lasensky, Scott and Elise	T
Krash, Jessica	A	Lashgari, Monir	C
Krauth, CPA, Suzanne	C, Q	Lashley, Lori	T
Kress, Richard	A	Lasley, Judith	C
Kriesberg, Caleb	B, C, D, E, F, G, Q	Lass, Susan B.	C
Kriss, Evan Jane	A	Latimer, Richard	C
Kriss, Rachel	A	Latino, Frank	G
Krist, Elizabeth Cheng	C	Latty, Richard	C
Kristiansen, Kathrine	F	Lava, Francisco	A
Krug, Kevin	C	Lavan, David	C
Kucia, John	A	Law, Boo	C
Kuhns, David	A	Lawee, Aaron	A, K
Kullback, Rebecca	C	Lawhornbrown, Linda	A
Kunnirickal, Isaac	F	Lawrence, Frances & Robert	C, Q
Kura, Swapna	A	Lawson, Robin and Keith	C
Kurland, Pamela	C	Le Dem, Jean	C, D, Q
Kursban, Mindy	A	Lea, Lyston	A
Kurtz, Nicholas	A	Leachman, Thomas	I, K
Kuzminski Stouffer, Beth	C	Leaf, Roberto	A
Kwan, Quon	A, K	Leahy, Anthony	B, I
La Grenade, Lois	A	Leakan, Matthew	T
Labib, Jaleh	C	Leary, Liz, John, Catherine, and Jack	C
Labovitz, Priscilla	A	Leary, Robert	A, M
Labson, Courtenay	C	Leavitt, Wilder J.	C
Lage, Christopher	F	Lebowitz, Alisa	C
Lamari, Cary	A	Lederman, Laura	C
Lamb, Joshua, MD	C	Lee, Anne	A
Lamb-Mechanick, Deborah	B, E	Lee, Austin	K
Lamond, Chris	B, C, E, I	Lee, Bobby Y.	C
Lancette, Christopher	B	Lee, D.	A
Landa, Linette	C	Lee, J. Sue	C
Landau Steinman, Melissa	C	Leggett, Daniel	C, I, M, Q
Landau, Eric	A	Lehman, H.J.	A, M
Landay, Alan H.	C	Lehmann, Mishian	C
Lane, Kathryn	B	Lehrer, Beverly	A
Lane, Paul G.	C	Leibowitz, Pat and Lewis	C, E
Lannom, Linda	C, E	Leinwand, Stuart	A
Larkin, Jennie	A, M	Leman, Noa	C
Larravide, Gloria	L, Q	LeMieux, Christine	A

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Lemos, Iris	C	Lipitz, Michael	A
Lemov, Michael & Penelope	A	Lipper, Charles	C
Leon, Miguel	A	Lippincott, Alexandria	A
Leon, Sharon M., Ph.D.	C	Lite, Carol S.	A, F, K, L
Lerner, Mark, Inna, Misha, and Sammy	A	Liu, Douglas	A
Lerner, Richard	A	Liversidge, Ellen	F, S
Lerner, Shari	C	Lock, Cameron	A
Lesar, Douglas E.	C	Lofft, Alexander	A
Letsinger, Nancy	C	Loggie, Linda	A, M
Leventhal, Allan	F, Q	Logman, Mojgan	C
Leventhal, Carol	F	Longsworth, Nellie L.	C
Levin, Marci	B, C, T	Loonsk, John	C
Levin, Susan	C	Lopata, Nick	C
Levine, Edith	C	Lopez, Carlos	A
Levine, J.	C	Lopez, Daniela	C
Levinger, Matthew	A	Lopez, Louis M.	Q
Lewis French, Stacy	C	Lora, Eduardo	A
Lewis, Gregory A.	F	Lorenzana, Katherin	A
Lewis, T. Reid	C, E, Q	Lorenzen, Laura	A
Lewis-Khanna, Sherry	B, C, I, K, L	Lotze, Thomas	A
Li, Yixin	T	Love, Doug	A, Q
Li, Yun	A	Lowery, Jeffrey A.	C
Liburd, Soyini	M	Lowet, Stephanie	C
Lichtenstein, Jules	C, E	Lubbert, Marion	A
Lichtenstein, Lynn	B, C, D, E, K, Q	Lubin, Lisa	A
Lickwar, David	A	Lucas, Jill	C
Liddel, David	A	Lucash, Seth	C
Liebow, Normanl	A, M	Luco-Devincenti, Paulina	C, E
Lied, R. Andrew	C, F	Luebke, Thomas, AIA	A
Liepold, Mary	A	Lujan, Clemencia H.	C
Lietwiler, Charles J.	A	Luke, Jordan	C
Light, Jimmy A., MD, FACS	C, E, Q	Lutes, Mark and Jean	C
Lillibridge, John	A	Lynn	A
Lim, Janelyne	F	Lynn, Christine	C
Lim, Soketeang	F	Lyon, Philip	A
Limbert, Barbara	C	Macario, Pablo Salinas	A
Lincoln, Jane	B, C	MacCartee, William	C
Lindahl, Richard S.	C	MacGlashan, Don	C, D, Q
Lindenberg, Emily	C	MacGlashan, Margaret	C
Lindenberg, Howard	A	Mackey, Jack	C

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
MacPherson, Richard L.	A	Marmos, William	C
Madigan, Brian	C	Maroon, Sophia	B, C
Magner, Renee	C	Marques, Andy	A
Magnuson, Lyle	A	Marr, Christine	A, Q
Mahaffey White, Captain, Richard	C, Q	Marrocco, Drew and Carolyn	C
Mahaffie, Jim	C	Marshall, David	A
Mahan, Dee	C	Marshall, James	C
Mahmud, Lugman	A	Marshall, Malcolm and Darcy	C
Maines, Christopher	C, D	Marston, Christopher H.	C
Majano, Marvin	A	Martin, Cassia	A
Maka, Eva V.	A	Martin, Cooper	A
Malatesta, Jennifer	A	Martin, Delaney	C
Malik, Asia	P	Martin, Dessirae	A
Malison, Alex	F	Martin, Ellen	C
Mallikarjunan, Arun	C	Martin, Miranda	A
Malone, Andrew	A, E, H, L, Q	Martin, Ron	A
Malone, Elizabeth	A	Martin, Sydney	C
Malouf, Henry & Julie	C, E	Martin, Ted	A
Mancilla, Bethany J.	C	Martinez, Gabriel	A
Mancino, Galen	A	Marton, Yuval	A
Manganaro, Mike	A	Mascioli, William	A
Mann, Aliya	A	Mason, Bob	C
Mann, Marilyn K.	C	Mason, Geoffrey	A
Manning, Mark	A, F	Massey, Martina Gillis	F
Manrique, Roberto	C, E	Mathis, Nancy	B, I
Mansaray, Sandy	A	Mathura & Family, Karen	C
Mansueti, Sarah	T	Mattes, Stephanie	A
Marchick, David	C	Matthews, Suzanne & Jason	C, E
Marcus, Andrew	A, F	Maudlin-Jeronimo, Lynda	C
Marcus, John	C, E	Mauger, Anthony	I, Q
Marcus, Pamela	C	Maurer, Marie	C
Marella-Carpenter, Amy	C, Q	May, John F.	A
Mark, Clyde	C	May, Juliette	A
Markley, Ryan	A	Maya, Penina	C, E
Markowitz, Joy	A	Mayer, Diane	B, C
Marks, Marcia F.	C	Mayer, Peter C.	B, C
Markson, Alex	F	Mayo-Amilcar, Hanno	A, Q
Marlow, Susie	A	Mazie, Sara	A
Marmo-Fernandes, Martha	C	Mazo, Mark E.	C, K
Marmos, Lucretia	C	McBride, Jonathan E.	C, E

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
McBride, Mark	A	McLean, Michael & Firuzeh	C, E
McCaleb, Meghan	T	McMahon, John	A
McCarragher, Ward	Q	McMann, James P. & Marjorie E.	A
McCarthy, Caroline	T	McManus, Rich	B, G
McCarthy, Janey and Kevin	C	McNamara, John	C
McCarthy, Kevin	A	McNeil, Alice	O
McCarthy, Lori	C	McNeil, Dale	T
McCarver, Brenda	A	McNelis, James	T
McClain, Philip	Q	McNerney, Christine	A
McCloskey, Bill	A	McNerney, John	C, E
McConnochie, Timothy	A, H	McPherson, David	A
McCormick, Jennifer	A	Mead, William B.	D, E
McCormick-Goodhart, Leander	A, M	Meade, Birgit	A
McCreery, Roger	A	Mechanick, Maury and Irving	B, E
McCrudden, Charlie	A	Meche Kilcullen, Angela	C
McCubbin, Don	C	Meehan, Avice	A
McCullough, Claire A.	A	Meenan, Michael	A
McDaniel-Corrigan, Linette	A	Meitiv, Alexander	A
McDonald, Evelyn	C	Meline, Jed	A
McDonald, Robert	A	Memaran, Mahnaz	A
McDonnell, Michael	C	Mencher, Steve	A
McElrath, Hugh	A	Mendez, Nancy	A
McFeely, Martin	T	Merchant, Laura	C
McGeehan, Jackie	A, Q	Mergner, Gertrud D.	A, Q
McGervey, Joseph	T	Mergner, Wolfgang	A
McGill, Erica L.	C	Merkowitz, Maria	B, I
McGill, Robert F.	C	Merritt, Nick	C
McGinn, Julia	A	Mertz, Thomas	A
McGovern, Michael B.	B, C, E, I	Metalitz, Steve	A
McGowan, Sharon	T	Meyer, Mark D.	C
McGuire, Judith	D, E, K, Q	Micallef, Louise	C
McHale, Jeanette	C	Michopoulos, George	C
McHale, Thomas	C	Midlen, John	K
McIlwain, Harold	L	Midthune, Douglas	C
McKay, Richard and Janie	C	Mietz, Judy	C
McKinney, John E.	A	Mikulak, Lucy	A
McKinney, Kristin	C	Milbourne, Charles, Jr.	T
McKnight, Matthew	A	Millard, Steven	T
McLaughlin, Michel J.	C	Miller, Aruna	T
McLaughlin, Susan, MD	B, C, D, E, I, Q	Miller, Barbara	C

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Miller, Barry A.	C	Mondor, Raymond	A, M
Miller, Dan	A	Montgomery, Bill	A
Miller, Devon Lee	C	Montgomery, Todd	T
Miller, Franklin G.	C	Monti, Ernest	D
Miller, Jenn	A	Monti, Mary	C, D
Miller, Judy	C	Moody, Sally A., Ph.D.	A
Miller, Julie M.	A	Moon, David	A
Miller, Larry	C	Mooney, Diane L.	C
Miller, Lee	B, G, I	Moore, Frank	A
Miller, Mark W.	C	Moore, Laura	A
Miller, Megan	A, M	Moore, Steve	C
Miller, Melinda	C, E	Morales, Daniel	A
Miller, Renee	F	Morehead, Harvard	A
Mills, Kevin	A	Morgan, Marcia H.	C
Mills, Susan	C	Moriarity, Chris	A, Q
Ming, Michelle	A	Moriarty, Megan	A, K
Minkoff, Sue	C	Morris, Lindsay	A, K
Minning, Deborah	C	Morrison, Anita	A
Minovich, Christopher, CPA	A	Morrison, Foster	A
Mintz, Emily	A, Q	Morrison, Ian	A
Miraso, M.	A	Morrison, Jim	C
Mirkin, Gabe	C	Morrison, Elizabeth, M.D.	C, E
Misra, Asheesh	C, K	Morrison, Nancy	A
Mistrik, Marion	A	Morrissey, John	C
Mitchell, Colet	B, C	Morse, Sarah	A
Mitchell, Janene	C	Moskowitz, Ben	A
Mitchell, Jessica	A	Moulton, Hannah	A
Mitchell, Lisa	C	Moya, Laura	A
Mitchell, Sarah	C	Mudarres, Yasmina	C, F
Mitchell, Susan	C, E	Mudd, Marion H.	A
Mitchell, Thomas W., Esq.	C, D	Muise, Allan	A, Q
Mitchem, Freda	T	Mulholland, Kurt	C
Mitrakas, Ulysses L.	A	Mullen, Tiger	C
Moen, Craig	C	Mulligan, Christina	A
Mohammed, T.	A	Mumford, Elizabeth	C, D
Moir, Catherine	B	Munoz, Cecilia	A
Mokhtarzada, Idris	A	Muratori, Francesca	C
Mollenauer, Andrew	C, K, Q	Murayi, Theophile	A
Molloy McCaleb, Meghan	C	Murphy, Brian	B, I, T
Moltumyr, Mary	A	Murphy, Brian and Joy	C

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Murphy, Charles	C	Nguyen, Chi	A
Murphy, Douglas	B, E	Nickerson, Cindy	C, E, I, Q
Murphy, Frances	A	Nickerson, Louisa	A
Murphy, Patrick	C, Q	Nicolacci, Giovanni	B
Murphy, Stephen and Dominic	C	Nielson, Theresa	A
Murphy, Thomas D.	A	Nieva, Christine	A, K
Murray, Bruce	T	Nieves, Dennis	A
Murtha, Peter	A	Nolasco, William	A
Musher, Amy	T	Norton, Scott	C
Mutzberg, John	C, E, K	Norvell, John and Elizabeth	C
Nagaraj, Barbara	C	Norwood, Bill	A, N
Nagle, William	A, M	Novicio, Mark	A
Nainis, W. Scott	C, E	Novotny-Dura, Janet	C
Nalls, Daniel G.	B	Null, Elisabeth Higgins	F, K, M
Naradzay, Bonnie	C	Nunez, Albert	A
Nash, Michael	B, C	Nybro, Ruth	A
Nasr, Navid	K	Oberg, Kathleen	I, K
Natale, Michael	A	O'Brien, Jim	B, I, L
Nathe, Tobias	C	O'Brien, Kate	C, E
Nau, Lise	A	O'Brien, Lisa	A
Navarro, Nancy	A	O'Brien, Paula	C, E
Neal, Valerie C.	K	Obrine, Lisa	A
Needle, Roslyn Brandon	C	Obrinsky, Mark	A
Neher, Jim	A	O'Bryon Haas, Megan	C
Neil, William	A	O'Connell, Timothy	A
Nekrasova, Ninel	C	O'Connor, Austin	A, H
Nelson	A	O'Donnell, Earle	A
Nelson, Curt	C	O'Donnell, John	B
Nelson, David	M	Ogundimu, Kehinde O.	A
Nelson, Gerald	A	O'Hanlon, Michael	A, C
Nelson, Nicole	T	O'Hare	C, E
Nelson, Susie	C	O'Herron, Thomas F.	A
Nemec, Linda	C	Ohnsorge, Franziska	C, Q
Nemeth, Diane	F	O'Laughlin, Daniel and Agnes	C
Neusner, Noam	B, I	OLeary, David	D
Newman, David	A	Oliver, John M.	C
Newman, Marian	C, E	Oliver, Lloyd and Nancy	C
Newman, Sarah	C, E	Oliwa, Michael	C
Newman, Sharon	A	Olmstead, Jon C.	C
Newton, Kellie	C, I, K, Q	Olsen, Maria and Chris	C

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
O'Mara, Marsha	C	Pascaley, Assya	C
O'Neil-Manion, Sara, AIA	C, G, Q	Pashby, Chris	A
Onufer, Drew	C, D	Pasta, Michelle	T
Orleans, Bill	A, Q	Patch, Ted	C
Ortiz, Evelyn	A	Patterson, Byron	C, K, N
Oser, Jeff	A	Pavitt, Charles	A
Osorio, A.R., Jr.	A	Payne, John	A
O'Steen, Karen	A	Peal, David	C
Ostlund, Robert	A	Pearse, Michael	C
O'Toole, Bob	G	Pearson, Steven D., MD, MSc, FRCP	C
Ovalles, Judith	A	Peck, Roy	A
Owen, Ryland	A	Peckham, Gardner G.	C
Owens, Anna	A	Peek, Hope	B
Oweos, John	A	Peirce, Lara	T
Owings, Megan	T	Pena, Constance	F, K, Q, S
Ozberk, Erkin	A	Pendergrass, J. Aaron	A
Ozburn, Laurent	A	Pendergrass, John	F, K
Packard, Dean A.	C	Penina, Maya	C
Padilla, Solveig	C	Penner, Eileen	C
Pakroo, Shapari H.	C	Pereira, Sandra	A
Pakulski, Margaret	F	Perez, Rodolfo	A
Pal, Amlesh	T	Perkasa, Hans	A
Palladino, Grace	C, Q	Perkins, Emily	A
Palley, Tom	A	Perkins, Fletcher	H
Palmer, Laurie	F	Perl, Matthew	C
Paludneviciai, Raylene & Zilvinas	A	Perla, Lee	A
Panebianco, Nicholas	C	Perring, Rebecca	A
Papageorge, Alex	B, L	Perry, Cheryl	A, M
Pape, Barbara	C	Persons, Jacqueline	A
Parchment, Mark	A	Peterkofsky, Don	C
Paretzky, Raymond	A	Petersen, Rafe	T
Park, Eugenia	A	Peterson, Jonathan	A
Park, Michael	A	Peterson, Paul	C
Park, Paul Joseph	A	Peterson, Rosemary	A
Parree, Jutta	A	Petrash, Carol	C, Q
Parry, Jennifer	A	Petrash, Jack	C
Parsons, Richard	A	Petrides, Bette	B
Pascal, Mark S.	F	Petrides, Sr., George	C
Pascalev, Alice	B, C	Petrisko, Nancy	C, E
Pascalev, Mario	C	Philbin, Vivienne	C

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Phillips, Hannah	C	Previti, Lawrence	G
Phipps, Heather	A	Primack, Karen and Aron	A
Phyillaier, Wayne	A	Proctor, Tim	B, I
Picard, Matthew	C	Pskowski, Martha	A
Picard, Suzanne and Matthew	C	Public, Jane X.	G
Piccardo, Pedro	A	Pugh, Jennifer	T
Picchioni, Dante	A, G	Purdie, Christina	C
Pick, Terri	A	Purdie, Edith	B, C, I, Q
Pickar, Catherine	A, T	Pyles, Dr. Tracey	C
Pickering, David	T	Qazzaz, Keylan	C
Piepmeier, Brad	C	Queen, Marcus	A
Pinckney, Andrea G.	A	Quick, Tim	C
Pinto, Laura A.	A, K	Quigley, Gail	C
Pirnia, Denise	A	Quilici, Kristine	A
Pirone, Mark A	C	Quinn, Marianne	A, F
Pivik, Lynn	C	Quintos, Beatriz	A
Plank, Stuart and Laura	C	Rabinowitz, Mitchell L.	A
Platia, Edward and Rose	C, E	Race, Adam	C, E
Platia, Edward V., MD	C, E, Q	Radichevich, Alexander	A
Platia, Rose	B, I	Raesly, Lee	C
Pluta, Tom	B, D, I	Rafferty, Patick and Michele	B, I
Polisar, Barry Louis	C	Ragen, William	A
Pollard, Richard	A, M	Rainville, Chuck	A
Pomarede, Betty	C	Rajpal, Vikas	D
Pomarede, Jean-Michel	C	Ramirez, Silvestre	T
Pomykala, Daniel	H, Q	Ramos-Izquierdo, Luis	C
Pope, Margaret M.	A	Rand, Florence	A
Pope-Onwukwe, Karren	A	Randall, Julia	C, E, Q
Porambo, Albert	A	Raphael, Donna	A
Portney, Mindy	A	Raphel, Erica	A, K
Posner, Mark	A	Rashford, Venice	A
Pothier, Karl and Betsy	B, Q	Rashid, Wali	T
Potter, Tonja	T	Rasmussen, Jack	A
Powell, Anathea	A	Ratcliff, Judith	A
Power, Sheila	C	Rathbone, B.	C
Powers, Joseph	A	Ratkowski, Pat	A
Prater-Lewis, Jon	A	Rauch, Brigid	T
Prece, Jan	A	Rauh, Dean J.	C
Prescott, Jannea R.	A	Rauh, Jill	A
Preust, Floyd C.	A	Ravnitzky, Michael	A

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Ray, Aaron	A	Rhine, James	I
Ray, J. Ram and Shashi	F	Rhodes, Terry and Mary	A
Ray, Ronjini	C	Ricardo, Lillian	C
Rayder, Helene	C	Rice, Andrea	C
Raymond, Sharon	C	Rice, Chrysantha	A
Re, Peggy	A	Rice, Jerry M.	B, C
Read, John	A	Richards, Frank	A
Real de Azua, Christine	C, D, Q	Richards, Sarah	B, C
Reamy, Brian	A	Richardson, Melanie	F
Reddy, Veerender	A	Richardson, Peter	C
Reed, Dan	A	Richardson, Rhea	A
Reed, Kevin F.	C	Richman, Suzanne	C
Reeve, Becky	B, K	Richmond, Brian	A
Reeves, Ari	A	Riddell, Jennifer	B, C
Reeves, Kevin	A	Rider, Jeremy	A, M
Reforzo Arnold, Agnese	C	Ridgway, Micheal C.	C, E
Regan, Patrick, Janet, Christopher, Jennifer, & Caroline	C	Ridgway, Nancy	C, D
Reichelt, Heike	C, E	Riemer, Hans	A
Reichert, Amy	C	Rigolage, Jacques	A
Reid, Ervin	A, Q	Riley, James	A, F, G, M
Reilly Scarff, Margaret	B, I	Rinaldi, Patricia	T
Reilly, Kevin Michael	A	Rinaldi, Patricia	T
Reinhart, George R., Ph.D.	A	Rinehart, Theresa	C
Reinstein Dewey, Betsy	C	Riordan, Chris	A
Reis, Richard, PE	A	Ritchie, Brittany	A
Reis, Rose	A	Rittenberg, Susan	A
Reitzel, Todd	A	Ritter, Daniel	C
Remer, Davida	A	Rivera, Angela	A
Remer, Stew	C	Rivera, Eric	A
Remez, Shereen	C	Rivera, Fernando	A
Remuzzi, Chris	A	Rivera, Maria	A
Repp, Gary	B, C	Rivers, William	A
Requena, Martin	C	Rivkin, Goldie	D
Ressa, Richard	C	Rivkin, Steve and Mary	B
Reuben	A	Roach, Alyce	O
Reuter, Bob	A	Roach, Gary and Alyce	O
Revenis, Anthony	C, G, Q	Robbins, Alan	A
Reyes, Thelma	A	Robbins, Melinda	C
Reynolds, Michael	A	Roberts, Brent	A

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Roberts, Carol O.	C, E, I	Rothstein, Paul F., Thelma A. and Vanessa J.	B, C
Robertson, Dan	C	Roud, Andrew	T
Robertson, Tom	O	Rousseau, Claudia, Ph.D.	A
Robinowitz, Max	A	Rowe, Judith	A
Robinson, Barbara M. & Sherman	C	Rowe, Kevin	C
Robinson, Carlton C.	C, E	Rowles, Rick	A
Robinson, Keisha	B	Rowse, Arthur	A
Rocap, Adam	F	Roy, Jim	B, C, I
Rocap, Kristi	F, Q	Ruane, Jane	C
Rocco, Jim	C, K	Ruben, Ida	A
Roche, Maria	C	Rubin, Carol & Ken	C
Rodbell, Linda	C	Rubin, Kenneth	C
Rodgers, Brian	C, E	Rubin, Larry	K
Rodgers, William	C	Rubin, Michael	A, K
Rodrigues, Dennis	A, M	Rubinson, Kenneth	Q
Rodriguez, Reetiberto	A	Rucker, Marcia	A
Rogers, Jonathan	A	Ruddick, Colleen	A
Rojas, Noe	A	Ruff, Patrick and Natalia	A
Rolland, Jill, Ph.D	A	Rule, Allison	B, C, E, I, K
Rollenhagen, David	F	Rule, Jeff	C, E
Rollin, Josh	A	Ruppenthal, Kevin	A
Rollins, Ann	A	Rurka, Katherine	C
Roman, George	I	Rurka, Steve	C, E, Q
Roman, Sally	A	Rurka, Steven	B, I
Romans, Alana	A	Rush, Christina	C
Rood, Joanne L.	B, C, D	Russell, Charles	G
Roop, Robert	C	Russwurm, Dirk	F
Rosales, Roberto	A	Rutherford, Joyce	B
Rose, Lois C.	A	Ryan, James	A
Rose-Blass, Stacey	A	Rydland, Laura	A, P
Rosenberg, Diane	C, Q	Ryerson, Joel	A, Q
Rosenberg, Keith	A	S., Amir	C
Rosenberg, Stephen	A	Saavedra, Alejandro E.	A
Rosenthal, Josh	A, K	Sachs, Howard & Tricia	C, D, E
Rosettie, Chris	C	Sacks, Melvyn	A
Ross, Andrew	A	Sadler, Anthony	A
Ross, Matthew	A	Sage, Steven F., Ph.D., Esq.	C, Q
Ross, Nino	A	Saggese, Marty	C, E
Rothandler, Stephen	C	Saks, Robert	T
Rothstein, Paul	C	Saldana, Kelly	A

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Salgadoe, Andrew	A	Schroeder, Joe & Pam	C
Saltzman, David	C	Schruben, Thomas	C
Salzman, David, Ph.D.	K	Schuck, Justin	A
Salzman, Melinda C.	A, Q	Schulden, William	A
Samelson, Lawrence E.	C	Schulz, William	C
Samiy, Kathleen	C, D, F	Schulzinger, Rhoda	A
Sampas, Larry	A	Schwandes, Shaytu	A
Samson, Aleli	C	Schwartz, Benjamin	A, M
Samuel, Gisele	A	Schwartz, Dr. Ira B.	C
Sandalow, Marcie	C	Schwartz, Michael (Chevy Chase)	A
Sanders, Gregory	A	Schwartz, Michael (Gaithersburg)	C
Sandstrom, David	A	Schwarz, Joel	C, E
Sangillo, Judy	A	Schwarzwalder, James	T
Sapozhnikova, Alla	C	Schwenker, Bryan	C
Sarah	A, M	Schwinn Cohn, Elizabeth	C
Sarles, Donald	A	Sears, David W.	A
Sarris, Chuck	A	Seavey, Caleb	A
Sattler, Neil	A	Seay, Christopher	A
Saunders, Jamie	C	Sebastian, John	A
Sauro, David	A	Secunda, Rachel	A
Savage, John	C	Sedransk, Joseph	E
Sayyad, Shihadeh & Vara	C, E, Q	Seeley, Tim	C
Scanlin, William and Therese	C, D	Segatol-Islami, Zia	A
Schaberg, Sara	C	Seidel, Stephen	C, E
Schaefer, MA, Michael L.	C	Seiple, Tim	A
Schall, Amanda	C, K	Serafino, Al	B
Schauffler, William B.	A	Sera-Herdrich, Nancy M.	C, D
Scheel, Marti L.	A, M	Sessions, Stuart	C
Schleis, Daniel	A	Sethi, Satish	A
Schlesinger, Maurice	A	Sevier, Loretta	A
Schmal, Stephen	A	Seward, Bob	A
Schmidt, Nicholas	A	Shaffer, Robert J.	C
Schneeman, Kristin	B, C, E, K	Shah, Amol	A
Schneider, Andrew	A, H	Shah, Jigar	C, D, Q
Schneider, David	A, K	Shalleck, Ann	A
Schneider, Richard	A	Shalom, Amy.W	A
Schneider, Sam	A	Shane, Jeffrey N.	C
Schneider, Scott	A	Shanley, Daniel	A
Schnitzer, Ari	A	Shannon, Stewart	C, E
Schreiber, Daniel	C	Sharif, Abdul	A

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Sharif, Abdul	A	Simon, Madlen, AIA	A
Sharma, Nitin	A	Simon, Stuart L.	A
Sharp, Heather	A	Simon, William	C
Shattuck Flugge, Jessica	C	Singer, Josh	C
Shaul, Marnie	C, D	Singh, Manmohan	A
Shaw, Cora	C, E	Singh, Rinki	A
Shea, Shannon	A, M	Sitko, Nicole	A
Sheehan, Frank	Q	Skolnuc, Lola	A
Sheehan, Kathleen	A	Skomoroch, Peter	C
Shekar, Vinod	A	Slater, Christine	A
Shellabarger, Nan	T	Slater, Don	A
Shelton, Scott	A	Slater, Jessica	A
Shepard, Martha	A	Slater, Tina	A, F
Shepherdson, W.	C	Slettebak, Andy	A
Shepord, Ben	A	Slettebak, John	A
Sherk, Don	C	Sligo Computer Services	A
Sherman, George	D, E	Small, William	A
Sherry, Margaret	A	Smedley, Giovanni	A
Shikora, Vladka	A	Smedley, Pietro	A
Shimm, Monique	C	Smedley, Webb	A, H, I, K
Shinkman, Gillian	C	Smirniotopoulo, James	A
Shore, Stacy	A	Smith, Aaron	A, M
Short, Radley	C	Smith, Bettina	A
Shue, Robert	C	Smith, Craig	C
Shuey, Don	C	Smith, Gregory M.	C, E
Shufelt, Susan and Gordon	A	Smith, Jeffrey C	B, C, I
Shull, Frank T. IV	C	Smith, Karen K.	C
Shulman, Larry	L, M	Smith, Kean	T
Sibert, Boyd	C	Smith, Mark	C
Sibert, Sasha	T	Smith, Maynard	A
Silberman, Paul, DDS	C, E, Q	Smith, Peter	A
Silerman, Aaron M.	A	Smith, Sarah and Siegner, Wes	C
Sill, Jonathan	A	Smith, Scott	C, D
Silla, Theresa	A	Smith, Wendie	C
Sillett, Scott	A	Smyth, Gus	C
Silver, Arthur	A	Smythe, Robert	B, K
Silverberg, Beverly	A	Snow, Cindy	A, M
Silverman, Peter	C	Snowden, Karesa	A
Simmons, Lindsay	C	Snyder, Lynn	A
Simon, Alan	C	Sobel, Daniel	F

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Sobel, Lee	A	Stahr, William	C
Solana, Ernesto	C	Stamm, Leonard	C
Solazaro-Lopez, Blanca	A	Stanek, Jason	A
Solem, Sanna	B, C, Q	Stanish, Julie	C, D, E
Solomon, Dr. Fred	C, E	Stanley, Thomas	T
Solomon, Gloria B.	C	Stanton, Paul	C, Q, R
Solomon, Howard	A	Stapleton, Ruthy	A
Solomon, Michelle	A	Stark, Chad	B, Q
Solzarno-Lopez, Blanca	K	Starkweather, Aleen	A
Somok, Kevin J.	A	Stathoplos, Linda	A
Sonnefeld, L.Joseph	A	Staub, Leah	A, K
Soprano, Wendy	T	Stauffer, Marc	A
Sorden, Sarah	A	Steeds, David	C, E
Soreng, Nancy	A	Steimel, Jane	C
Sorensen, James	T	Stein, Alan	C
Sorrel, Lorraine	T	Stein, Lester	C
Sosin, Cliff	T	Stein, Mike	A
Sosman, Alicia B.	C	Steinberg, Clarence	K, L, Q
Sotocov, Sister Carmen M.	A, K	Steinhauser, Hubert	C
Sotwin, Brad	A	Stephan, Erica	A
Sourlis, Andrew J.	A	Stephens, Robert	A
Spaniol III, Joseph F.	C	Sterkel, Molly	A
Spann, Laura	C	Stern, William R., MD	C
Sparer, Nadine G.	B	Sterner, Maggy	A
Sparrow, Judith	C	Sternfeld, Michael	A
Speed, Chet	B, I	Sterrett, Joan	B, I
Spencer, Elizabeth	B	Stevens, Andrea	C, Q
Spencer, John	C	Stevens, Anita	A
Spiegel, Aila	A	Stewart, Phil	C, K
Spiegel, Taru	A	Stewart, Susan	A
Spielberg, Anne	F	Stewart, Zachary	C
Spielberg, Debbie	F	Stickle, Marcie	A, Q
Spinrad, Naomi	C, D, E	Stigile, Arthur	A, H, Q
Springer, Theodora	C	Stillwell, James	A
Squier, Mark	C	Stingley, Patrick	B, C, I
Sribarra, Kartik	A	Stinson, David B.	F, K
Srinivas, Allison Barra	A	Stinson, John	A
Srisilapanan, Darunee	A	Stinson, Susan	A
St. Thomas, Jonathan B.	F	Stith, Gary	A
Stahlbush, Robert	A	Stoddard, Robert and Barbra	C

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Stolka, Kurt	A, D, R	Tate, Maleda	B
Stone, Lori	A	Taylor, Betsy	F
Stone, Paula	C, D	Taylor, Denise	C
Stopak-Mathis, Tali	C	Taylor, Jerry	Q
Strain, Sally C.	C	Taylor, Martina and Keene	C
Strauss, Sharon	A	Taylor, Stephen	B, C, D
Stregevsky, Paul Franklin	A	Taylor, Theresa	B, C, I
Strein, William	A	Teagle, Eliot G.	A, Q
Strickland, Ken	H	Tehan, Timothy	C
Stromberg, Edwin	A	Tejada, Veronica	A
Stroud, Lindsay	C	Telep, Candace	C
Stuesse, Sherrry	A	Telesco, John	A, M
Su, Chen-Wu	A	Tender, Neil	C, Q
Suddleson, Michele	A	Teng, Barbara	C
Sugarman, Kate	A	Tennyson, E.L., PE	A, H, K
Sugarman, Keith	A, G	Tennyson, Ed	A
Sugarman, MD, Kate	A	Teofilo, Erica	T
Suite II, Bill	A	Tercyak	C
Sullivan, Andy	A	Terrell, April	A
Sullivan, Katherine W.	B, I	Teslik, W. Randolph and Jane	C
Sullivan, Matthew K.	E, I, Q	Thibeau, Karen	C
Sullivan, R.	A	Thomas, Adam	A
Sumner, Anne E.	C	Thomas, Ann L.	A
Sundin, Rebekah	C	Thomas, John	A
Sussman, Frances, Ph.D.	B, F, I, Q	Thomas, Lauren	A
Sutter, Allan	T	Thomas, Theresa	K, S
Svec, Michael	C	Thomen, Harold	A
Swagart Jr., John M.	C	Thompson, Alan and Diane	C
Swanson, Tom	C, D, E, Q	Thompson, Bruce and Kathy	C
Swanson, Tom	B, E	Thompson, Dean	C
Sweeney, Kristine	C	Thompson, Megan	A
Sweeney, Molly E.	C	Thompson, Robert	A
Sweet, Evelyn	C	Thompson, Shawn	A
Sykes, Dina	A, Q	Thorington, Caroline	C
Sznajder, Joanna & Roman	A	Thornton, Brian	A
Taitano, Vicki King	A	Thrift, Jesse	Q
Talbot, Barbara	C	Throckmorton, Judy	C
Talbott, Jay	C	Thuyacontha, K.	A
Talbott, John	C	Tievsh, Robert S.	A
Talone, John R.	F	Tillett, Martin	A

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Tingler, Erica	C	Van Heuvelen, Ben	C
Tirocke, Jessica	A	Van Houten, Ted	A
Tirpak, Dennis	C	Van Hovell, Floris and Polly	C
Tobin, George	A	Van Metter, Kristen	A, M
Tobin, Mary	A	Van Mourik, Dave	A
Toomer, Earlette	A	Van Mourik, Jaime	A
Toro, Luz E.	A	Van Roden, Victoria L.	A
Torres, Norma	A	VanDeWeghe, Meg	C
Torro, Pamela	A	VanDuren, Mau	A
Touw, Steve	T	Vanzego, Raymond J.	A, Q
Townsend, Holly	C, E	Varela, Ana	A
Tracy, Karen	A	Vary, Elizabeth	D
Trangsrud, John	A, M	Vary, Elizabeth and George	B, C, I
Trapmann, William	A	Vary, George	B, I, K
Traxler, Herbert	A	Veras, Yanira	A
Treibitz, Janelle	A, K	Verdonk, Ron	A
Trimble, David	C	Veremis, John	A
Troccoli, Kenneth and Karen	C	Verner, Douglas	A
Trujillo, Lalo	A	Vest, Charles T.	B, F
Truong, Tri	C	Vest, Gilberte S.	F
Truppner, Travis	C	Villatoro, Berta	A
Tschirgi, Vali M.	C	Viloria, Andrew	A
Tsigas, Marinos	A	Vincenzo	A
Tso, Judy	B	Virnich, J.T.	A
Tso, Judy	B, C, E, K	Virsilas, Terra	A
Tsui, Flora Hsiu-chen	C, E, Q	Vita, Lisa K. & Frank K.	C, E
Tuchman, Raymond	B, D, I	Vitiello, Benedetto	C, K
Tucker, Jonathan	B, Q	Vollmer, Deborah A.	C, E
Tucker, Laura	A	von Fleckenstein, Fritz	A
Tulip, Peter	A	Vorisek, Lauren	A
Tully, Mercedes	C	Vorisek, Nita	A
Tully, Sunnie	C	Wachino, Vikki	C
Tupper, Craig	A	Wadyka, Jr., Steven J.	C
Tutwiler, M. Ann	A	Wagithuku, Donya	A
Ucko, Aaron	A	Wagle, Kusum	C
Umamaheswaran, N.T.	A, Q	Wagner, Judith	A
Urofsky, Melissa	C, Q	Wah, Michael	A
Uza, Gabriella	C	Wahiba, Bonnie	A
Vaccaro, Tanya	T	Wahl, Alice	A
van der Cammen, Karin	C	Walker, Charmayne	A

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Walker, Elinor	A	Weir, Dennis	F
Walker, Jelila	C	Weiss, Catherine	C
Walker, Jeremy	C	Weiss, Chris	C
Walker, Karen	C	Weiss, Claire	C
Walker, Rhonda	B, I	Weiss, David	B, C, H
Wall, Joanne F., Esq.	C	Weiss, Kenneth D.	A
Wallach, Naor	T	Weiss, Brendan M., M.D.	C
Wallerstedt, John	C, E	Weiss, Ruth	B, I
Walling, Kevin	A	Weisz, David A.	C
Walser, Judy	A	Weitzel, Daniel P.	I
Walsh, Deirdre and Howard	C	Wele, Anne	A
Walsh, Marjorie G.	B, I	Wellins, Nancy	A
Walsh, Sheila	A	Wells, Jim	C
Walsh, Thomas	C	Wells, Tryon	C, Q
Walsh, William J.	B, C, I	Welna, Jane	A
Walton, Thomas E.	C	Wessel, Barret	A
Walton, Tim	A	West, Becky	C, Q
Waltz Dallaire, Christine	C	West, David	A, M
Ward, Alan	C, D	West, Jay	C
Ward, Mariette	A	West, Joy C.	B, I, K, L
Ward, Shawn	A	Western, Mark A.	C
Warnock, Annette	B, C, Q	Westover, Charles	A
Warnock, John	B, I, T	Westreich, Sabena R.	A
Waroich, M.J.	A	Wetmore, John Z.	A
Warren, Dorothy Joan	A	Wheeland, Daniel	A
Wassermann, Sophia	A	Wheeland, Paula	A
Waters, Jerry and Janice	C	Whelpley, Joshua	A
Watkins, Luke	A	Whetzel, James	B, I, K, Q
Watson, Sarah	C	Whidden, Brad	A
Wattenberg, Alicia	A	White, Andrew	B, C, D, K, Q
Way, Stanley H.	C	White, Corinne	C
Weathersby, Kathryn	C	White, Juanita	A, Q
Webb, Candace	A	White, Timothy S.	A
Webb, Carol	C	White, Victoria	A
Webb, Christian	A	Whitehead, Charles E.	C
Webb, David	A	Whitehead, Kerry	B, I
Webber, Gary L.	A	Whitfield, Crystal	A
Weeks, Brian	A	Whitman, Deborah	F
Weinstein, Jeff	A	Whitty, John	A
Weinstein, Paul, Jr.	A	Whybrew, Michael	A

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Wicklund, Bonnie	A	Wolf, Matthew	C
Wielobob, Allison	A	Wolf, Mier	C, D, E
Wigand, Martin	B, E, I, Q	Wolfson, Marc W.	C
Wild, Ann	C, D	Wong, Doris C.	C
Wilensky, Sara	C, D	Wood, Bruce	A
Wiles, Janice	A	Wood, Hannah	A
Wilk, Cavan	A	Wood, Kent	C
Wilkins, Lindsay	C	Wood, Lizzie	C
Wilkins, Victoria	A	Wood, Sebastian	C
Wilks, Kathleen	C	Wooden, Amy	C, Q
Wilks, Madeline	C	Wooden, Ralph	A
Williams, Bess	A	Woodman, Marjorie	C, E, Q
Williams, Darryle T.	A	Woods, Lisa	C
Williams, Kirsten	C	Woodward, James	C
Williams, Lynda	C, K, L	Woody, Jesse	A
Williams, Peggy Sue	A	Workman, Anita	A
Williams, Rebecca	C	Worthington, Aileen	C
Williams, Ruth J. and Kate	A	Wrigley, Will	A
Williams, Stephanie	T	Wulff, Robert	A, K, M
Williams, Sylvie	A	Wyeth, George	A
Williamson, Matthew	C	Wynn, Sherry	T
Willig, Sharon	C, D, E	Wynne, Suzan	A
Willis, F. Michael	A	Yakovenko, Victor	A
Willis, Floyd and Carolyn	C, D, K	Yang, Hong	A
Willmott, Sam	C	Yasmer, John	A
Wilmot, Laurie	A	Yassin, John, MD	A
Wilson, Ben	B, Q	Yeomans, Ian	C
Wilson, Lisa	F	Yianilos, Niki	C
Wilson, Scott	C	Yockey, Thomas M. and Lynne A.	C
Wilson, William	A	Yonkos, James	A
Winarsky, Lew	A	Yost, Amber	T
Winarsky, Susan	A	Youker, Bob	J
Winer, David	C	Young, Amy	C
Winn	C	Young, Dawne	A, Q
Withrow, Mitzi	A, Q	Young, Esq., Amy	C
Witmer, Chuck	A	Young, Paul A. and Peggy L.	C
Witt, Clara J	C	Yu, William	A
Woerner, Bryan	A	Yue, Kang	F
Wojtacha, Trent	A, T	Zaborski, Marcey A.	C
Wolf, Cathryn	C	Zahn, T.	C

Table A-5: Public Commenters and Topics of Interest (continued)

Commenter	Topic of Interest	Commenter	Topic of Interest
Zanoff, Fred	T	Zipin, Philip B., Esq	A
Zartman, Eleanor	C	Zolotukhina, Elizabeth	C
Zartman, Eugene R., CPA	C, D	Zubkovsky, Leonid	A
Zassenhaus, Harold	C	Zubrzycki, Kathleen	T
Zbar, Frederick S	B, C, I	Zuccaro, Tony	C
Zeiler, Jessica	A	Zuckerman, Eric	C
Zhu, Paul	C	Zuluaga, Juan Eduardo	C
Zimmerman, Mark	A	Zuniga, Cecilia	A
Zipin, Jessica	A	Zweck, John	C

Appendix B

List of Preparers

Federal Transit Administration

Brigid Hynes-Cherin, Regional Administrator, Region 3

Jay Fox, Regional Counsel

Daniel Koenig, Environmental Protection Specialist

Tim Lidiak, Community Planner

Adam Stephenson Environmental Protection Specialist

Amy Zaref, Environmental Protection Specialist

Maryland Transit Administration

Henry Kay, Executive Director, Transit Development and Delivery

Michael Madden, Purple Line Planning Manager

William Parks, Purple Line Acting Project Director

John Newton, Manager, Environmental Planning Division

Name	Degree	FEIS Contribution
Parsons Brinckerhoff		
Gregory Benz, RA, AICP	B.Arch., M.U.P.	Transportation, Travel Forecasting, NEPA Document Reviewer
Jack Boorse, PE	B.S.	Traffic Analyst
William Davidson	B.A.	Travel Forecasting
Stephanie Foell	B.S., M.H.P.	Cultural Resources Reviewer
Monica Meade, AICP	B.A., M.C.P.	Purpose and Need, Alternatives, Public Involvement, NEPA Document Reviewer
Arthur Morrone	B.S.	Noise and Vibration Reviewer
Tracey Nixon, AICP	B.A., M.U.P.	Technical Editing
Allyson Reynolds	B.A., M. Transp. Planning	Editing/Document Preparation
Dorothy Skans	B.A.	Editing/Document Preparation
Henry Ward	B.S., M.S.	Cultural Resources Reviewer

Name	Degree	FEIS Contribution
RK&K		
Elizabeth Workman-Maurer	B.A.	NEPA Document Reviewer
Sheila Mahoney, AICP	B.A., M.S.	Indirect and Cumulative Effects Reviewer
Eric Almquist, AICP	B.A., B.S., M.S.	NEPA Document Reviewer
Charles Wallace, PE	B.S.	NEPA Document Reviewer
Brian Horn, PE, PTOE	B.S.C.E.	Stakeholder Coordination/Real Estate Acquisition
Eileen Sien, PE	B.S., M.S.	Utilities Reviewer
H. Franklin Vick, PE	B.S. C.E.	Economics Reviewer
AECOM		
Leslie Roche, AICP	B.A.	NEPA Document Manager
Louis Costa	B.A., M.C.P.U.D.	NEPA Document Reviewer
Christy Grier	B.S., M.S.	NEPA Document Reviewer
James Hess, AICP	B.A., M.S.	NEPA Document Reviewer
Toni Horst	PhD	Economics Reviewer
Frank Mikolic, RPA	B.A., M.A.	Cultural Resources/Archaeology Reviewer
David Nelson		Document Production
Alan Tabachnick	M.S.	Cultural Resources Reviewer
Fang Yang	B.S., M.S.	Air Quality Reviewer
Argo		
Robert Dickinson Roop, CEP		Hazardous Materials Reviewer
Whitman, Requardt & Associates		
Amanda Baxter	B.S.	NEPA Document
Caleb Parks	B.S.	Alternatives Considered/Environmental Resources/Evaluation of Alternatives
Lauren Molesworth	B.S.	NEPA Document, Alternatives Considered, Construction
Glenn Wilson	B.S., M.S.	Environmental Analyst
Halie Stannard	B.S.	Environmental Analyst
Susan Smith, WPIT	B.S., M.S.	Demographics, Community Impacts
Daniel Beavers, PE	B.S.	Railroad
Robert Klasen, PE	B.S.	Air Quality
Matthew Werder	B.S.	Bike/Pedestrian
Ashley Tracy	B.S.	Air Quality
Li Li, PE	B.S., M.S., MCRP.	Air Quality
Rafey Subhani, PE	B.S.	Air Quality
Evan Hershman, PE	B.S., M.Eng.	Air Quality
Julie Woo	B.S.	Air Quality
Paul Rostolsky		GIS/Mapping
Wendy Haubert		GIS/Mapping

Name	Degree	FEIS Contribution
Gannett Fleming, Inc.		
Steve Hawtof, PE		Environmental Discipline Lead
John Martin, RPA	B.A., M.A.	Cultural Resources
Craig Shirk, AICP	B.A., M.S.	Social/Community/Environmental Justice/Indirect and Cumulative Effects
Michelle Brummer, AICP	B.L.A., M.L.A.	Social/Community/Visual Resources
Kate Sharpe	B.A., M.P.S.	Social/Community/Economics
Matt Houtz	B.S.	Social/Community Analysis
Danielle Stemrich	B.A., M.S.	Social/Community Analysis
Ahmed El- Aassar, EIT	B.S., M.S., PhD	Noise
STV		
Matthew Stork, PE	B.S., M.S.	Engineering
Douglas Swann	B.S.	Environment
Joseph Schuchman		Section 4(f)-Historic Resources
Kenon Tutein		Vibration
Jamie Lake, AICP	B.S., M.A.	Transportation, Land Use
Cody T. Christensen, AICP	B.S.	Transportation
Jacobs		
Harriet Levine, PE	B.S.	Response to Comments, Planning
Kimberly Glinkin, AICP	B.A., M.A.	NEPA Document
Kristi Hewlett	B.S.	Sections 4(f) and 6(f)
Brett Ripkin, AICP	B.S.	Response to Comments/Public Outreach
Gallop Corporation		
C.Y. Jeng	PhD	Travel Forecasting
KGP Design Studio		
Bill Gallagher, AIA	M.Arch and U.D.	Station Architecture
Seth Garland, LEED AP, AIA	M.Arch	Station Architecture
Coastal Resources, Inc.		
Bridgette Gardner	B.S.	Ecological Resources
David Smith	B.S., M.S.	Ecological Resources
Kate Estler	B.S., M.S.	Ecological Resources
Dovetail Cultural Resource Group		
Kerri Barile, RPA	PhD	Cultural Resources
Chesapeake Environmental Management		
Kevin DiMartino	B.S.	Hazardous Materials
Joseph Sawicki	B.S.	Hazardous Materials

Appendix C
List of Recipients

Federal Agencies

Advisory Council on Historic Preservation

Executive Director
Mr. John M. Fowler

Federal Highway Administration

Del Mar Environmental Program Manager
Ms. Jeanette Mar

Federal Transit Administration

Administrator, Region III
Ms. Brigid Hynes-Cherin

Region III
Mr. Timothy Lidiak

General Services Administration

Lead Asset Manager
Ms. Nancy L. Belt

National Capital Planning Commission

Office of Public Engagement, Director
Ms. Julia Koster

United States Department of Commerce

Economic Development Administration, Regional Director
Mr. Willie C. Taylor

National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Habitat Conservation Division
Chesapeake Bay Office

Assistant Regional Administrator for Protected Resources
Ms. Mary A. Colligan

United States Department of Housing and Development

Baltimore Field Office Director, Region III
Ms. Carol B. Payne

National Park Service–National Capital Region

Regional Director
Mr. Steve Whitesell

United States Army Corps of Engineers

Chief
Mr. Joseph DaVia

United States Department of Agriculture

Beltsville Agricultural Research Center, Director
Mr. Steven R. Shafer

United States Department of Agriculture

Natural Resources Conservation Service, State Conservationist, Acting
Ms. Deena M. Wheby

United States Department of the Interior

Office of Environmental Policy and Compliance, Director
Mr. Willie R. Taylor

United States Environmental Protection Agency

Maryland Transportation Liaison, Region III
Ms. Barbara Rudnick

United States Department of the Interior

Fish and Wildlife Service, Field Supervisor, Chesapeake Bay Field Office
Ms. Genevieve LaRouche

Fish and Wildlife Biologist, Rare, Threatened, and Endangered Species (RTE), Chesapeake Bay Field Office, Endangered Species Program Leader
Cherry Keller

State and Regional Agencies

Critical Area Commission for the Chesapeake and Atlantic Coastal Bays

Maryland Department of Natural Resources, Regulations Coordinator
Ms. Lisa Hoeger

Maryland Department of Business and Economic Development

Secretary
Mr. Dominic Murray

Maryland Department of the Environment

Division Chief, Non-Tidal Wetlands and Waterways Division, Wetland and Waterway Program
Ms. Amanda Sigillito

Maryland Department of Transportation

Office of Planning and Capital Programming, Deputy Director
Ms. Heather Murphy

Maryland Historical Trust

Office of Preservation Services, Administrator, Review and Compliance (R&C)
Ms. Elizabeth Cole

Maryland State Clearinghouse

Department of Budget and Fiscal Planning
Department of Education
Department of General Services
Department of Health and Mental Hygiene
Department of Housing and Community Development
Department of Natural Resources
Department of Planning
Department of Public Safety and Correctional Services
Interagency Committee for School Construction
Maryland Historical Trust
Maryland State Highway Administration
Maryland State Law Library

Maryland State Highway Administration

Administrator
Ms. Melinda B. Peters

Metropolitan Washington Council of Governments

Transportation Director, National Capital Region
Mr. Ronald Kirby

County and Local Agencies

City of Takoma Park

Acting Deputy City Manager
Ms. Suzanne Ludlow

City of College Park

Director of Planning
Ms. Terry Schum

City of New Carrollton

Acting City Administrative Officer
Mr. Graham Waters

Maryland-National Capital Park and Planning Commission (Montgomery County)

Department of Parks, Director
Ms. Mary Bradford

Planning Board Chairman
Ms. Francoise Carrier

Transportation Coordinator
Mr. Tom Autrey

Chief, Functional Planning and Policy Division
Ms. Mary Dolan

Department of Park and Planning, Area 2 Chief
Mr. Glenn Kreger

Historic Preservation Coordinator
Mr. John Carter

Historic Preservation Planner
Ms. Anne Fothergill

Maryland-National Capital Park and Planning Commission (Prince George's County)

Planning Board, Chairman
Ms. Elizabeth M. Hewlett

Planning Director
Ms. Fern Piret

Countywide Planning Division, Division Chief
Mr. Derick Berlage

Planning Department, Historic Preservation and Public Facilities, Supervisor
Mr. Howard Berger

Countywide Planning Division, Transportation Supervisor
Mr. Eric Foster

Countywide Planning Division, Transportation Planning Coordinator
Faramarz Mokhtari

Pedestrian / Bike Planner
Dan Janousek

Maryland Transit Administration, Washington Regional Office

Mr. Sean C. Egan

Montgomery County Department of Public Works and Transportation

Special Assistant to the Director
Mr. Gary Erenrich

Montgomery County Executive's Office

Assistant Chief Administrative Officer
Mr. Thomas Street

Prince George's County Department of Public Works and Transportation

Director
Mr. Darrel Mobley

Special Assistant to the Director
Mr. Victor Weissberg

Transit Planning Section, Chief
Mr. Aaron Overman

Prince George's County Department of Permitting, Inspections and Enforcement

Director
Mr. Haitham Hijazi

Prince George's County Executive's Office

Deputy Chief of Staff
Mr. Bradley Frome

Chief Administrative Officer
Mr. Bradford L. Seamon

Town of Chevy Chase

Mayor
Ms. Patricia A. Burda

Town of Riverdale Park

Town Administrator
Ms. Sara Imhulse

Washington Metropolitan Area Transit Authority

Planning and Project Development
Mr. John Magarelli

Managing Director, Office of Planning
Mr. Shyam Kannan

Libraries

Bethesda Library
Bladensburg Library
Chevy Chase Library
Greenbelt Library
Hyattsville Library
Long Branch Library
Maryland Department of Legislative Services Library
Maryland State Archives
Maryland State Law Library
New Carrollton Library
Silver Spring Library
State Library Resource Center
Takoma Park Maryland Library
University of Maryland Library

Elected Officials—Federal

(Executive Summary)

United States Senate

Senator Barbara A. Mikulski

Senator Benjamin L. Cardin

United States House of Representatives

District 1
Representative Andy Harris

District 2
Representative C. A. Dutch Ruppersberger, III

District 3
Representative John P. Sarbanes

District 4
Representative Donna Edwards

District 5
Representative Steny H. Hoyer

District 6
Representative John Delaney

District 7
Representative Elijah E. Cummings

District 8
Representative Christopher Van Hollen, Jr.

Elected Officials—State

(Executive Summary)

Senate of Maryland

District 16
Senator Brian E. Frosh

District 18
Senator Richard S. Madaleno, Jr.

District 20
Senator Jamie B. Raskin

District 21
Senator James C. Rosapepe

District 22
Senator Paul G. Pinsky

District 47
Senator Victor R. Ramirez

Maryland House of Delegates

District 16
Delegate Ariana B. Kelly
Delegate C. William Frick
Delegate Susan C. Lee

District 18
Delegate Ana Sol Gutierrez
Delegate Alfred C. Carr, Jr.
Delegate Jeffrey D. Waldstreicher

District 20
Delegate Sheila E. Hixson
Delegate Thomas Hucker
Delegate Heather R. Mizeur

District 21
Delegate Barbara A. Frush
Delegate Joseline A. Pena-Melnyk
Delegate Benjamin S. Barnes

District 22
Delegate Tawanna P. Gaines
Delegate Anne Healey
Delegate Alonzo T. Washington

District 47
Delegate Jolene Ivey
Delegate Doyle L. Niemann
Delegate Michael G. Summers

Elected Officials—County

(Executive Summary)

Montgomery County

County Executive
Isiah Leggett

Prince George's County

County Executive
Rushern L. Baker, III

Montgomery County Council

District 1
Councilmember Roger Berliner

District 2
Councilmember Craig Rice

District 3
Councilmember Phil Andrews

District 4
Councilmember Nancy Navarro

District 5
Councilmember Valerie Ervin

At-Large
Councilmember Marc Elrich

At-Large
Councilmember Nancy Floreen

At-Large
Councilmember George Leventhal

At- Large
Councilmember Hans Riemer

Prince George's County Council

District 1
Councilmember Mary A. Lehman

District 2
Councilmember William A. (Will) Campos

District 3
Councilmember Eric C. Olson

District 4
Councilmember Ingrid M. Turner

District 5
Councilmember Andrea Harrison

District 6
Councilmember Derrick Leon Davis

District 7
Councilmember Karen R. Toles

District 8
Councilmember Obie Patterson

District 9
Councilmember Mel Franklin

Appendix D
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Appendix E
Glossary of Terms

A

Accessibility
(1) The ability of vehicles and facilities to accommodate the disabled and comply with the Americans with Disabilities Act (ADA). (2) A measure of the ability or ease of all persons to travel among various origins and destinations.

Advisory Council on Historic Preservation (ACHP)
An independent federal agency that provides a forum for influencing federal policy, programs, and activities as they affect historic and archaeological resources in communities and on public lands nationwide.

Adverse
A negative or unfavorable condition.

Alignment
The horizontal and vertical location of a roadway, railroad, transit route, or other linear transportation facility.

Alternatives Analysis (AA)
An analysis of the engineering, environmental, and financial feasibility of alternatives for major transit projects; required before federal funds can be allocated to a project. The AA can be combined with the Draft Environmental Impact Statement and evaluated with analysis of environmental resources and impacts.

Alternatives
The set of transportation improvements or projects that are compared in the EIS to determine their effectiveness in serving as potential solutions to a transportation problem. Along with the set of "Build" Alternatives, there is a "No- Build," which tests the effects of not building a project, and a "TSM/TDM baseline" alternative, which tests a series of smaller incremental steps toward accomplishing the purposes of the build alternatives. Alternatives may consist of different configurations, alignments, type of access control, or transportation modes and strategies.

Anadromous
Pertaining to fish that spend a part of their life cycle in the sea and return to freshwater streams to spawn.

Aquifer
A layer of permeable rock, sand, or gravel through which ground water flows, containing enough water to supply wells and springs.

Area of Potential Effect (APE)
The geographic area within which a transportation project may cause changes in the character of, or use of, historic properties. The APE is influenced by the scale and nature of the project, and there may be different kinds of effects caused by the undertaking.

At Grade
On the ground, at surface level.

At-Grade Crossing
Same as a "grade crossing." A rail crossing with roadways or streets on the same level as the tracks, resulting in a level intersection of both modes. See grade separation.

Avoidance
The act of avoiding or keeping away from impacting on something or someone.

B

Baseline Alternative
In the AA/DEIS, an alternative that seeks to attain as many as possible of the goals of the build alternatives through a series of smaller, less expensive measures. Under NEPA, the baseline is called the Transportation System Management (TSM) alternative. The Federal News Starts process requires a robust alternative called the (New Starts) Baseline Alternative.

Below grade
Placed below the ground surface, as with a subway or tunnel.

BIBI
Benthic Index of Biotic Integrity. An index that compares the macroinvertebrate community within a given stream to reference macroinvertebrate communities in the least-impaired streams using a series of metrics.

Build Alternative
A project alternative that involves a major capital investment.

Bus
Rubber-tired vehicles operating on fixed routes and schedules on roadways. Buses are powered by diesel, gasoline, battery, or alternative fuel engines contained within the vehicle.

Bus Rapid Transit (BRT)
A rubber-tired rapid transit mode that is a permanently integrated system of facilities, services, and amenities that collectively improve the travel time, reliability, and identity of traditional bus transit. BRT routes may be in exclusive right of way, reserved lanes in streets, or lanes shared with other traffic. These systems often use intelligent transportation systems technology, priority for transit, rapid and convenient fare collection, and integration with land use policy in order to substantially upgrade bus system performance.

Busway
Exclusive roadway reserved for buses and emergency vehicles.

C

Capital Costs
The one-time expenses incurred to design and build a transit system.

Catadromous fish
Fish that live most of their lives in freshwater, but migrate to seawater to spawn. American eels are catadromous.

Catenary System
An electric power system using an overhead contact wire and its supporting cables and wires. The contact wire provides an electrical power source for vehicles via pantographs, the contact mechanism on the roof of the vehicles.

Clean Air Act (CAA)
Federal legislation that sets air quality standards. Sometimes cited as CAAA, Clean Air Act and Amendments of 1990.

Conductivity
A measure of the ability of water to conduct an electric current. It is related to the type and concentrations of dissolved ions in the water.

Connectivity
Connecting various transportation modes and services to minimize wait times between transfers and reduce overall travel time.

Constrained Long Range Plan (CLRP)

Responds to federal requirements that funding sources be identified for all strategies and projects included in long-range plans. Updated at least every three years, the CLRP lists those projects and strategies that can be implemented over the planning period with funds that are reasonably expected to be available. The CLRP also lists aspiration projects that are not funded.

Consolidated Transportation Program (CTP)

The Maryland CTP presents the detailed listings and descriptions of the capital projects that are proposed for construction, or for development and evaluation during the next six-year period.

Construction Impact

Temporary impact that would occur while a project is under construction.

Constructive Use Impact

An impact adversely impacting activities on or enjoyment of a property without directly acquiring the property or any portion of the property. A new noisy project adjacent to a previously quiet outdoor theater would be an example of a constructive use impact.

Corridor

A long, generally slender land area surrounding an existing or planned transportation facility. In relation to transit projects, the corridor generally defines the area that would be served by the facility. The general purpose of a corridor is to define a study area for future transportation planning improvements.

Cost Effectiveness Index

A measure of the effectiveness of a transit project using measured cost per new rider. The Federal Transit Administration has replaced this measure with Transportation System User Benefit.

Cultural Resources

Archaeological and historic resources eligible for or listed on the National Register of Historic Places. Cultural resources include buildings, sites, districts, structures, or objects having historical, architectural, archaeological, cultural, or scientific importance.

Cumulative Impact

Impact that "results from incremental consequences of an action when added to other past and reasonably foreseeable future actions." The cumulative effects of an action may be undetectable when viewed in the individual context of direct and indirect impacts but can add to other changes and eventually lead to a measurable environmental change. Potential cumulative effects on the environment must be assessed as required by the National Environmental Policy Act (NEPA).

Cut and Cover

A tunnel construction method that involves excavating a large trench, building a roof structure, and then covering it with earth.

D

de minimis

Of insufficient significance. A *de minimis* contribution means that the environmental conditions would essentially be the same whether or not the proposed project is implemented. Used to evaluate impacts to parks under a 4(f) evaluation.

Dedicated Lanes

Travel lanes used solely for transit vehicles, separated and protected from parallel traffic, but which crosses roads, driveways, and pedestrian pathways at-grade. Separation may be achieved by mountable or un-mountable curbs, barriers, or fences. If the transit is light rail, protection at grade- crossings would be provided at some locations by railroad-style flashers and gates if required, or traffic signals at others.

Demand Forecasting
A technique of estimating the number and travel times of potential users of a system.

Design Speed
The speed used for design and relationship of the physical features of a highway or rail that influence vehicle operation. It is the maximum safe speed that can be maintained over a specified section of highway or rail when conditions are favorable (i.e., clear, dry, daylight).

Design Year
The year for which the facility is designed. The transit facility should be able to handle the traffic forecasted for that year, which is generally 20 to 25 years in the future.

Determination of Eligibility
The process of assembling documentation to render professional evaluation of the historical significance of a property. Departments of Transportation, in consultation with the State Historic Preservation Office, apply the National Register of Historic Places criteria when deciding matters of historical significance.

Dissolved Oxygen (DO)
The amount of free (not chemically combined) oxygen dissolved in water, wastewater, or other liquid, usually expressed in milligrams per liter, parts per million, or percent of saturation.

Double Track
Two sets of tracks side by side, most often used for travel in opposite directions.

Draft Environmental Impact Statement
See Environmental Impact Statement.

Dwell Time
The time, in seconds, that a transit vehicle spends at each stop waiting for passengers to alight and board.

E

Easement
A temporary or permanent right to use the land of another for a specific purpose sometimes referred to as a "deed restriction." Easements may be purchased from the property owner or donated by the owner.

Effects
"Effects" and "impacts" are synonymous. Effects include ecological, aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions that may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial. Effects include (1) direct effects that are caused by the action and occur at the same time and place and (2) indirect effects that are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Electrofishing
A method of collecting fish in which fish are momentarily stunned by an electrical current passing through the water, allowing for capture and examination.

Elevated Guideway
A guideway that is positioned above the normal activity level (e.g. elevated over a street) either on an embankment or on a bridge.

Eminent Domain
Authority of an agency to acquire property at fair market value for public purposes. Also known as condemnation.

Endangered
An organism of very limited numbers that may be subject to extinction and is protected by law under the Endangered Species Act.

Envelope
Definition of the vertical and horizontal space required for both the transit vehicle and/or the guideway. Also called operating envelope.

Environmental Impact Statement
A public document that a federal agency prepares under NEPA to document the expected impacts of a development or action on the surrounding natural and human environment. The document must detail efforts to avoid, minimize, or mitigate any adverse impacts.

Environmental Justice (EJ)
Presidential Executive Order 12898 requires federal agencies to ensure that their actions (or actions they oversee) do not disproportionately discriminate against or impact minority populations and low income populations.

Ephemeral Stream
Have flowing water only during and for a short duration after precipitation events in a typical year. Groundwater is not a source of water for the stream.

Epifaunal
"Epi" means surface, and "fauna" means animals. Thus, "epifaunal substrate" is a structure in a stream (on the stream bed) that provides surfaces on which animals can live. In this case, the animals are aquatic invertebrates (such as aquatic insects) or benthic fish species. These insects live on or under cobbles, boulders, logs, and snags, and the many cracks and crevices found in these structures.

Exclusive Lanes
A right-of-way that is solely for use of transit vehicles and is not occupied by any other type of vehicle or by pedestrians. Exclusive lanes may be either grade-separated or protected by a fence or substantial permanent barrier. All crossings are grade- separated.

Express
Express transit service is characterized by making few or no intermediate stops between origin and destination and traveling faster than regular or local service.

F

Fare Box Revenue
Value of cash, tickets, tokens, and pass receipts given by passengers as payment for rides; excludes charter revenue.

Feasible
Feasible means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

Feeder Service
Local bus service that moves passengers to collection points for express bus or rail service.

FEMA
Federal Emergency Management Agency. FEMA has ten regional offices and two area offices. Each region serves several states, and regional staff work directly with the states to help plan for disasters, develop mitigation programs, and meet needs when major disasters occur.

FIBI
Fish Index of Biotic Integrity. An index that compares the fish community within a given stream to reference fish communities in the least-impaired streams using a series of metrics.

Financially Constrained
A term used to describe the financial requirement that all projects must have an identified funding source.

Finding of No Significant Impact (FONSI)

A document prepared by a federal agency showing why a proposed action would not have a significant impact on the environment and thus would not require preparation of an Environmental Impact Statement (EIS). A FONSI results from the preparation of an Environmental Assessment and completes the NEPA process.

FIRM

Flood Insurance Rate Maps. Maps produced by the Federal Emergency Management Agency (FEMA) to determine the locations of flood risks and hazards.

Fixed Guideway

For rail transit systems, fixed guideways are the rail tracks. For bus systems, fixed guideways are roadways that can only be used by the buses. Federal usage in funding legislation also includes exclusive right-of-way bus operations as "fixed guideway" transit.

Floodplain (100-year)

The area adjacent to a stream that contains a flood event that has a 1 percent probability of occurring in any given year.

G

Geographic Information System (GIS)

A computer system capable of storing and manipulating spatial data.

Grade

(1) Refers to a rise in elevation within a specified distance. For example, a one-percent grade is a one-foot or 0.305 meter rise in elevation in 100 feet or 30.5 meters of horizontal distance. (2) The rate of upward or downward slope of a roadway, expressed as a percent. (3) "At grade" refers to a transportation facility built at ground level in a level intersection of both modes. See grade separation.

Grade Separated Crossings

Facilities such as overpasses, underpasses, skywalks, or tunnels that allow pedestrians or vehicles to cross paths at different levels; also referred to as grade separations.

Grade Separation

The crossing of transportation rights-of-way that are separated vertically and for which there is no shared common intersection. A transit right-of-way may be fully grade-separated or partially grade-separated.

Groundwater

Subsurface water and underground streams that can be collected with wells or that flow naturally to the earth's surface through springs.

Groundwater Recharge

A hydraulic process where water moves downward from surface water to groundwater.

H

Hazardous Materials

Material, often waste, that poses a threat to human health and/or the environment.

Headway

The time interval between transit vehicles operating in the same direction along a fixed route.

Heavy Rail (HRT, Metro, or Subway)

An electric railway with the capacity for a heavy volume of traffic. This mode is characterized by high speed and rapid acceleration passenger rail cars operating singularly or in multi-car trains on fixed rails, separate rights-of-way (at, above or below grade) from which all other vehicle and pedestrian traffic are excluded. Often uses a third rail for power.

I

Impacts

See Effects.

Independent Utility

A project is said to have independent utility if it will provide functional transportation improvements that can stand alone and serve a major purpose, even if no other improvements are made in the region.

Indirect Effects (Secondary Impacts)

Impacts on the environment resulting from the primary impact of the proposed action but occurring later in time or farther removed in distance, although still reasonably foreseeable. Potential indirect or secondary and cumulative effects on the environment must be assessed as required by the National Environmental Policy Act (NEPA).

Intelligent Transportation Systems (ITS)

Computer-based technology applications designed to increase capacity, to move traffic and transit more safely and efficiently, and to supply information to travelers. Examples include global positioning systems for locating vehicles and traffic signal priority for giving preferential green time to transit vehicles at intersections.

Intermittent Stream

Streams that have flowing water during certain times of the year with groundwater as the source; runoff from rainfall or snowmelt is a supplemental source of water.

Intermodal

The ability to connect, and the connections between, different modes of transportation.

J

Joint Development

Ventures undertaken together by the public and private sectors for development of land around transit stations or stops. See also transit oriented development.

Jurisdictional Determination (JD)

A written statement, issued by the U.S. Army Corps of Engineers, that identifies areas within a discrete project area that are subject to Clean Water Act regulation. Usually refers to the regulation of a wetland or stream and its boundaries.

K

Kiss-and-Ride

A drive-through area, sometimes with short-term parking, to allow passengers to be dropped off or picked up at a transit station, with or without a kiss.

L

Level of Service (LOS)

Level of service (LOS) is a measure of the quality of operations of a roadway. It looks at speed, traffic volume and road geometry. LOS A represents free flow conditions and LOS F represents a breakdown of vehicular flow. Typically, in urbanized areas LOS D or better is considered adequate.

Light Rail (streetcar, trolley car, and tramway)

An electric railway with a "light volume" traffic capacity compared to heavy rail. Light rail is characterized by passenger rail cars operating individually or in short, usually two-car trains. Light rail vehicles are typically driven electrically with power being drawn from an overhead electric line. They can run on either exclusive rights-of-way without grade crossings, dedicated lanes with grade crossings, or in mixed traffic lanes on city streets.

Limits of Disturbance

The horizontal boundary where soil will be exposed during construction activities. The limits of disturbance includes, but is not limited to, the limits of excavation, borrow areas, storage areas, staging areas, areas to be cleared and grubbed, and roadways.

Line Haul

The trunk portion of a transit trip, as distinguished from local distribution.

Locally Preferred Alternative (LPA)

The project alternative chosen by a sponsoring agency as a result of the federal project development process. It defines the alternative that is deemed best suited to meet the region's transportation goals, is responsive to community concerns and input and has been examined and declared superior to the other alternatives that are identified and studied in relation to its social, economic and environmental impacts.

Logical Termini

Rational endpoint for consideration of transportation improvements and for review of environmental impacts.

Low Floor Vehicles

Transit vehicles with lower floors that have a step-less entry that allow wheelchairs to roll directly into the vehicle. In addition to improving accessibility, low floors also allow fully-mobile passengers to board more quickly. Passenger compartment floors are generally no more than 14 inches above the rail or street surface through at least a major portion of the vehicle

Low-Income Household

A low-income household is one where the median household income is below the Department of Health and Human Services poverty guidelines.

Low-Income Population

Any readily identifiable group of low-income persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed federal transportation program, policy, or activity.

M

Macroinvertebrate

Invertebrates visible to the naked eye, such as insect larvae and crayfish.

Maintenance Facility

A site with facilities and buildings for the cyclical maintenance of vehicles, the repair of damaged vehicles, and the storage of other system maintenance equipment. Commonly includes facilities such as locker rooms and break facilities for onsite employees.

Minimum Operating (or Operable) Segment

A smaller, cost-effective portion of the locally preferred alternative with independent utility. Often, the locally preferred alternative is too large or too costly to construct in a single phase. The minimum operating segment is the segment identified as first to construct.

Minimization

Measures taken to reduce the severity of adverse impacts.

Minority

A person who is (1) Black (having origins in any of the black racial groups of Africa); (2) Hispanic (of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race); (3) Asian American (having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or (4)American Indian and Alaskan Native (having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition).

Minority Population

Any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed federal transportation program, policy, or activity.

Mitigation
Measures taken to alleviate adverse impacts that remain after minimization.

Mixed-Use Development
Development with multiple categories of land use typically including residential, commercial, retail, and entertainment. Mixed-use areas generally have higher population densities and are pedestrian friendly.

Mixed-Use Lanes
Lanes in which the transit vehicles operate in mixed traffic, sharing the same space with other types of road users. Transit vehicles in mixed-use lanes would be controlled by the existing traffic signals and signs.

Modal Split
A term that describes the measure of how many people use alternative forms of transportation. Frequently used to describe the percentage of people using private automobiles as opposed to the percentage using public transportation and alternative modes.

Mode
Refers to a specific form of transportation (auto, bus, LRT, heavy rail, pedestrian, bicycle, etc.).

Model
An analytical tool (often mathematical) used by transportation planners to assist in making forecasts of land use, economic activity, travel activity and their effects on the quality of resources such as land, air, and water.

Monorail
An electric railway in which a rail car or train of cars is suspended from or straddles a guideway formed by a single beam or rail.

Multimodal
Having or involving several modes of transportation.

N

National Environmental Policy Act (NEPA)
The federal law that requires every federal agency to evaluate the effect of its proposed actions on the natural and man-made environment by preparing an Environmental Assessment or Environmental Impact Statement.

National Register Eligible
Cultural resources eligible for inclusion on the National Register of Historic Places. Eligible resources receive the same protection as listed resources.

National Register of Historic Places
A federal listing of historic resources protected under the National Historic Preservation Act of 1966. Properties include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture.

New Start
Discretionary federal funding program for the construction of new fixed guideway systems or extensions of existing fixed guideway systems, based on cost effectiveness, alternatives analysis results and the degree of local financial commitment.

No Build Alternative
The alternative describing projected future conditions of an area in the absence of the proposed project. It serves as a benchmark to which the impacts of the build alternatives can be compared. As part of this alternative, financially constrained and programmed projects are considered together with existing conditions.

O

Off-Board Fare Collection

Collection of transit fares off the vehicle, typically at a station. Boarding time is greatly reduced with off-board fare collection. When off-board fare collection is used, verification of fare payment is often made by random inspection onboard the vehicles.

Off-Peak Period

Periods of the day when travel activity is lower.

Operating and Maintenance Costs (O&M Costs)

All costs involved with running a transit system, including labor for operations and for vehicle and fixed facility maintenance, fuel and electric power, spare parts and other supplies, insurance premiums and claims payments, direct supervision, and general and administrative expenses.

Operating Plan

For transit, an operating plan details characteristics such as running times, frequency, required number of vehicles, changes in frequency throughout the day, and assumptions pertaining to stations.

Origin-Destination Study

A method to determine where trips are coming from and going to, or where they desire to travel.

P

P3

Acronym for Public Private Partnership, a financing and project delivery option for major transportation investment projects. A P3 involves a contract between a public agency and private entity, allowing for greater private sector participation in financing, designing, and building the project.

Park-and-Ride Lot

A parking lot to which passengers drive their cars, leave them for the day, and either board transit vehicles or carpool.

Peak (Peak Period, Rush Hours)

The period during which the maximum amount of travel occurs. It may be specified as the morning (a.m.) or afternoon or evening (p.m.) peak.

Performance Measures

Indicators of how well the transportation system is performing with regard to such things as average speed, reliability of travel, and accident rates. Used as feedback in the decision-making process.

Perennial Streams

Streams that flow year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow.

Preliminary Engineering

At the preliminary engineering phase the design is approximately 30 percent complete. The deliverables at the 30 percent submittal includes contract drawings, specifications, design calculations and a preliminary cost estimate.

Public Hearing

A formal meeting held to receive public comment on proposed action.

Public Meeting

An informal meeting held to present information about the proposed action and to discuss it with the public.

pH (power of hydrogen)

The negative logarithm of the molar concentration of the hydrogen ion, or, more simply, acidity.

Portal

The structure through which a highway or railroad enters or exits a tunnel to or from the surface.

Purpose and Need Statement

A project purpose is a broad statement of the overall objective to be achieved by a proposed action. Need is a more detailed explanation of the specific transportation problems that exist or are expected to occur in the future. It is the foundation to determine if alternatives meet the needs in the area.

Q

Queue

A line of vehicles stopped at an intersection, merge or diverge point.

Queue Jump Lane

A short, exclusive lane that allows buses to move to the head of a line of traffic.

R

Record of Decision (ROD)

The final approval of an Environmental Impact Statement which is issued by the responsible federal agency, in this case the Federal Transit Administration. It is a public document that explains the reasons for a project decision and summarizes any mitigation measures that will be incorporated in the project. Obtaining the ROD is the last step in the NEPA process. After a ROD is received, permits can be obtained and right-of-way can be acquired.

Ridership

The number of rides taken by people using a public transportation system in a given time period.

Riprap

Rock or other material with a specific mixture of sizes referred to as a "gradation," used to stabilize streambanks or riverbanks from erosion or to create habitat features in a stream.

(Public) Right-of-Way (ROW)

The area over which a legal right of passage exists; land used for public purposes in association with the construction or provision of transportation projects or other linear infrastructure and the associated facilities.

S

Scoping

This is the first step in the NEPA process that determines the range of proposed actions, alternatives, and impacts to be discussed in a DEIS. The required scoping process provides agencies and the public opportunity to comment. Scoping is used to encourage cooperation and early resolutions of potential conflicts, to improve decisions, and to reduce paperwork and delay.

Secondary and Cumulative Effects Analysis (SCEA)

See Indirect Effects and Cumulative Effects.

Section 106

The section of the National Historic Preservation Act that requires federal agencies to consider the potential effects of proposed federal action on any known or potential historic, architectural, or archaeological resources and to consult with the SHPO.

Section 4(f)

Section 4(f) of the US Department of Transportation Act of 1966 includes a national policy to make special effort to preserve the natural beauty of the countryside, public parks and recreation lands, wildlife and waterfowl refuges, and significant historic sites. Use of these lands for a transportation project will be permitted only when it has been determined that there is no feasible and prudent alternative and the project includes all possible planning to minimize harm to the property resulting from such use.

Shared Lanes

Surface streets in which transit operates in lanes with regular traffic.

SHPO (State Historic Preservation Office)

The office of the State Historic Preservation Officer, a state official in each state that is responsible under the National Historic Preservation Act of 1966 to review potential impacts to cultural resources by federal actions and to supervise the mitigation of adverse impacts.

Signal Prioritization

Technique of altering the sequence or timing of traffic signals at intersections to provide priority treatment for transit vehicles.

Spawning

The depositing and fertilizing of eggs (or roe) by fish and other aquatic life.

Stakeholders

Individuals and organizations involved in, or affected by, the transportation planning process, including federal/state/local officials, MPOs, transit operators, freight companies, shippers, and the general public.

State Transportation Improvement Program (STIP)

The STIP is the accumulation of Transportation Improvement Programs (TIP) of the state's MPOs and the projects programmed in the non-MPO areas of the state. In Maryland, it is primarily the Program of Projects included in the State's Six Year Consolidated Transportation Program. The first two years of the program are projects incorporated into the state's annual budget. The remaining four years are projects programmed with a level of certainty that funding will be approved in subsequent state budget bills. The STIP is financially constrained and the projections of revenues in future years are analyzed and approved by the state's (non-partisan) revenue forecasting committee.

Stormwater Management (SWM)

Physical design features such as ponds, bioretention, or drainage swales that retain or direct stormwater run-off in a manner that controls discharge volumes and/or water quality.

Streetscape

The space between the buildings on either side of a street that defines its character. The elements of a streetscape can be natural or man-made and include buildings, set back of buildings, sidewalks, signs, public furnishings, trees, landscaping, street lights, above-ground utilities, bus stop shelters and street furniture.

T

Terminal Station

The bus or rail station where a route or line begins and ends.

Traction Power Substation (TPSS)

Facilities that convert alternating current from the power grid to the voltage and type of direct current needed for the LRT or streetcar vehicle.

Traffic Analysis Zone (TAZ)

A geographic area typically ranging in size from a city block to a one-square-mile section (or larger) used in computer models that project changes in traffic flow based on estimated land use changes, population growth, employment growth, and other factors.

Transfer

The portion of a trip between two connecting transit routes.

Transit Center

A station in a multi-destination transit system where passengers may conveniently transfer among trunk lines, local feeder routes, or modes. Also referred to as intermodal transfer facilities, transportation centers, stations.

Transit Dependent Population

Generally those without their own means of transportation (e.g., zero-car households, children, low-income groups, some elderly, and those who are unable to operate a vehicle due to a physical disability).

Transit Oriented Development (TOD)

A term used for urban development that encompasses a direct and planned access to transit facilities.

Transportation Demand Management (TDM)

A program that improves transportation system efficiency by altering transportation system demand using such strategies and facilities as pricing, ridesharing; park-and-ride facilities, transit friendly development/zoning; and employer-based programs such as staggered work hours and telecommuting. TDM programs improve the efficiency of existing facilities by changing demand patterns rather than embarking on capital improvements.

Transportation System Management (TSM)

That part of the urban transportation process undertaken to improve the efficiency of the existing transportation system. The intent is to make better use of the existing transportation system by using short term, low capital transportation improvements that generally cost less and can be implemented more quickly than system development actions. TSM strategies consider such options as improvements to public transit systems, minor intersection improvements, signal timing improvements, and traffic management.

Transportation System User Benefit

A measurement of the project value. The measurement divides the cost (including capital, and operations and maintenance) by the travel time savings of all users of the transit system (including existing and new riders). This measure is part of the FTA New Starts evaluations.

Travel Demand Forecast

A projection for travel demand on future or modified transportation system alternatives using existing or projected land use, socioeconomic, and transportation services data.

Travel Time

The average time required to travel between two points, including delays at intersections, but not including terminal or waiting time.

Tunnel

An underground alignment constructed using either cut and cover or deep boring methods.

Turbidity

An optical measure of the clarity of water by light scattering from suspended and dissolved constituents in the water column.

V

Viewshed

An area visible from a specific vantage point.

W

Wetlands

As defined by the U.S. Army Corps of Engineers, areas that are inundated or saturated by surface water or groundwater sufficiently to support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, and similar areas and are subject to protection under Executive Order 11990 and Section 404 of the Clean Water Act.

Y

Yard

A site with facilities and buildings for the daily cleaning and light maintenance (e.g., replacing lighting components) and the storage of vehicles not in service. Frequently it is the location of the dispatching office. Commonly includes facilities such as locker rooms and break facilities for both on-site employees and vehicle operators.

Appendix F

Acronyms and Abbreviations

AA/DEIS	Alternatives Analysis/Draft Environmental Impact Statement
AADT	average annual daily traffic
AAP	areas of archaeological potential
AASHTO	American Association of State Highway and Transportation Officials
ACHP	Advisory Council on Historic Preservation
ACS	American Community Survey
ADA	Americans with Disabilities Act
ADT	average daily traffic
AMSL	above mean sea level
APA	Aviation Policy Area
APE	area of potential effect
APTA	American Public Transportation Association
AREMA	American Railway Engineering and Maintenance of Way Association
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
BEA	Bureau of Economic Analysis
bgs	below ground surface
BIBI	Benthic Index of Biotic Integrity
BLS	Bureau of Labor Statistics
BMP	best management practices
BRAC	base realignment and closure
BRT	Bus Rapid Transit
BTEX	benzene, toluene, ethylbenzene, and xylene
Btu	British thermal units
CAA	Clean Air Act
Cal LEV II	California Low Emission Vehicle Tier II
CBCA	Chesapeake Bay Critical Area
CBD	Central Business District
CCTV	closed-circuit television
CE	cumulative effects
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CLRP	Financially Constrained Long-Range Transportation Plan
CO	carbon monoxide
CO2	carbon dioxide
COMAR	Code of Maryland Regulations
CPTED	crime prevention through environmental design
CRZ	critical root zone
CSAB	Cole Student Activities Building
CSHG	Contractor's Safety and Health Guidelines
CTP	Consolidated Transportation Plan
CWA	Clean Water Act
CWP	Center for Watershed Protection
CZMA	Coastal Zone Management Act
dBA	decibel in A-weighted one-third octave band scale
DBP	disinfection by-product
DC	District of Columbia
DEIS	draft environmental impact statement
DHHS	Department of Human and Health Services
DHS	Department of Homeland Security
DNR	Department of Natural Resources
DO	dissolved oxygen
DOE	determination of eligibility
DOT	Department of Transportation
DPWT	Department of Public Works and Transportation
EIS	environmental impact statement
EJ	environmental justice
EMI	electromagnetic interference
EO	Executive Order
EPA	United States Environmental Protection Agency
EPOP	Emergency Preparedness Operations Plan
EPT	*ephemeroptera, plecoptera, trichoptera*
ERCO	Engineering Research Corporation
ERU	environmental review unit
ESA	environmental site assessment
ESCP	Erosion and Sediment Control Plan
ESD	environmental site design
FCA	Forest Conservation Act
FCP	Forest Conservation Plan

FEIS	final environmental impact statement
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIBI	fish index of biotic integrity
FIDS	forest interior dwelling species
FIRM	flood insurance rate maps
FONSI	finding of no significant impact
FSD	forest stand delineation
FTA	Federal Transit Administration
FY	fiscal year
GBN	ground-borne noise
GBV	ground-borne vibration
GEC	general engineering consultant
GHG	greenhouse gas
GIS	geographic information system
GPS	global positioning system
HASP	health and safety plan
HCM	Highway Capacity Manual
HES	highly erodible soils
HOV	high occupancy vehicle
ICC	inter-county connector
ICE	indirect and cumulative effects
IE	indirect effects
IRM	interagency review meetings
IRS	Internal Revenue Service
ITS	intelligent transportation systems
JD	jurisdictional determination
kWh	kilowatt hour
L10	noise level equaled or exceeded 10 percent of the time
Ldn	average hourly equivalent day-night sound levels
LEED	Leadership in Energy and Environmental Design
LEP	limited English proficient
Leq	equivalent sound level
LOD	limits of disturbance
LOS	level of service
LPA	Locally Preferred Alternative
LRT	light rail transit
LRV	light rail vehicle
LWCF	Land and Water Conservation Fund
MARC	Maryland Regional Commuter
MBSS	Maryland Biological Stream Survey
MCDEP	Montgomery County Department of Environmental Protection
MCL	maximum contaminant load
MDE	Maryland Department of the Environment
MDNR	Maryland Department of Natural Resources
MDOT	Maryland Department of Transportation
MGS	Maryland Geological Survey
MHT	Maryland Historical Trust
MIHP	Maryland Inventory of Historic Places
MIS	major investment study
M-NCPPC	Maryland-National Capital Park and Planning Commission
MOA	memorandum of agreement
MOS	minimum operable segment
MOT	maintenance of traffic
MOU	memorandum of understanding
MOVES	motor vehicle emission simulator
MPO	Metropolitan Planning Organization
MSAT	mobile source air toxics
MSRA	Magnuson-Stevens Fishery Conservative and Management Reauthorization Act
MTA	Maryland Transit Administration
MTBE	methyl tertiary butyl ether
MUTCD	Manual on Uniform Traffic Control Devices
MWCOG	Metropolitan Washington Council of Governments
NAAQS	National Ambient Air Quality Standards
NATM	New Australian Tunneling Methods
NCPC	National Capital Planning Commission
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHP	Natural Heritage Program
NHPA	National Historic Preservation Act
NIH	National Institute of Health
NIST	National Institute of Standards and Technology
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	notice of intent
NOX	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTD	National Transit Database
NTU	nephelometric turbidity units
NWI	National Wetlands Inventory
O&M	operations and maintenance
O_3	ozone
OCS	overhead contact system
OSHA	Federal Occupational Safety and Health Act
PA	public address
Pb	lead
PCBs	polychlorinated biphenyls
PEM	palustrine emergent wetland

PEPCO	Potomac Electrical Power Company
PFA	priority funding area
PFO	palustrine forested wetland
PGA	potential growth area
PGDER	Prince George's County Department of Environmental Resources
PM	particulate matter
PM10	particulate matter with an aerodynamic diameter less than 10 micrometers
PM2.5	particulate matter with an aerodynamic diameter less than 2.5 micrometers
POS	program open space
POW	palustrine open water wetland
ppb	parts per billion
PPE	personal protection equipment
ppm	parts per million
PPMV	parts per million by volume
PPV	peak particle velocity
PSS	palustrine scrub-shrub wetland
QA/QC	quality assurance/quality control
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
RHA	Rivers and Harbors Appropriations Act
RIMS II	Regional Input-Output Modeling System II
ROD	record of decision
ROW	right-of-way
RTE	rare, threatened, and endangered
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SAV	submerged aquatic vegetation
SCC	FTA's standard cost categories
SCD	Soil Conservation District
SCEA	secondary and cumulative effects analysis
SDAT	State Department of Assessments and Taxation
SEM	sequential excavation method
SETS	station emergency telephones
SGSC	smart growth subcabinet
SHA	Maryland State Highway Administration
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO2	sulfur dioxide
SPA	special protection area
SSEPP	System Security and Emergency Preparedness Plan
SSMP	Safety and Security Management Plan
SSPP	System Safety Program Plan
SSTC	Silver Spring Transit Center
STIP	State Transportation Improvement Program
SWM	stormwater management
TAZ	traffic analysis zone
TDM	transportation demand management
TDOZ	transit district overlay zone
TDS	total dissolved solids
TIGER	Transportation Investment Generating Economic Recovery
TIP	Transportation Improvement Program
TLC	transportation/land-use connections
TMDL	total maximum daily load
TMP	Transportation Management Plan
TOD	transit oriented development
TPB	National Capital Region Transportation Planning Board
TPSS	traction power substation
TSCA	Toxic Substances Control Act
TSM	Transportation System Management
TTF	Maryland Transportation Trust Fund
UMD	University of Maryland
UMUC	University of Maryland University College
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USDOE	United States Department of Energy
USDOI	United States Department of the Interior
USDOT	United States Department of Transportation
USFDA	United States Food and Drug Administration
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
VAU	visual assessment unit
VdB	vibration velocity level in decibels
VHT	vehicle hours traveled
VMT	vehicle miles traveled
VOC	volatile organic compound
WETS	wayside emergency telephones
WGL	Washington Gas
WHD	Wildlife and Heritage Division
WHS	Wildlife and Heritage Service
WMATA	Washington Metropolitan Area Transit Authority
WQL	water quality limited
WRNMMC	Walter Reed National Military Medical Center
WSSC	Washington Suburban Sanitary Commission
WUS	Waters of the United States
YOE	year of expenditure

Appendix G

Agency Correspondence

Relevant correspondence with the following federal and state regulatory agencies is provided in Appendix G:

- Advisory Council on Historic Preservation
- Maryland Department of Natural Resources
- Maryland Department of the Environment
- National Marine Fisheries Service
- National Oceanic and Atmospheric Administration
- Natural Resources Conservation Service
- United States Environmental Protection Agency
- United States Fish and Wildlife Service

Section 106 correspondence to date and memoranda of consulting parties meetings on June 11, 2013, and August 8, 2013, are provided in Appendix G.

Preserving America's Heritage

August 14, 2013

Ms. Brigid Hynes-Cherin
Regional Administrator
Federal Transit Administration
1760 Market Street, Suite 500
Philadelphia, PA 19103-4124

Ref: Proposed Purple Line Project
Montgomery and Prince George's Counties, Maryland

Dear Ms. Hynes-Cherin:

On August 5, 2013, the Advisory Council on Historic Preservation (ACHP) received notification and supporting documentation regarding the development of a Programmatic Agreement (PA) for the referenced project. Based upon the information that was provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to develop this agreement is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), a Tribal Historic Preservation Officer, an affected Indian tribe, a consulting party or other party, we may reconsider this decision. Additionally, should circumstances change and you determine that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final PA, developed in consultation with the Maryland SHPO, and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the PA and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with your notification of adverse effect. If you have any questions or need additional assistance, please contact Kelly Fanizzo at 202-606-8507, or via email at kfanizzo@achp.gov.

Sincerely,

Raymond V. Wallace

Raymond V. Wallace
Historic Preservation Technician
Office of Federal Agency Programs

MARYLAND TRANSIT ADMINISTRATION
MARYLAND DEPARTMENT OF TRANSPORTATION
Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor
Beverley K. Swaim-Staley, Secretary • Ralign T. Wells, Administrator

September 22, 2011

Ms. Lori Byrne
Maryland Department of Natural Resources
Forests, Wildlife and Heritage Service
Tawes State Office Bldg., E-1
580 Taylor Avenue
Annapolis, MD 21401

Subject: Purple Line, Montgomery and Prince's Georges Counties, MD
Rare, Threatened and Endangered Species Identification

Dear ~~Ms. Byrne~~ Lori:

The Maryland Transit Administration is currently preparing a Final Environmental Impact Statement (FEIS) for the proposed Purple Line Transit Project located in Montgomery and Prince George's Counties, Maryland. The purpose of this letter is to request information and comments from the Forests, Wildlife and Heritage Service regarding species of interest within the project area. Any information you may have regarding the presence or habitat of species of interest within the project area would be helpful.

The proposed transitway is a 16 mile corridor between Bethesda and New Carrollton, Maryland (See Vicinity Map). The Purple Line will connect Metrorails's Red Line (Bethesda and Silver Spring stations), Green Line (College Park station), and Orange Line (New Carrollton station). This project is intended to provide transit options to people in the corridor, to support economic development and transit oriented development, and to address the region's air quality issues.

We appreciate your review assistance. If you have any questions, please do not hesitate to contract me at jnewton@mta.maryland.gov or 410.767.3769.

Sincerely,

John Newton, Manager
Environmental Planning Division

cc: file

MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Coordination Sheet for Maryland Department of Natural Resources, Environmental Review Unit information on fisheries resources, including anadromous fish. related to project locations and study areas

12-MIS-053

DATE OF REQUEST: 9/30/2011
NAME: Bridgette Garner (Coastal Resources) PHONE: 443-837-2145

PROJECT NAME / LOCATION / DESCRIPTION: Purple Line Transit Study, Montgomery County and Prince George's County, MD (16 mile transit Project)

NAME OF STREAM(S) (and MDE Use Classification) WITHIN THE STUDY AREA: Coquelin Run (Use I-P, Rock Creek-Use I-p; Sligo Creek-Use I-P; Long Branch- Use I-P; Paint Branch-Use I-P Northeast Branch- Use I-P; Northwest Branch-north of MD 410-Use IV, Northwest Branch remaining segments Use I-P

SUB-BASIN (6 digit watershed): 02-14-02 (Washington Metropolitan Area)

DNR RESPONSE (sections below to be completed by MD DNR):

____X___ Generally, no instream work is permitted in Use I streams during the period of March 1 through June 15, inclusive, during any year.

___X___Generally, no instream work should be conducted in Use IV streams during the period March 1 through May 31 inclusive, during any year.

ADDITIONAL FISHERIES RESOURCE NOTES:

Fish species documented by DNR in locations in proximity to the project work areas including various streams noted above include Blacknose Dace, Longnose Dace, Green Sunfish, Fantail Darter among others.

ADDITIONAL COMMENTS ON BEST MANAGEMENT PRACTICES:

Areas designated for the access of equipment and for the removal or disposal of material required to support construction should avoid impacts to these stream systems and associated riparian vegetation. Any temporarily disturbed areas should be restored and re-vegetated. Any use of concrete or grouting required to construct improvements should be managed to assure curing processes do not impact these stream systems or modify PH.

Any expected potential fish species should be adequately protected by the Use I and IV work prohibition time of year restriction referenced above, through sediment and erosion control measures, and application of other Best Management Practices.

MD DNR, Environmental Review Unit signature

DATE: --------1-9-2011----------

The 1-9-2011 should read 1-9-2012 based on Date of Request which is 9-30-11.

MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Martin O'Malley, Governor
Anthony G. Brown, Lt. Governor
John R. Griffin, Secretary
Joseph P. Gill, Deputy Secretary

October 26, 2011

Mr. John Newton
Maryland Transit Administration
6 Saint Paul Street
Baltimore, MD 21202-1614

RE: Environmental Review for Proposed Purple Line Transit Project, Prince George's and Montgomery Counties, Maryland.

Dear Mr. Newton:

The Wildlife and Heritage Service's database indicates that there is a waterbird colony located within close proximity to the proposed project site. The approximate location of the colony site is indicated on the attached map. Heronries are a rare resource that should be protected. Conservation of the few Great Blue Heron colonies that are located outside of the Chesapeake Bay Critical Area is strongly encouraged. Significant mortality of chicks or eggs resulting from disturbance of the colony during the breeding season is a violation of the U.S. Migratory Bird Treaty Act. Disturbance includes actions such as cutting nest trees, cutting nearby trees or nearby construction that causes abandonment of chicks by the adults. We would like the opportunity to review project details for the area near the waterbird colony as they are developed. It is likely that we would recommend a time-of-year restriction on work that falls within ¼-mile of the colony.

Our analysis of the information provided also suggests that the forested area on or adjacent to the project site contains Forest Interior Dwelling Bird habitat. Populations of many Forest Interior Dwelling Bird Species (FIDS) are declining in Maryland and throughout the eastern United States. The conservation of FIDS habitat is strongly encouraged by the Department of Natural Resources. The following guidelines will help minimize the project's impacts on FIDS and other native forest plants and wildlife:

1. Avoid placement of new roads or related construction in the forest interior. If forest loss or disturbance is absolutely unavoidable, restrict development to the perimeter of the forest (i.e., within 300 feet of the existing forest edge), and avoid road placement in areas of high quality FIDS habitat (e.g., old-growth forest). Maximize the amount of remaining contiguous forested habitat.

2. Do not remove or disturb forest habitat during April-August, the breeding season for most FIDS. This seasonal restriction may be expanded to February-August if certain early nesting FIDS (e.g., Barred Owl) are present.

3. Maintain forest habitat as close as possible to the road, and maintain canopy closure where possible.

4. Maintain grass height at least 10" during the breeding season (April-August).

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

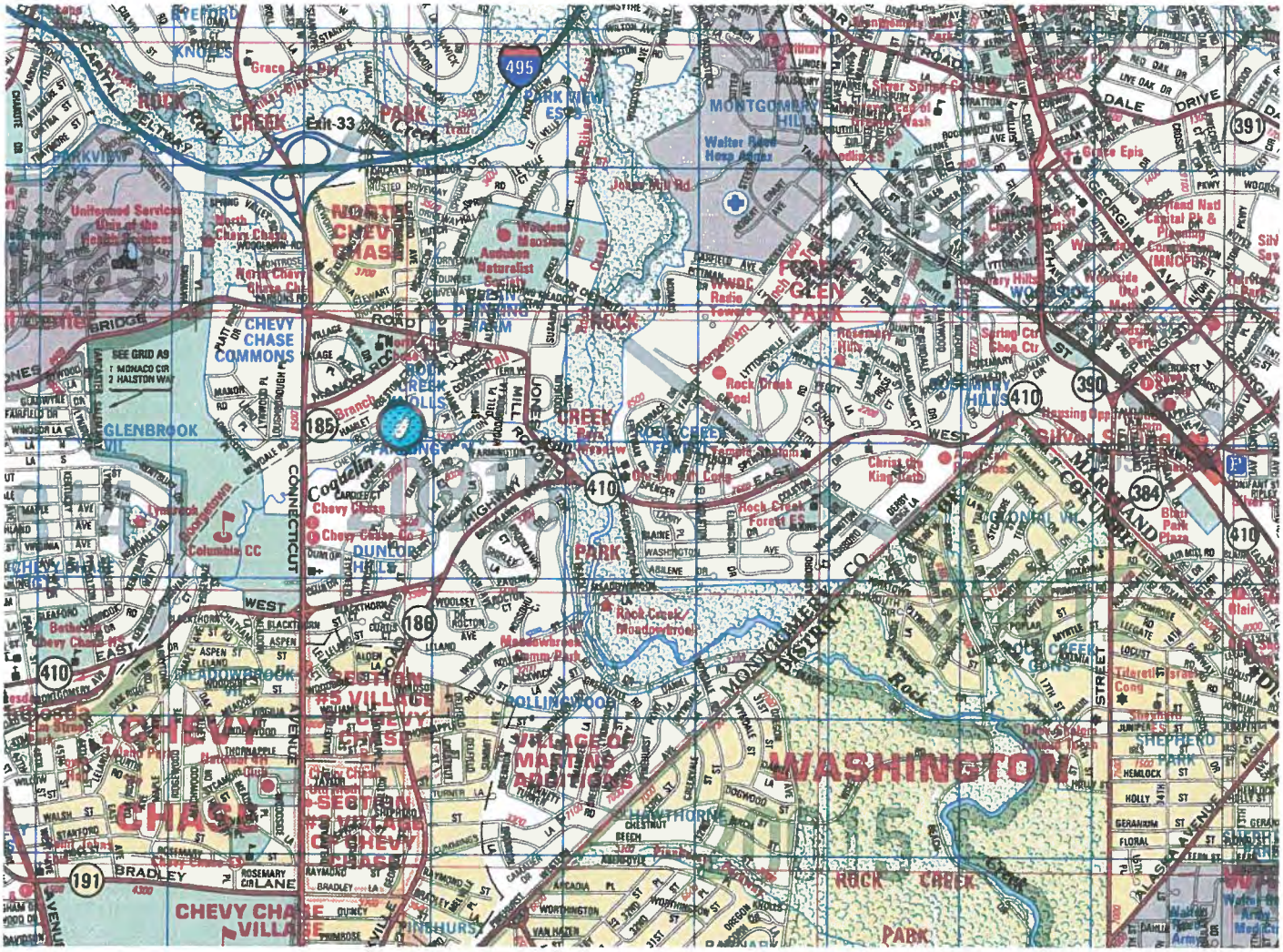
Sincerely,

Lori A. Byrne

Lori A. Byrne,
Environmental Review Coordinator
Wildlife and Heritage Service
MD Dept. of Natural Resources

ER# 2011.1383.pg/mo
Cc: T. Redman, DNR
D. Brinker, DNR
Attachment

approximate location of Coquelin Run colony



MTA Maryland

MARYLAND TRANSIT ADMINISTRATION

MARYLAND DEPARTMENT OF TRANSPORTATION
Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor
Beverley K. Swaim-Staley, Secretary • Ralign T. Wells, Administrator

February 27, 2012

Ms. Lori Byrne
Maryland Department of Natural Resources
Wildlife and Heritage Service
580 Taylor Avenue
Annapolis, MD 21401

Subject: Purple Line Transit Project
Prince George's and Montgomery counties, Maryland

Dear Ms. Byrne,

Thank you for your October 26, 2011 response letter to our request for information regarding rare, threatened, and endangered species within the Purple Line project area. Your letter indicates the present of a heron colony within the Coquelin Run stream valley. Provided below is information on project activities in the area of the heron colony. We would also like to request a meeting with Wildlife and Heritage staff to further discuss potential indirect impacts that may occur during construction of the Purple Line project.

Enclosed, we have provided a plan set of the project area in closest proximity to the heron colony. Currently, the interim Capital Crescent hiker-biker trail runs in the existing Montgomery County-owned Georgetown Branch right-of-way, which is the proposed alignment for the Purple Line project in this area. The hiker-biker trail, in the general area of the rookery, is characterized as a paved path bordered by a narrow (10 to 30-foot-wide) vegetative strip on either side of the trail, separating the alignment from backyards, buildings, and commercial areas. This urban edge community is dominated by small trees from 8 to 12 inches diameter at breast height (dbh).

Proposed project activities within this part of the alignment include removal of vegetation within the Georgetown Branch right-of-way to accommodate ballasted tracks for the transitway. The trail will be moved to the north side of the tracks with an 11-foot landscaped buffer between the trail and the transitway. All construction-related activities in the general area of the rookery will occur within the existing right-of-way. Access to the project site will occur through properties immediately adjacent to the trail. No direct impacts to the Coquelin Run stream valley or its interior, such as tree clearing, are anticipated as part of this project. The project is located within ¼ mile of the colony but is buffered by the community that is located along Chevy Chase Lake Drive to the north, substantially diminishing the potential for direct impacts.

We would appreciate the opportunity to meet with someone from your division to understand the potential impacts to the colony during the construction stages of the project so that the project engineers can plan accordingly. If you could identify a contact person, I will follow up on scheduling a meeting date.

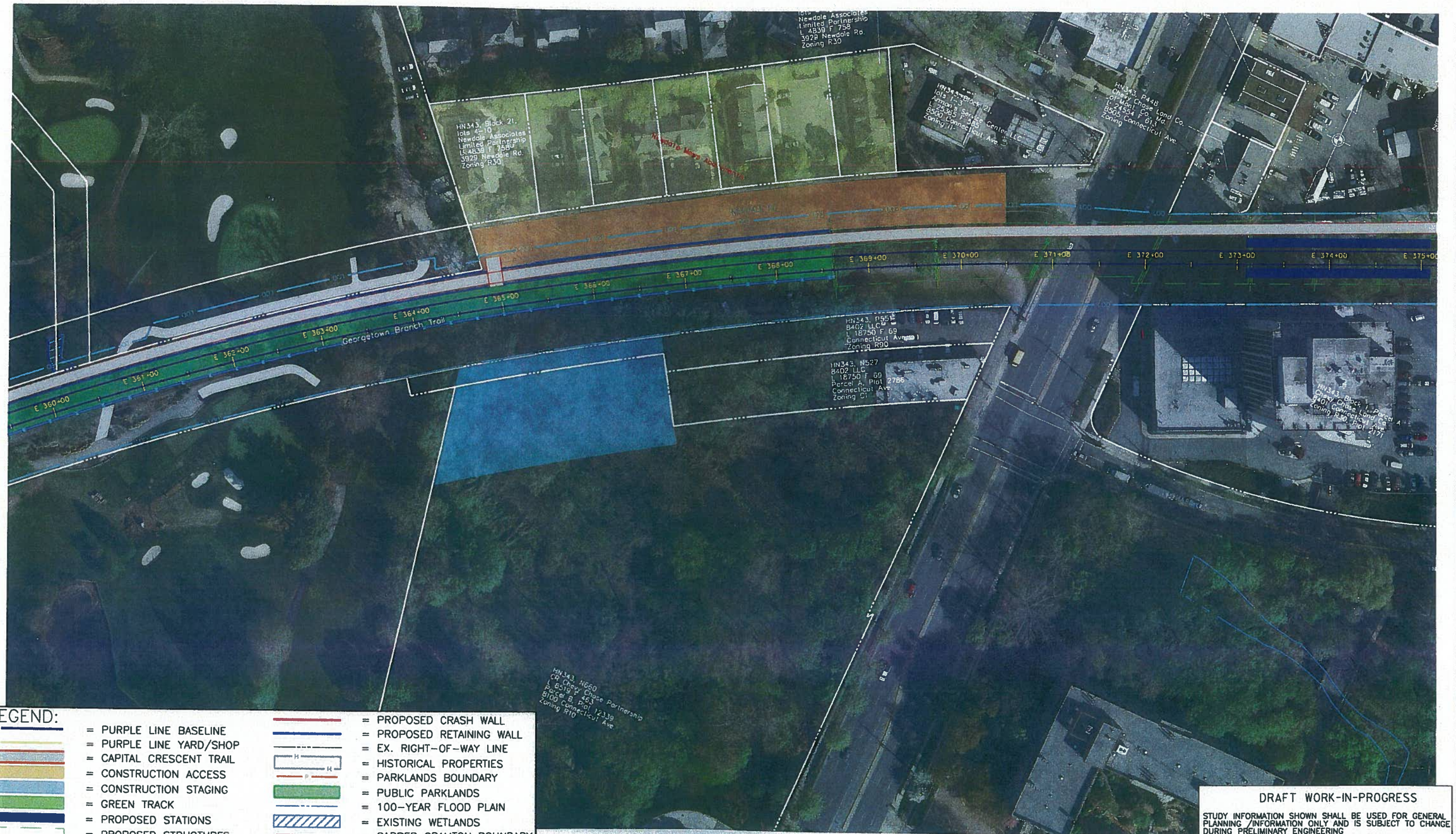
Feel free to contact me with any question or concerns you may have at 410.767.3769 or jnewton@mta.maryland.gov. Thank you for your help on this project, and I look forward to hearing from you at your earliest convenience.

Sincerely,

John Newton, Manager
Environmental Planning Division
Office of Planning

Enclosures

Cc: Mr. Steve Hawtof, Gannett Fleming
Mr. Mike Madden, Maryland Transit Administration
Ms. Leslie Roche, AECOM, Inc.



LEGEND:

- = PURPLE LINE BASELINE
- = PURPLE LINE YARD/SHOP
- = CAPITAL CRESCENT TRAIL
- = CONSTRUCTION ACCESS
- = CONSTRUCTION STAGING
- = GREEN TRACK
- = PROPOSED STATIONS
- = PROPOSED STRUCTURES
- = LIMIT OF DISTURBANCE
- = PROPOSED CRASH WALL
- = PROPOSED RETAINING WALL
- = EX. RIGHT-OF-WAY LINE
- = HISTORICAL PROPERTIES
- = PARKLANDS BOUNDARY
- = PUBLIC PARKLANDS
- = 100-YEAR FLOOD PLAIN
- = EXISTING WETLANDS
- = CAPPER CRAMTON BOUNDARY
- = TRACTION POWER SUBSTATION

DRAFT WORK-IN-PROGRESS

STUDY INFORMATION SHOWN SHALL BE USED FOR GENERAL PLANNING /INFORMATION ONLY AND IS SUBJECT TO CHANGE DURING PRELIMINARY ENGINEERING

MARYLAND DEPARTMENT OF TRANSPORTATION

MARYLAND TRANSIT ADMINISTRATION

MTA Maryland

Purple Line

NO.	DESCRIPTION	BY	DATE

REVISIONS

DESIGN | DRAWN | CHECK | APPR

PURPLE LINE
NEW STARTS DEFINITION

CONSTRUCTION STAGING & ACCESS MAP

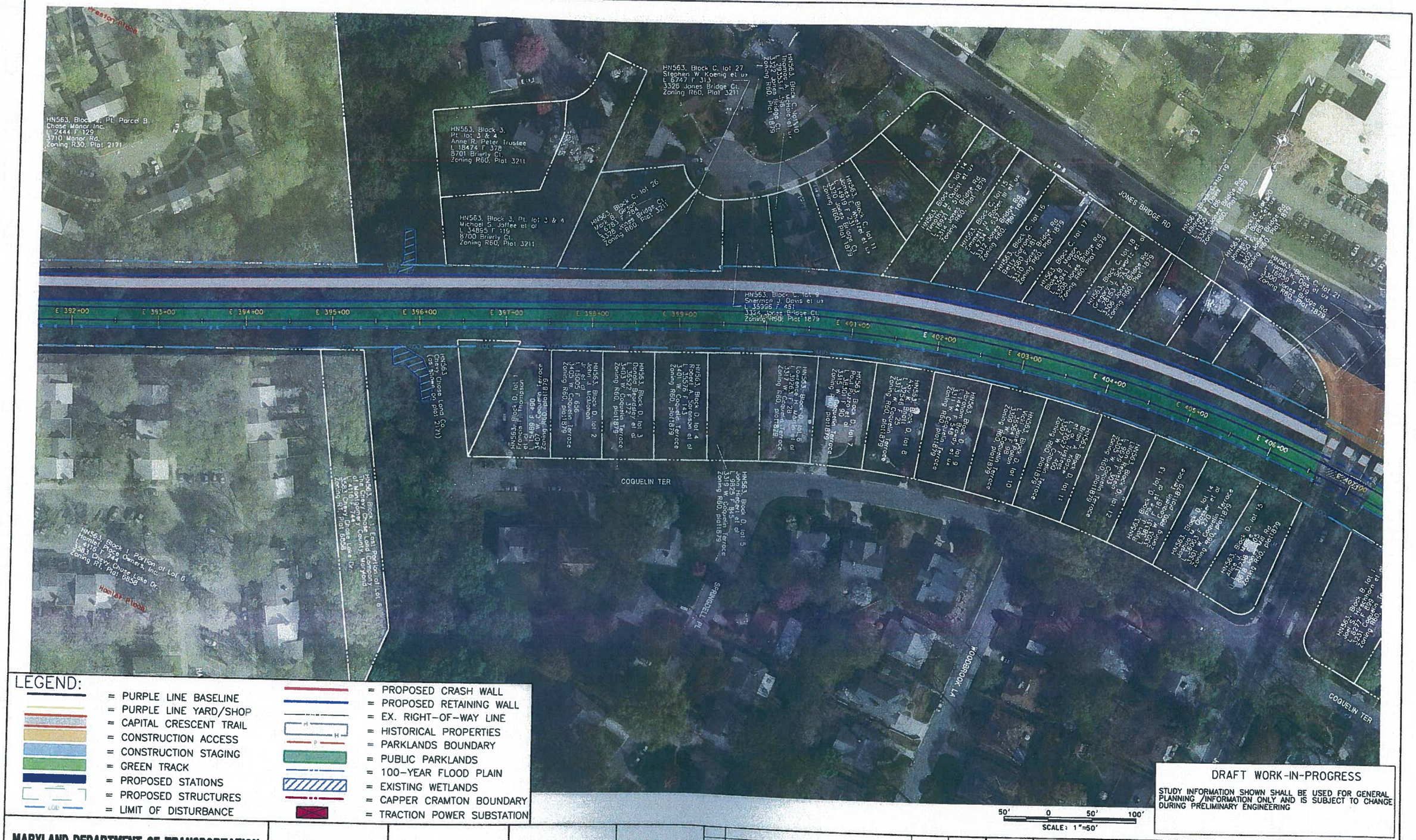
DATE: OCTOBER 2011 SCALE: AS SHOWN

CONTRACT NO. 1042

DRAWING NO.

SHEET NO. 5 OF 55

$FILE1$
$DATE$



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- = CAPPER CRAMTON BOUNDARY
- = TRACTION POWER SUBSTATION

50' 0 50' 100'
SCALE: 1"=50'

DRAFT WORK-IN-PROGRESS

STUDY INFORMATION SHOWN SHALL BE USED FOR GENERAL PLANNING INFORMATION ONLY AND IS SUBJECT TO CHANGE DURING PRELIMINARY ENGINEERING

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION
MTA Maryland

Purple Line

NO.	DESCRIPTION	BY	DATE

REVISIONS

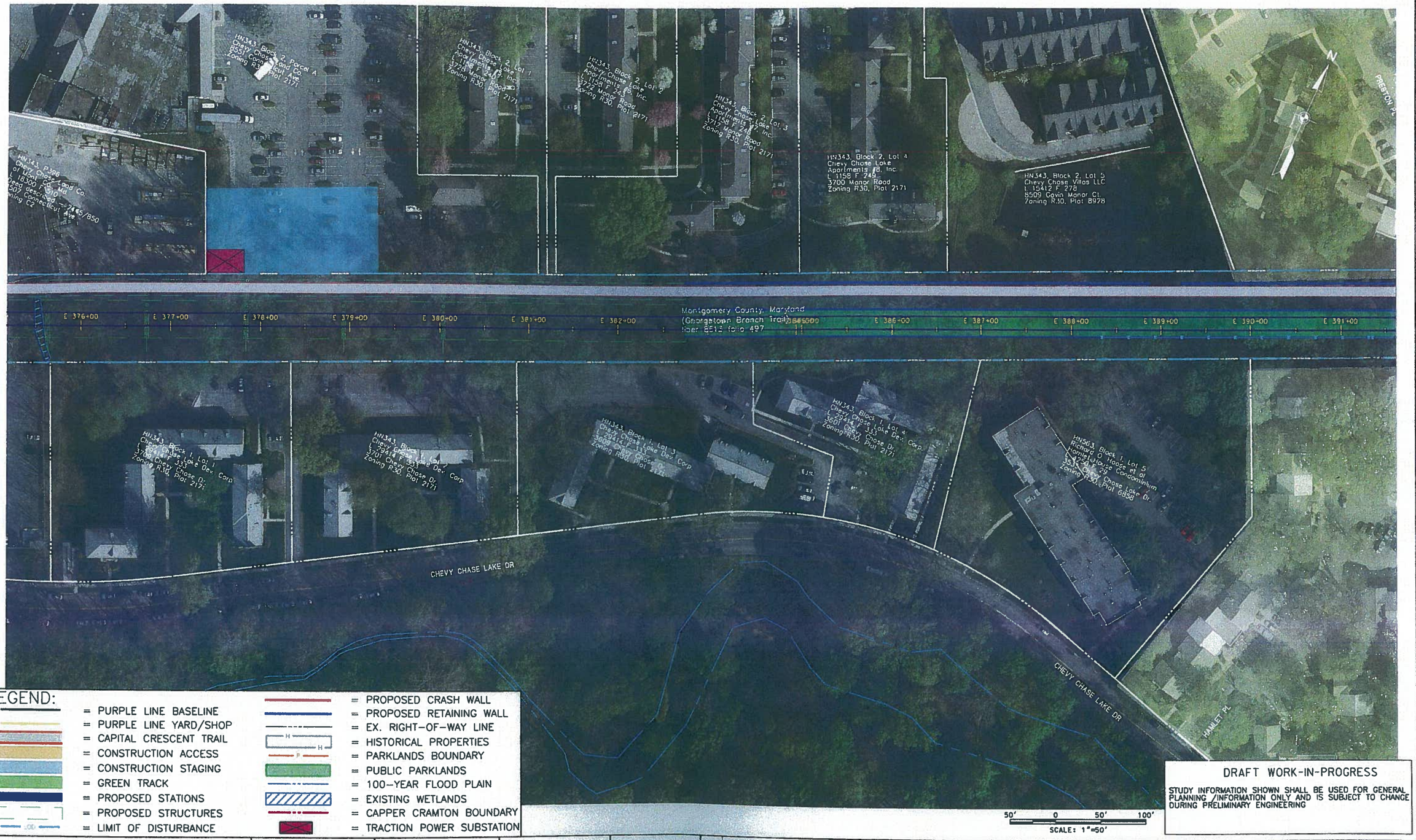
DESIGN
DRAWN
CHECK
UPPR

PURPLE LINE
NEW STARTS DEFINITION

CONSTRUCTION STAGING & ACCESS MAP

DATE: OCTOBER 2011

CONTRACT NO. 1042
DRAWING NO.
SHEET NO.



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SCALE: 1"=50'

DRAFT WORK-IN-PROGRESS

STUDY INFORMATION SHOWN SHALL BE USED FOR GENERAL PLANNING /INFORMATION ONLY AND IS SUBJECT TO CHANGE DURING PRELIMINARY ENGINEERING

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION
MTA Maryland

Purple Line

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DESIGN
DRAWN
CHECK
APPR

PURPLE LINE
NEW STARTS DEFINITION

CONSTRUCTION STAGING & ACCESS MAP

DATE: OCTOBER 2011 SCALE: AS SHOWN

CONTRACT NO. 1042
DRAWING NO.
SHEET NO. 6 OF 55

$FILE1,$
$DATE$

MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Coordination Sheet for Maryland Department of Natural Resources, Environmental Review Unit information on fisheries resources, including anadromous fish, related to project locations and study areas

12-AMS-053

DATE OF REQUEST: 9/30/2011
NAME: Bridgette Garner (Coastal Resources) PHONE: 443-837-2145

PROJECT NAME / LOCATION / DESCRIPTION: Purple Line Transit Study, Montgomery County and Prince George's County, MD (16 mile transit Project)

NAME OF STREAM(S) (and MDE Use Classification) WITHIN THE STUDY AREA: Coquelin Run (Use I-P, Rock Creek-Use I-p; Sligo Creek-Use I-P; Long Branch- Use I-P; Paint Branch-Use I-P Northeast Branch- Use I-P; Northwest Branch-north of MD 410-Use IV, Northwest Branch remaining segments Use I-P

SUB-BASIN (6 digit watershed): 02-14-02 (Washington Metropolitan Area)

DNR RESPONSE (sections below to be completed by MD DNR):

___X___ Generally, no instream work is permitted in Use I streams during the period of March 1 through June 15, inclusive, during any year.

___X___Generally, no instream work should be conducted in Use IV streams during the period March 1 through May 31 inclusive, during any year.

ADDITIONAL FISHERIES RESOURCE NOTES:

Fish species documented by DNR in locations in proximity to the project work areas including various streams noted above include Blacknose Dace, Longnose Dace, Green Sunfish, Fantail Darter among others.

ADDITIONAL COMMENTS ON BEST MANAGEMENT PRACTICES:

Areas designated for the access of equipment and for the removal or disposal of material required to support construction should avoid impacts to these stream systems and associated riparian vegetation. Any temporarily disturbed areas should be restored and re-vegetated. Any use of concrete or grouting required to construct improvements should be managed to assure curing processes do not impact these stream systems or modify PH.

Any expected potential fish species should be adequately protected by the Use I and IV work prohibition time of year restriction referenced above, through sediment and erosion control measures, and application of other Best Management Practices.

MD DNR, Environmental Review Unit signature

DATE: --------1-9-2011----------

MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Martin O'Malley, Governor
Anthony G. Brown, Lt. Governor
John R. Griffin, Secretary
Joseph P. Gill, Deputy Secretary

June 13, 2012

Heather Speargas
Coastal Resources Inc.
25 Old Solomons Island Road
Annapolis, MD 21401
Tel: 410-956-9000
Fax: 410-956-0566
Email: heathers@coastal-resources.net

Dear Ms. Speargas,

MTA Purple Line – Montgomery and Prince George's Counties, Maryland,
Forest Stand Delineation (FSD) Approval — FCP #S12-19

This is to inform you that the Forest Stand Delineation (FSD) pertaining to the MTA Purple Line has been reviewed. The FSD is determined to be correct.

Refer to FCP #S12-19 in all future correspondence pertaining to this project. Please do not hesitate to contact me should you have any questions or concerns.

The Department of Natural Resources considers all documents submitted as part of a forest conservation plan public information under the Maryland Public Information Act. An applicant seeking to exempt documents submitted to the Department from public inspection must submit written request to the Department detailing how the document or documents qualify for an exemption under thee Annotated Code of Maryland, State Government Article Section 10-618.

Sincerely,

Horace Henry
Southern Region Urban & Community Forestry Coordinator

Register all newly planted trees today!
www.trees.maryland.gov

8023 Long Hill Road, Pasadena, MD 21122
Tel: 410-360-9774 • www.dnr.maryland.gov • TTY users call via Maryland Relay • Fax: 410-360-9875
hhenry@dnr.state.md.us

CHESAPEAKE
• ENVIRONMENTAL MANAGEMENT, INC. •

Applying Practical Science to Improve Communities

August 25, 2011

Mrs. Joane Mueller
PIA Coordinator
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230

RE: Request for Information concerning the Purple Line Hazardous Waste Investigations, Montgomery and Prince George's Counties, MD [CEM Project No.: 10-037.001]

Dear Mrs. Mueller:

We are currently contracted by the Maryland Transit Administration (MTA) to review any available data regarding pollution/contamination incidents that may have occurred in the vicinity of the study area located in Montgomery and Price George's Counties in Maryland.

Under the Public Information Act, I would like to request any regulatory records published for this location or the surrounding area in order to search for any information you may have regarding air, land, or water pollution incidents, including:

- Chemical or Petroleum releases
- Underground Storage Tanks (USTs)
- RCRA Generators
- Asbestos or lead paint information
- CERCLA or Superfund haz-waste sites
- Hazardous or Toxic materials/waste spills
- Clean Air Act, RCRA, TSCA, or SARA violations

The properties in question are summarized in the attached table [Attachment 1].

Thank you very much for your time and consideration. I would appreciate your permission to review this information as soon as possible. If the cost associated with this file search would exceed $25, please contact me. If you have any additional questions, please do not hesitate to contact me at our offices at (410)-893-9016 at any time, or you can email me at kdimartino@cemscience.com.

Best Regards,

Kevin DiMartino

Kevin DiMartino
Chesapeake Environmental Management
Project Leader

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230
410-537-3000 • 1-800-633-6101 • http://www.mde.state.md.us

Martin O'Malley
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Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Secretary

Kathy M. Kinsey
Deputy Secretary

September 7, 2011

Mr. Kevin DiMartino
Chesapeake Enivironmental Management
100 S. Charles Street
Tower 1, 10th Floor
Baltimore MD 21201

RE: Tracking Number: 2011-48989
Request Received September 6, 2011

MULTI MTA-1265A
CEM 10-027.001

Dear Mr. DiMartino:

The Maryland Department of the Environment (MDE) received your recent request for information under the Public Information Act (PIA).

Your request has been assigned the tracking number listed above. Please use this number in all communications referring to this request.Your request has been reviewed and distributed to all appropriate MDE programs. After all programs have completed the search, you will be notified by mail as to whether or not pertinent records exist. If files exist, the notification letter will contain instructions for reviewing the records. Only after you schedule an appointment to review files will the requested files be gathered in preparation for your review.

There may be fees associated with the search whether or not files are located. The PIA fees are limited to standard charges for direct document search, review, duplication, and postage. The first two hours of search are free of charge. If your request did not indicate a willingness to pay fees, you will be notified only if the fees are likely to exceed $25.

When requesting information regarding this request, please cite the tracking number referenced above. If you have any questions, please call me at (410) 537-4120.

Sincerely,

Joane Mueller
PIA Coordinator
Other MDE Administrations

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230
410-537-3000 • 1-800-633-6101 • http://www.mde.state.md.us

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Secretary

Kathy M. Kinsey
Deputy Secretary

September 28, 2011

Mr. Kevin DiMartino
Chesapeake Enivironmental Management
100 S. Charles Street
Tower 1, 10th Floor
Baltimore MD 21201

RE: Tracking Number: 2011-48989
Request Received September 6, 2011

MULTI MM 1265 T

Dear Mr. DiMartino:

The Maryland Department of the Environment (MDE) received your recent request for information under the Public Information Act (PIA).

Files have been located in the following MDE Administration(s):

Administration, Contact, Phone Number

Air & Radiation Management Administration, Laramie Daniel, (410) 537-3220
Science Services Administration, Susan Douglas, (410) 537-3899
Land Management Administration, Maria Stephens, (410) 537-3422

You may contact the personnel listed above to schedule an appointment for file review or to arrange for photocopies of all releasable materials. You will be invoiced for all applicable search, review, duplication and postage charges. It is requested that you make arrangements to review available files within 30 days of receipt of this letter. After 30 days your request will be closed and it will be necessary to file a new request.

The Land Management Administration had a file on this site, however, the file was destroyed in accordance with the Land Management Administration's record retention schedule. This program maintains archived files for 2 years prior to destruction. MDE is required to send you this notice pursuant to Code of Maryland Regulation 26.01.04.10.

When requesting information regarding this request, please cite the tracking number referenced above. If you have any questions, please call me at (410) 537-4120.

Sincerely,

Joane D Mueller

Joane Mueller
PIA Coordinator
Other MDE Administrations

cc: Laramie Daniel, Air & Radiation Management Administration
Susan Douglas, Science Services Administration
Maria Stephens, Land Management Administration

CHESAPEAKE
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Applying Practical Science to Improve Communities

September 19, 2011

Mrs. Joane Mueller
PIA Coordinator
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230

RE: Request for Information concerning the Purple Line Hazardous Waste Investigations, Montgomery and Prince George's Counties, MD [CEM Project No.: 10-037.001]

Dear Mrs. Mueller:

We are currently contracted by the Maryland Transit Administration (MTA) to review any available data regarding pollution/contamination incidents that may have occurred in the vicinity of the study area located in Montgomery and Price George's Counties in Maryland.

Under the Public Information Act, I would like to request any regulatory records published for this location or the surrounding area in order to search for any information you may have regarding air, land, or water pollution incidents, including:

- Chemical or Petroleum releases
- Underground Storage Tanks (USTs)
- RCRA Generators
- Asbestos or lead paint information
- CERCLA or Superfund haz-waste sites
- Hazardous or Toxic materials/waste spills
- Clean Air Act, RCRA, TSCA, or SARA violations

The properties in question are summarized in the attached table [Attachment 1].

Thank you very much for your time and consideration. I would appreciate your permission to review this information as soon as possible. If the cost associated with this file search would exceed $25, please contact me. If you have any additional questions, please do not hesitate to contact me at our offices at (410)-893-9016 at any time, or you can email me at kdimartino@cemscience.com.

Best Regards,

Kevin DiMartino

Kevin DiMartino
Chesapeake Environmental Management
Project Leader

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230
410-537-3000 • 1-800-633-6101 • http://www.mde.state.md.us

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Secretary

Kathy M. Kinsey
Deputy Secretary

September 28, 2011

Mr. Kevin DiMartino
Chesapeake Environmental Management, Inc.
260 Gateway Drive
Suite 21-C
Bel Air MD 21014

INTA-1265A
CEM 10-037.001

RE: Tracking Number: 2011-49120
Request Received September 26, 2011

MULTI

Dear Mr. DiMartino:

The Maryland Department of the Environment (MDE) received your recent request for information under the Public Information Act (PIA).

Your request has been assigned the tracking number listed above. Please use this number in all communications referring to this request.Your request has been reviewed and distributed to all appropriate MDE programs. After all programs have completed the search, you will be notified by mail as to whether or not pertinent records exist. If files exist, the notification letter will contain instructions for reviewing the records. Only after you schedule an appointment to review files will the requested files be gathered in preparation for your review.

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When requesting information regarding this request, please cite the tracking number referenced above. If you have any questions, please call me at (410) 537-4120.

Sincerely,

Joane Mueller
PIA Coordinator
Other MDE Administrations

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230
410-537-3000 • 1-800-633-6101 • http://www.mde.state.md.us

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Secretary

Kathy M. Kinsey
Deputy Secretary

October 18, 2011

Mr. Kevin DiMartino
Chesapeake Environmental Management, Inc.
260 Gateway Drive
Suite 21-C
Bel Air MD 21014

RE: Tracking Number: 2011-49120
Request Received September 26, 2011

MULTI CEM# 10-037.001

Dear Mr. DiMartino:

The Maryland Department of the Environment (MDE) received your recent request for information under the Public Information Act (PIA).

Files have been located in the following MDE Administration(s):

Administration, Contact, Phone Number

Air & Radiation Management Administration, Laramie Daniel, (410) 537-3220
Land Management Administration, Maria Stephens, (410) 537-3422

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When requesting information regarding this request, please cite the tracking number referenced above. If you have any questions, please call me at (410) 537-4120.

Sincerely,

Joane Mueller
PIA Coordinator
Other MDE Administrations

cc: Laramie Daniel, Air & Radiation Management Administration
Maria Stephens, Land Management Administration

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Applying Practical Science to Improve Communities

October 17, 2011

Mrs. Joane Mueller
PIA Coordinator
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230

RE: Request for Information concerning the Purple Line Hazardous Waste Investigations, Montgomery and Prince George's Counties, MD [CEM Project No.: 10-037.001]

Dear Mrs. Mueller:

We are currently contracted by the Maryland Transit Administration (MTA) to review any available data regarding pollution/contamination incidents that may have occurred in the vicinity of the study area located in Montgomery and Price George's Counties in Maryland.

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Best Regards,

Kevin DiMartino

Kevin DiMartino
Chesapeake Environmental Management
Project Leader

MARYLAND DEPARTMENT OF THE ENVIRONMENT

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Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Secretary

Kathy M. Kinsey
Deputy Secretary

November 2, 2011

Mr. Kevin DiMartino
Chesapeake Environmental Management, Inc.
260 Gateway Drive
Suite 21-C
Bel Air MD 21014

RE: Tracking Number: 2011-49368
Request Received October 27, 2011

MULTI

Dear Mr. DiMartino:

The Maryland Department of the Environment (MDE) received your recent request for information under the Public Information Act (PIA).

Your request has been assigned the tracking number listed above. Please use this number in all communications referring to this request.Your request has been reviewed and distributed to all appropriate MDE programs. After all programs have completed the search, you will be notified by mail as to whether or not pertinent records exist. If files exist, the notification letter will contain instructions for reviewing the records. Only after you schedule an appointment to review files will the requested files be gathered in preparation for your review.

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Sincerely,

Joane Mueller
PIA Coordinator
Other MDE Administrations

MARYLAND DEPARTMENT OF THE ENVIRONMENT

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410-537-3000 • 1-800-633-6101 • http://www.mde.state.md.us

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Secretary

December 5, 2011

Mr. Kevin DiMartino
Chesapeake Environmental Management, Inc.
260 Gateway Drive
Suite 21-C
Bel Air MD 21014

CEM 10.037.001

RE: Tracking Number: 2011-49368
Request Received October 27, 2011

MULTI

Dear Mr. DiMartino:

The Maryland Department of the Environment (MDE) received your recent request for information under the Public Information Act (PIA).

Files have been located in the following MDE Administration(s):

Administration, Contact, Phone Number

Air & Radiation Management Administration, Laramie Daniel, (410) 537-3220
Science Services Administration, Susan Douglas, (410) 537-3899
Land Management Administration, Maria Stephens, (410) 537-3422

You may contact the personnel listed above to schedule an appointment for file review or to arrange for photocopies of all releasable materials. You will be invoiced for all applicable search, review, duplication and postage charges. It is requested that you make arrangements to review available files within 30 days of receipt of this letter. After 30 days your request will be closed and it will be necessary to file a new request.

The Land Management Administration had a file on this site, however, the file was destroyed in accordance with the Land Management Administration's record retention schedule. This program maintains archived files for 2 years prior to destruction. MDE is required to send you this notice pursuant to Code of Maryland Regulation 26.01.04.10.

When requesting information regarding this request, please cite the tracking number referenced above. If you have any questions, please call me at (410) 537-4120.

Sincerely,

Joane Mueller
PIA Coordinator
Other MDE Administrations

cc: Laramie Daniel, Air & Radiation Management Administration
Susan Douglas, Science Services Administration
Maria Stephens, Land Management Administration

CHESAPEAKE
• ENVIRONMENTAL MANAGEMENT, INC. •

Applying Practical Science to Improve Communities

November 14, 2011

Mrs. Joane Mueller
PIA Coordinator
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230

RE: Request for Information concerning the Purple Line Hazardous Waste Investigations, Montgomery and Prince George's Counties, MD [CEM Project No.: 10-037.001]

Dear Mrs. Mueller:

We are currently contracted by the Maryland Transit Administration (MTA) to review any available data regarding pollution/contamination incidents that may have occurred in the vicinity of the study area located in Montgomery and Price George's Counties in Maryland.

Under the Public Information Act, I would like to request any regulatory records published for this location or the surrounding area in order to search for any information you may have regarding air, land, or water pollution incidents, including:

- Chemical or Petroleum releases
- Underground Storage Tanks (USTs)
- RCRA Generators
- Asbestos or lead paint information
- CERCLA or Superfund haz-waste sites
- Hazardous or Toxic materials/waste spills
- Clean Air Act, RCRA, TSCA, or SARA violations

The properties in question are summarized in the attached table [Attachment 1].

Thank you very much for your time and consideration. I would appreciate your permission to review this information as soon as possible. If the cost associated with this file search would exceed $25, please contact me. If you have any additional questions, please do not hesitate to contact me at our offices at (410)-893-9016 at any time, or you can email me at kdimartino@cemscience.com.

Best Regards,

Kevin DiMartino

Kevin DiMartino
Chesapeake Environmental Management
Project Leader

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230
410-537-3000 • 1-800-633-6101 • http://www.mde.state.md.us

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Secretary

December 5, 2011

Mr. Kevin DiMartino
Chesapeake Environmental Management, Inc.
260 Gateway Drive
Suite 21-C
Bel Air MD 21014

MTA-1265A
CEM 10-037.001

RE: Tracking Number: 2011-49565
Request Received November 28, 2011

MULTI

Dear Mr. DiMartino:

The Maryland Department of the Environment (MDE) received your recent request for information under the Public Information Act (PIA).

Your request has been assigned the tracking number listed above. Please use this number in all communications referring to this request.Your request has been reviewed and distributed to all appropriate MDE programs. After all programs have completed the search, you will be notified by mail as to whether or not pertinent records exist. If files exist, the notification letter will contain instructions for reviewing the records. Only after you schedule an appointment to review files will the requested files be gathered in preparation for your review.

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When requesting information regarding this request, please cite the tracking number referenced above. If you have any questions, please call me at (410) 537-4120.

Sincerely,

Joane Mueller
PIA Coordinator
Other MDE Administrations

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230
410-537-3000 • 1-800-633-6101 • http://www.mde.state.md.us

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Secretary

January 26, 2012

Mr. Kevin DiMartino
Chesapeake Environmental Management, Inc.
260 Gateway Drive
Suite 21-C
Bel Air MD 21014

MTA - 1265A
CEM 10-037.001

RE: Tracking Number: 2011-49565
Request Received November 28, 2011

MULTI

Dear Mr. DiMartino:

The Maryland Department of the Environment (MDE) received your recent request for information under the Public Information Act (PIA).

Files have been located in the following MDE Administration(s):

Administration, Contact, Phone Number

Air & Radiation Management Administration, Laramie Daniel, (410) 537-3220
Land Management Administration, Maria Stephens, (410) 537-3422

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When requesting information regarding this request, please cite the tracking number referenced above. If you have any questions, please call me at (410) 537-4120.

Sincerely,

Joane Mueller
PIA Coordinator
Other MDE Administrations

cc: Laramie Daniel, Air & Radiation Management Administration
Maria Stephens, Land Management Administration

CHESAPEAKE
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Applying Practical Science to Improve Communities

December 19, 2011

Mrs. Joane Mueller
PIA Coordinator
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230

RE: Request for Information concerning the Purple Line Hazardous Waste Investigations, Montgomery and Prince George's Counties, MD [CEM Project No.: 10-037.001]

Dear Mrs. Mueller:

We are currently contracted by the Maryland Transit Administration (MTA) to review any available data regarding pollution/contamination incidents that may have occurred in the vicinity of the study area located in Montgomery and Price George's Counties in Maryland.

Under the Public Information Act, I would like to request any regulatory records published for this location or the surrounding area in order to search for any information you may have regarding air, land, or water pollution incidents, including:

- Chemical or Petroleum releases
- Underground Storage Tanks (USTs)
- RCRA Generators
- Asbestos or lead paint information
- CERCLA or Superfund haz-waste sites
- Hazardous or Toxic materials/waste spills
- Clean Air Act, RCRA, TSCA, or SARA violations

The properties in question are summarized in the attached table [Attachment 1].

Thank you very much for your time and consideration. I would appreciate your permission to review this information as soon as possible. If the cost associated with this file search would exceed $25, please contact me. If you have any additional questions, please do not hesitate to contact me at our offices at (410)-893-9016 at any time, or you can email me at kdimartino@cemscience.com.

Best Regards,

Kevin DiMartino

Kevin DiMartino
Chesapeake Environmental Management
Project Leader

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230
410-537-3000 • 1-800-633-6101 • http://www.mde.state.md.us

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Secretary

December 29, 2011

Mr. Kevin DiMartino
Chesapeake Environmental Management, Inc.
260 Gateway Drive
Suite 21-C
Bel Air MD 21014

RE: Tracking Number: 2011-49720
Request Received December 21, 2011

MULTI 10-037.001

Dear Mr. DiMartino:

The Maryland Department of the Environment (MDE) received your recent request for information under the Public Information Act (PIA).

Your request has been assigned the tracking number listed above. Please use this number in all communications referring to this request. Your request has been reviewed and distributed to all appropriate MDE programs. After all programs have completed the search, you will be notified by mail as to whether or not pertinent records exist. If files exist, the notification letter will contain instructions for reviewing the records. Only after you schedule an appointment to review files will the requested files be gathered in preparation for your review.

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When requesting information regarding this request, please cite the tracking number referenced above. If you have any questions, please call me at (410) 537-4120.

Sincerely,

Joane D Mueller

Joane Mueller
PIA Coordinator
Other MDE Administrations

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230
410-537-3000 • 1-800-633-6101 • http://www.mde.state.md.us

Martin O'Malley
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Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Secretary

January 18, 2012

Mr. Kevin DiMartino
Chesapeake Environmental Management, Inc.
260 Gateway Drive
Suite 21-C
Bel Air MD 21014

RE: Tracking Number: 2011-49720
Request Received December 21, 2011

MULTI CEMM10-037.001

Dear Mr. DiMartino:

The Maryland Department of the Environment (MDE) received your recent request for information under the Public Information Act (PIA).

Files have been located in the following MDE Administration(s):

Administration, Contact, Phone Number

Air & Radiation Management Administration, Laramie Daniel, (410) 537-3220
Land Management Administration, Maria Stephens, (410) 537-3422

You may contact the personnel listed above to schedule an appointment for file review or to arrange for photocopies of all releasable materials. You will be invoiced for all applicable search, review, duplication and postage charges. It is requested that you make arrangements to review available files within 30 days of receipt of this letter. After 30 days your request will be closed and it will be necessary to file a new request.

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When requesting information regarding this request, please cite the tracking number referenced above. If you have any questions, please call me at (410) 537-4120.

Sincerely,

Joane Mueller
PIA Coordinator
Other MDE Administrations

cc: Laramie Daniel, Air & Radiation Management Administration
Maria Stephens, Land Management Administration

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January 17, 2012

Mrs. Joane Mueller
PIA Coordinator
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230

RE: Request for Information concerning the Purple Line Hazardous Waste Investigations, Montgomery and Prince George's Counties, MD [CEM Project No.: 10-037.001]

Dear Mrs. Mueller:

We are currently contracted by the Maryland Transit Administration (MTA) to review any available data regarding pollution/contamination incidents that may have occurred in the vicinity of the study area located in Montgomery and Price George's Counties in Maryland.

Under the Public Information Act, I would like to request any regulatory records published for this location or the surrounding area in order to search for any information you may have regarding air, land, or water pollution incidents, including:

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Best Regards,

Kevin DiMartino

Kevin DiMartino
Chesapeake Environmental Management
Project Leader

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230
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Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Secretary

January 26, 2012

Mr. Kevin DiMartino
Chesapeake Environmental Management, Inc.
260 Gateway Drive
Suite 21-C
Bel Air MD 21014

RE: Tracking Number: 2012-49977
Request Received January 24, 2012

MULTI #10-037.001

Dear Mr. DiMartino:

The Maryland Department of the Environment (MDE) received your recent request for information under the Public Information Act (PIA).

Your request has been assigned the tracking number listed above. Please use this number in all communications referring to this request.Your request has been reviewed and distributed to all appropriate MDE programs. After all programs have completed the search, you will be notified by mail as to whether or not pertinent records exist. If files exist, the notification letter will contain instructions for reviewing the records. Only after you schedule an appointment to review files will the requested files be gathered in preparation for your review.

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When requesting information regarding this request, please cite the tracking number referenced above. If you have any questions, please call me at (410) 537-4120.

Sincerely,

Joane Mueller
PIA Coordinator
Other MDE Administrations

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230
410-537-3000 • 1-800-633-6101 • http://www.mde.state.md.us

Martin O'Malley
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Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Secretary

February 14, 2012

Mr. Kevin DiMartino
Chesapeake Environmental Management, Inc.
260 Gateway Drive
Suite 21-C
Bel Air MD 21014

RE: Tracking Number: 2012-49977
Request Received January 24, 2012

MULTI CEM# 10-037.001

Dear Mr. DiMartino:

The Maryland Department of the Environment (MDE) received your recent request for information under the Public Information Act (PIA).

Files have been located in the following MDE Administration(s):

Administration, Contact, Phone Number

Air & Radiation Management Administration, Laramie Daniel, (410) 537-3220
Land Management Administration, Maria Stephens, (410) 537-3422

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When requesting information regarding this request, please cite the tracking number referenced above. If you have any questions, please call me at (410) 537-4120.

Sincerely,

Joane Mueller
PIA Coordinator
Other MDE Administrations

cc: Laramie Daniel, Air & Radiation Management Administration
Maria Stephens, Land Management Administration

CHESAPEAKE
• ENVIRONMENTAL MANAGEMENT, INC. •

Applying Practical Science to Improve Communities

February 8, 2012

Mrs. Joane Mueller
PIA Coordinator
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230

RE: Request for Information concerning the Purple Line Hazardous Waste Investigations, Montgomery and Prince George's Counties, MD [CEM Project No.: 10-037.001]

Dear Mrs. Mueller:

We are currently contracted by the Maryland Transit Administration (MTA) to review any available data regarding pollution/contamination incidents that may have occurred in the vicinity of the study area located in Montgomery and Price George's Counties in Maryland.

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- Underground Storage Tanks (USTs)
- RCRA Generators
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- CERCLA or Superfund haz-waste sites
- Hazardous or Toxic materials/waste spills
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Best Regards,

Kevin DiMartino

Kevin DiMartino
Chesapeake Environmental Management
Project Leader

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230
410-537-3000 • 1-800-633-6101 • http://www.mde.state.md.us

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Secretary

February 15, 2012

Mr. Kevin DiMartino
Chesapeake Environmental Management, Inc.
260 Gateway Drive
Suite 21-C
Bel Air MD 21014

RE: Tracking Number: 2012-50118
Request Received February 13, 2012

MULTI 10-137.001

Dear Mr. DiMartino:

The Maryland Department of the Environment (MDE) received your recent request for information under the Public Information Act (PIA).

Your request has been assigned the tracking number listed above. Please use this number in all communications referring to this request.Your request has been reviewed and distributed to all appropriate MDE programs. After all programs have completed the search, you will be notified by mail as to whether or not pertinent records exist. If files exist, the notification letter will contain instructions for reviewing the records. Only after you schedule an appointment to review files will the requested files be gathered in preparation for your review.

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Sincerely,

Joane Mueller
PIA Coordinator
Other MDE Administrations

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230
410-537-3000 • 1-800-633-6101 • http://www.mde.state.md.us

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Secretary

March 8, 2012

Mr. Kevin DiMartino
Chesapeake Environmental Management, Inc.
260 Gateway Drive
Suite 21-C
Bel Air MD 21014

RE: Tracking Number: 2012-50118
Request Received February 13, 2012

MULTI 10-037.001

Dear Mr. DiMartino:

The Maryland Department of the Environment (MDE) received your recent request for information under the Public Information Act (PIA).

Files have been located in the following MDE Administration(s):

Administration, Contact, Phone Number

Air & Radiation Management Administration, Colleen Williams, (410) 537-4127
Land Management Administration, Maria Stephens, (410) 537-3422

You may contact the personnel listed above to schedule an appointment for file review or to arrange for photocopies of all releasable materials. You will be invoiced for all applicable search, review, duplication and postage charges. It is requested that you make arrangements to review available files within 30 days of receipt of this letter. After 30 days your request will be closed and it will be necessary to file a new request.

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Sincerely,

Joane Mueller
PIA Coordinator
Other MDE Administrations

cc: Colleen Williams, Air & Radiation Management Administration
Maria Stephens, Land Management Administration

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Habitat Conservation Division
Chesapeake Bay Program Office
410 Severn Ave., Suite 107A
Annapolis, Maryland 21403

May 9, 2012

MEMORANDUM TO: John Newton
Maryland Transit Administration

FROM: John S. Nichols

SUBJECT: Purple Line

This pertains to impacts to National Marine Fisheries Service (NMFS) trust resources from the proposed Purple Line Rapid Transit Connection in Montgomery and Prince George's Counties. NMFS attended an interagency field review of the Purple Line corridor on May 9, 2012. NEPA coordination comments and recommendations made by NMFS during that review are provided below. Our final comments on this project will be made to the Corps of Engineers during their Section 404 regulatory review.

NMFS concerns are focused on the eastern portion of the corridor in Prince George's County; specifically, proposed impacts to Paint Branch, Brier Ditch, and the Northeast Branch of the Anacostia River. These waterways are documented or potential spawning ground for anadromous blueback herring, alewife, and hickory shad; and, nursery ground for catadromous American eel. Paint Branch, in particular, has substrate and water quality of high suitability for migratory fish.

Our chief concern pertains to the proposed rail line section along Paint Branch Parkway in College Park, adjacent to the University of Maryland campus (i.e., Impact 13, Jurisdictional Determination Materials Package, May 2012 [JDMP]). Based on discussions with your environmental consultant (Coastal Resources), we have learned that the proposed rail line will be situated along the north side of the parkway, paralleling a tributary to Paint Branch for a distance of approximately 600 feet, at a distance of less than 50 feet from the stream channel. The riparian buffer along this section of Paint Branch, comprised of wooded and grassed areas, is narrow, increasing the vulnerability of the stream to impacts from project construction, and run-off from new impervious surface. We offer the following recommendations regarding Impact 13 along Paint Branch.

1. The integrity of the Paint Branch riparian zone should not be compromised by the Paint Branch Parkway section of rail. If the rail line must be situated along the north side of Paint Branch Parkway, if is preferred that the parkway be realigned, slightly, to the south (i.e., toward University of Maryland campus, thereby providing space for the rail line along the north side of the parkway without creating new impervious surface, and without affecting the riparian zone of Paint Branch. If this is not feasible, the rail line should hug the north-side shoulder of Paint Branch Parkway, minimizing, to the maximum degree, impacts to the riparian zone.

2. Stormwater run-off from the proposed rail line should be adequately treated prior to discharge to the Paint Branch watershed. Direct discharge of run-off from the rail line

to the Paint Branch is unacceptable. Opportunities for retrofitting existing untreated stormwater discharges to Paint Branch should be investigated.

3. There should be no net loss of Paint Branch wooded riparian zone along the Impact 13 section of the corridor. Opportunities for expanding the wooded riparian zone should be investigated (e.g., by converting grassed areas to woodland; i.e., restricting mowing, and allowing volunteer wooded growth to develop).

The proposed crossing of the Northeast Branch of the Anacostia River (Impact 15, JDMP) will use an existing bridge structure to support the rail line. However, because stream flow diversion will be used during construction of the crossing, in-stream work (cofferdam installation and removal, pile driving, fill or rock placement) should be restricted in Northeast Branch during the anadromous fish spawning period; i.e., February 15 - June 15, of any year.

The proposed Glenridge Maintenance Facility (Impact 18, JDMP) will affect an unnamed tributary to Brier Ditch (WUS 48, JDMP). Based on discussions during the May 9th interagency field review, we understand that the Limit of Disturbance boundary for the Maintenance Facility has been relocated to avoid this tributary. However, we also recommend that a no-disturbance buffer be maintained along the east side of the tributary, which extends from the stream channel to the top of an embankment along the tributary.

Finally, impacts along the western portions of the rail corridor (i.e., in Montgomery County) will affect reaches of stream systems that lie upstream of natural fall line barriers to anadromous fish. Therefore, NMFS will not comment on issues pertaining to the Montgomery County section of the project corridor.

If you have any questions, please contact me at (410) 267-5675; or, John.Nichols@NOAA.GOV.

MARYLAND TRANSIT ADMINISTRATION
MARYLAND DEPARTMENT OF TRANSPORTATION
Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor
Beverley K. Swaim-Staley, Secretary • Ralign T. Wells, Administrator

September 22, 2011

Ms. Mary A. Colligan
Assistant Regional Administrator for Protected Resources
National Marine Fisheries Service
Northeast Region
55 Great Republic Drive
Gloucester, MA 01930-2276

Subject: Purple Line, Montgomery and Prince's Georges Counties, MD
Fisheries Information Request

Dear Ms. Colligan:
The Maryland Transit Administration is currently preparing a Final Environmental Impact Statement (FEIS) for the proposed Purple Line Transit Project located in Montgomery and Prince George's Counties, Maryland. The purpose of this letter is to request information and comments from the National Marine Fisheries Service regarding fisheries of interest within the project area. Any information you may have regarding the presence or habitat of fisheries of interest within the project area would be helpful.

The proposed transitway is a 16 mile corridor between Bethesda and New Carrollton, Maryland (See Vicinity Map). The Purple Line will connect Metrorails's Red Line (Bethesda and Silver Spring stations), Green Line (College Park station), and Orange Line (New Carrollton station). This project is intended to provide transit options to people in the corridor, to support economic development and transit oriented development, and to address the region's air quality issues.

We appreciate your review assistance. If you have any questions, please do not hesitate to contract me at jnewton@mta.maryland.gov or 410.767.3769.

Sincerely,

John Newton, Manager
Environmental Planning Division

cc: file

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
55 Great Republic Drive
Gloucester, MA 01930-2276

OCT - 5 2011

John Newton
Maryland Transit Administration
Maryland Department of Transportation
6 Saint Paul Street
Baltimore, Maryland 21202-1614

Re: Purple Line Transit Project

Dear Mr. Newton,

This is in response to your letter dated September 22, 2011, requesting information on the presence of species listed by NOAA's National Marine Fisheries Service (NMFS) in the vicinity of the proposed Purple Line Transit Project located in Montgomery and Prince George's Counties, Maryland.

No federally listed or proposed threatened or endangered species and/or designated critical habitat for listed species under the jurisdiction of NMFS are known to exist in the vicinity of your proposed project. Based on this information, NMFS does not intend to offer additional comments on this proposal and thus, no further coordination with NMFS Protected Resources Division is needed. Should project plans change or new information become available that changes the basis for this determination, further coordination should be pursued. If you have any questions regarding these comments, please contact Danielle Palmer at (978) 282-8468.

Sincerely,

for Mary A. Colligan
Assistant Regional Administrator
for Protected Resources

EC: Palmer
File Code: Sec 7 No Species Present 2011

May 01, 2012

James E. Brewer, CPSS/SC
Resource Soil Scientist
United States Department of Agriculture-National Resource Conservation Service
28577 Mary's Court, Suite 3
Easton, Maryland 21601

Re: Maryland Purple Line Light Rail

Dear Mr. Brewer:

Whitman, Requardt, and Associates, LLP, is writing on behalf of the Maryland Transit Administration as the general engineering consultant for the Maryland Purple Line Light Rail project. This letter is to follow up on our previous email and phone correspondence regarding the potential for farmland soil conversion as a result of the Maryland Purple Line. The Purple Line is a 16.3 mile light rail project that is intended to provide reliable and efficient transit service to passengers along the east-west corridor between Bethesda and New Carrollton, Maryland. As shown on the enclosed figure, the Purple Line would be constructed entirely within urbanized area, as designated by the most recent United States Census Bureau mapping (2010). Due to the developed nature of the proposed project corridor, any potential impacts to soils rated for farmland is not regulated under the stipulations of the Farmland Protection Policy Act (FPPA) 7 CFR 658.

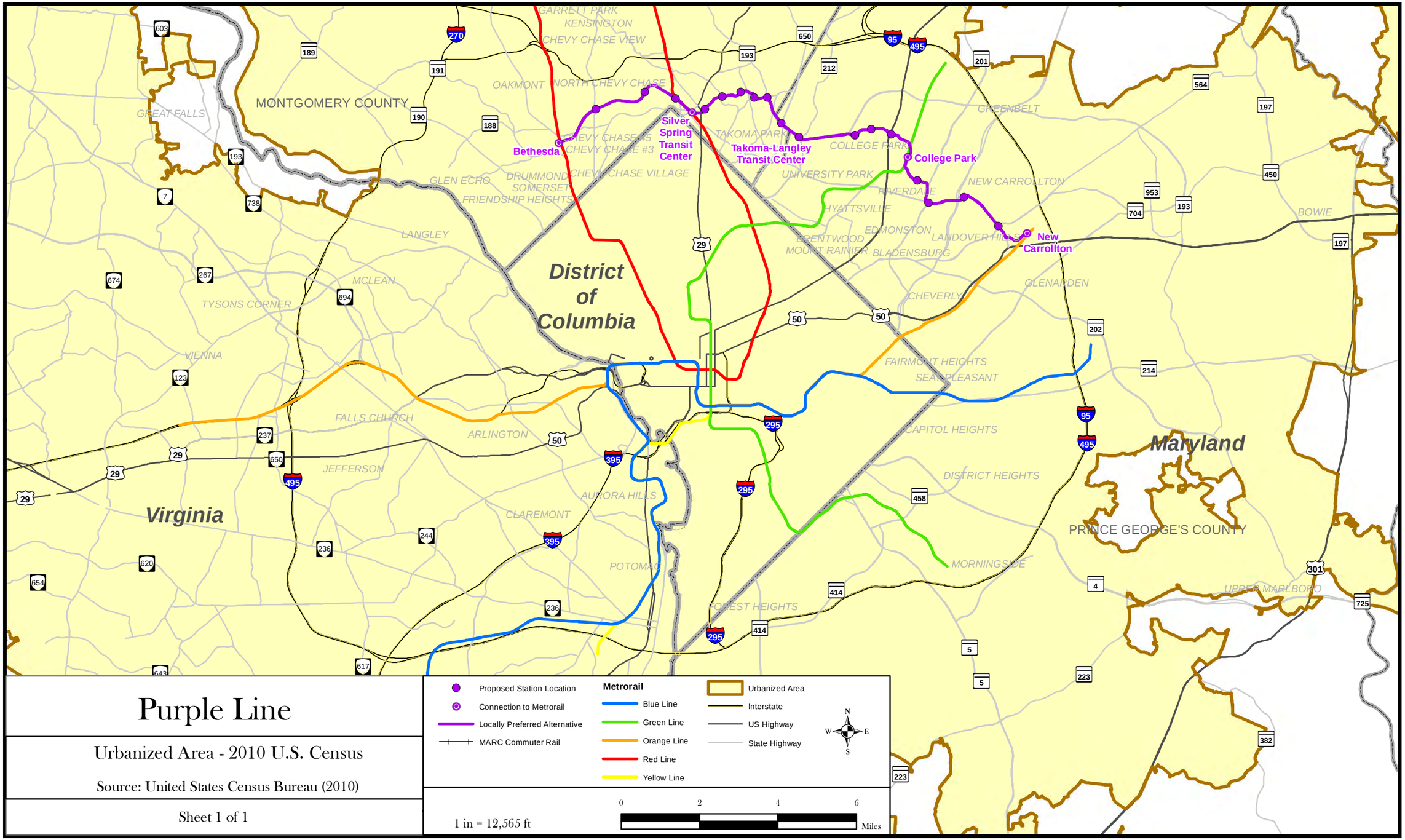
Please find the enclosed Form AD-1006 for the Maryland Purple Line Light Rail project, to be filed with the NRCS. Please provide your concurrence at your earliest convenience. Should you have any questions or need any additional information, please do not hesitate to contact me. Your assistance and guidance in this effort is greatly appreciated.

Sincerely,

Caleb T. Parks
Environmental Planner

Enclosures (2): Urbanized Area-2010 U.S. Census, Farmland Conversion Impact Rating Form AD-1006

Purple Line



Purple Line

Urbanized Area - 2010 U.S. Census

Source: United States Census Bureau (2010)

Sheet 1 of 1

- Proposed Station Location
- Connection to Metrorail
- Locally Preferred Alternative
- MARC Commuter Rail

Metrorail

- Blue Line
- Green Line
- Orange Line
- Red Line
- Yellow Line

- Urbanized Area
- Interstate
- US Highway
- State Highway

N W E S

1 in = 12,565 ft

0 2 4 6 Miles

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request
Name Of Project	Federal Agency Involved
Proposed Land Use	County And State
PART II *(To be completed by NRCS)*	Date Request Received By NRCS

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).* Yes ☐ No ☐	Acres Irrigated	Average Farm Size
Major Crop*(s)*	Farmable Land In Govt. Jurisdiction Acres: %	Amount Of Farmland As Defined in FPPA Acres: %
Name Of Land Evaluation System Used	Name Of Local Site Assessment System	Date Land Evaluation Returned By NRCS

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	0.0	0.0	0.0	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	0	0	0	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS	160	0	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	0	0	0	0
Total Site Assessment *(From Part VI above or a local site assessment)*	160	0	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	0	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

(See Instructions on reverse side)

This form was electronically produced by National Production Services Staff

Clear Form

Form AD-1006 (10-83)

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
28577 Mary's Court, Suite 3
Easton, Maryland 21601-7499

Phone: 410 822-1577 ext. 3

TO: Caleb T. Parks, Environmental Planner
WR&A, LLP
3701 Pender Dr. Suite 450
Fairfax, VA 22030

DATE: 5/16/2012

SUBJECT: Farmland Protection Policy Act
Environmental Assessment for
Maryland Purple Line Light Rail Project
Montgomery and Prince George's Counties, Maryland

Dear Mr. Parks:

The Natural Resources Conservation Service responsibility pertaining to the Farmland Protection Policy Act (FPPA) is to provide technical assistance for the Act by evaluating and completing Parts II, IV, and V of the Farmland Conversion Impact Rating Form, AD-1006. The purpose of the Act is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses.

We have determined that the Policy Act does not pertain to the proposed Maryland Purple Line Light Rail Project in Montgomery and Prince George's Counties. This is because the site for the proposed project has been "identified as urbanized area (UA) on the Census Bureau Map". Therefore the land at the sites does not meet the Act's definition of Farmland.

We are returning the Rating Form AD 1006 with "No" checked in Part II.

If you require any additional information, please feel free to contact me.

Sincerely,

James E. Brewer

James E. Brewer, CPSS/SC
NRCS Resource Soil Scientist
Easton, Maryland
410 822-1577 ext. 121
james.brewer@md.usda.gov

cc: John G. Warfield Jr., Derwood, MD
Joseph A. Haamid, Upper Marlboro, MD
Amanda Moore, Annapolis, MD

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 5/1/12
Name Of Project Maryland Purple Line Light Rail	Federal Agency Involved The Federal Transit Administration
Proposed Land Use Public Transit	County And State Montgomery and Prince George's County, MD
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 5/5/12

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply – do not complete additional parts of this form).* Yes ☐ No ☒		Acres Irrigated	Average Farm Size
Major Crop*(s)*	Farmable Land In Govt. Jurisdiction Acres: %	Amount Of Farmland As Defined in FPPA Acres: %	
Name Of Land Evaluation System Used	Name Of Local Site Assessment System	Date Land Evaluation Returned By NRCS 5/16/12	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	290.8			
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	290.8	0.0	0.0	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	0	0	0	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS	160	0	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	0	0	0	0
Total Site Assessment *(From Part VI above or a local site assessment)*	160	0	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	0	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

(See Instructions on reverse side) **Form AD-1006 (10-83)**

This form was electronically produced by National Production Services Staff

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Applying Practical Science to Improve Communities

August 25, 2011

Mr. Richard Van Holt
Freedom of Information Officer
U.S. EPA Region 3
1650 Arch Street (3CG10)
Philadelphia, PA 19103-2029

RE: Request for Information concerning the Purple Line Hazardous Waste Investigations, Montgomery and Prince George's Counties, MD [CEM Project No.: 10-037.001]

Dear Mr. Van Holt:

We are currently contracted by the Maryland Transit Administration (MTA) to review any available data regarding pollution/contamination incidents that may have occurred in the vicinity of the study area located in Montgomery and Price George's Counties in Maryland

Under the Freedom of Information Act, I would like to request any regulatory records published for this location or the surrounding area in order to search for any information you may have regarding air, land, or water pollution incidents, including:

- Chemical or Petroleum releases
- Underground Storage Tanks (USTs)
- RCRA Generators
- Asbestos or lead paint information
- CERCLA or Superfund haz-waste sites
- Hazardous or Toxic materials/waste spills
- Clean Air Act, RCRA, TSCA, or SARA violations

The properties in question are summarized in the attached table [Attachment 1].

Thank you very much for your time and consideration. I would appreciate your permission to review this information as soon as possible. If the cost associated with this file search would exceed $25, please contact me. If you have any additional questions, please do not hesitate to contact me at our offices at (410)-893-9016 at any time, or you can email me at kdimartino@cemscience.com.

Best Regards,

Kevin DiMartino

Kevin DiMartino
Chesapeake Environmental Management
Project Leader

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

September 22, 2011

Kevin DiMartino
Chesapeake Environmental Management, Inc.
260 Gateway Drive, Suite 21-C
Bel Air, MD 21014

Re: Purple Line Hazardous Waste Investigation
Freedom of Information Act Request: 03-FOI-01148-11

Dear Mr. DiMartino:

In response to the above-referenced Freedom of Information Act request dated August 25, 2011 and received on September 7, 2011, as further limited by your phone conversation with Shanna Halpern of my staff wherein you agreed that a Compliance Monitoring and Enforcement Data Summary Report (CME Report) would be sufficient for any sites that had large response the Land and Chemicals Division searched its records and made the following determinations:

The Resource Conservation and Recovery Act Program only found responsive information for the Walter Reed, Forest Glen site. That information, a CME Report, is enclosed.

The Pesticides/Asbestos and the Toxics Programs found no responsive information.

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, Records, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, NW (2822T), Washington, DC 20460, Fax: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the FOI listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

If you have any questions, please contact Ms. Halpern of my staff at (215) 814-3396.

Sincerely,

Evelyn Velazquez

Evelyn Velazquez
Environmental Protection Specialist
Land and Chemicals Division

cc: R. Van Holt (3PA00)
Enclosures

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

September 14, 2011

Mr. Kevin DiMartino
Project Leader
Chesapeake Environmental Management, Inc.
260 Gateway Drive, Suite 21-C
Bel Air, MD 21014

Re: Freedom of Information Act Request (FOIA) No. 03-FOI-01148-11

Dear Mr. DiMartino:

Thank you for your Freedom of Information Act request dated 08/25/11, which was received on 09/07/11.

The Air Protection Division of the Environmental Protection Agency (EPA) Region III has no records relating to your request pertaining to Purple Line Hazardous Waste Investigation.

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, N.W. (2822T), Washington, DC 20460 (U.S. Postal Service Only), FAX: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the FOI listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

Sincerely,

B. Graham

Benita Graham, FOIA Coordinator
Air Protection Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

September 27, 2011

SUBJECT: Purple Line Hazardous Waste Investigation

FROM: Helen DuTeau, Chief
Community Involvement and Outreach Branch (3HS52)

TO: Richard Van Holt, FOIA Officer (3PA00)

DATE REQUEST RECEIVED:	09/07/11
REQUEST ID NUMBER:	03-FOI-01148-11
(ESTIMATED) COST	
CERCLIS PRINTOUTS OF:	Zip Codes 21225, 20783
ERNS PRINTOUTS OF:	Zip Codes 21225, 20783, 20815

This information is provided in response to the above Freedom of Information Act request regarding the Purple Line Hazardous Waste Investigation, located in Montgomery County, MD and Price George's County, MD. CERCLIS does not have any information response to the above site location. However, enclosed is a printout of known, alleged, or potential hazardous waste sites listed in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) report for zip code areas 21225 and 20783 and Emergency Response Notification System (ERNS) report for zip code areas 21225, 20783, and 20815.

It should be noted that the CERCLIS and ERNS systems contain only those potential hazardous waste sites that have been brought to the attention of the Environmental Protection Agency prior to the last update. We cannot claim that it contains all the potential hazardous waste sites that exist. Therefore, although a certain property or area is not currently listed in CERCLIS and ERNS, this is NOT a guarantee that a hazardous waste problem does not exist.

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, Records, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, NW (2822T), Washington, DC 20460, Fax: (202) 566-2147, E-mail: hq.foia @epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. The appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the RIN listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

If you have any questions, contact Cherese Peters, Environmental Protection Assistant at 215-814-3154.

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Applying Practical Science to Improve Communities

September 19, 2011

Mr. Richard Van Holt
Freedom of Information Officer
U.S. EPA Region 3
1650 Arch Street (3CG10)
Philadelphia, PA 19103-2029

RE: Request for Information concerning the Purple Line Hazardous Waste Investigations, Montgomery and Prince George's Counties, MD [CEM Project No.: 10-037.001]

Dear Mr. Van Holt:

We are currently contracted by the Maryland Transit Administration (MTA) to review any available data regarding pollution/contamination incidents that may have occurred in the vicinity of the study area located in Montgomery and Price George's Counties in Maryland

Under the Freedom of Information Act, I would like to request any regulatory records published for this location or the surrounding area in order to search for any information you may have regarding air, land, or water pollution incidents, including:

- Chemical or Petroleum releases
- Underground Storage Tanks (USTs)
- RCRA Generators
- Asbestos or lead paint information
- CERCLA or Superfund haz-waste sites
- Hazardous or Toxic materials/waste spills
- Clean Air Act, RCRA, TSCA, or SARA violations

The properties in question are summarized in the attached table [Attachment 1].

Thank you very much for your time and consideration. I would appreciate your permission to review this information as soon as possible. If the cost associated with this file search would exceed $25, please contact me. If you have any additional questions, please do not hesitate to contact me at our offices at (410)-893-9016 at any time, or you can email me at kdimartino@cemscience.com.

Best Regards,

Kevin DiMartino

Kevin DiMartino
Chesapeake Environmental Management
Project Leader

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

OCT 14 2011

Kevin DiMartino
Chesapeake Environmental Management, Inc.
260 Gateway Drive, Suite 21C
Bel Air, MD 21014

RE: Purple Line Hazardous Waste Investigations in Montgomery
And Prince George's Counties
Freedom of Information Act Request: # 03-FOI-01224-11

Dear Mr. DiMartino:

In response to the above-referenced Freedom of Information Act (FOIA) request, dated September 19, 2011 and received September 28, 2011, please be advised that the Resource Conservation and Recovery Act (RCRA) Program, the Toxics Programs Branch, and the Pesticides/Asbestos Programs Branch, Land and Chemicals Division processed your request and found no information responsive. However, the RCRA Program is enclosing a Compliance Monitoring & Enforcement (CM&E) Report which may be helpful to you. The CM&E Report shows any violations or enforcement actions concerning facilities within the zip code of interest.

Our search for records is based primarily on the information you provide. In order to complete searches for locations in another zip code that are either adjacent to, or within one mile of the above-mentioned property, we will need additional zip codes or property addresses. Kindly submit the additional information in a FOIA request format, to Richard Van Holt, Freedom of Information Act Officer, at the above address.

The information requested on storage tanks, above ground or below ground, is not in the possession of the Land and Chemicals Division, but may be available from the State at the following address:

Maryland Dept. of the Environment
1800 Washington Blvd.
Underground Storage Tank Management
Baltimore, MD 21230-1719
Phone: (410) 537-3000

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, Records, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, NW (2822T), Washington, DC 20460, Fax: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, NW, Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 day calendar day limit. The appeal letter should include the FOI listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

If you have any questions, feel free to contact Shanna Halpern, a member of my staff, at (215) 814-3396.

Sincerely,

Evelyn Velazquez
Environmental Protection Specialist
Land and Chemicals Division

cc: Richard Van Holt (3PA00)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

October 20, 2011

SUBJECT: 3FOI-1224-11

TO: Richard VanHolt (3CG00)
Freedom of Information Officer

FROM: Helen DuTeau, Chief (3HS52) HW
Community Involvement and
Outreach Branch

We wish to advise you that after a search of our CERCLIS database the Purple Line Project, located in Montgomery and Prince George's Counties, Maryland, was not found. Therefore, the Superfund Program Office has no records responsive to this request.

You may appeal this response, to the National Freedom of Information Officer, U. S. EPA, Records, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, NW (2822T), Washington, DC 20460, Fax (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, NW Room 64161, Washington, DC 20004. The appeal must be made in writing, and it must be submitted no later than 30 calender days form the date of this letter. The Agency will not consider appeals received after the 30 calender day limit. The appeal letter should include the RIN listed above. For quickest possible handling, the appeal letter should be marked "Freedom of Information Act Appeal".

If you have any questions regarding this matter please contact Henrietta Woodard (Environmental Protection Assistant) at 215-814-3164.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

October 27, 2011

Mr. Kevin DiMartino
Project Leader
Chesapeake Environmental Management, Inc.
260 Gateway Drive, Suite 21-C
Bel Air,MD 21014

Re: Freedom of Information Act Request (FOIA) No. 03-FOI-01224-11

Dear Mr. DiMartino:

Thank you for your Freedom of Information Act request dated 09/19/11, which was received on 09/28/11.

The Air Protection Division of the Environmental Protection Agency (EPA) Region III has no records relating to your request pertaining to Purple Line Hazardous Waste Investigation.

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, N.W. (2822T), Washington, DC 20460 (U.S. Postal Service Only), FAX: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the FOI listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

Sincerely,

B. Graham

Benita Graham, FOIA Coordinator
Air Protection Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street

October 31, 2011

Kevin DiMartino
Chesappeake Environmental Management, Inc.
General Engineering Consultant Team
100 South Charles Street, Tower 1, 10th Floor
Baltimore, MD 21201

Dear Mr. DiMartino:

This is in response to your Freedom of Information Act request
Request Identification No. 03-FOI-01224-11
Purple Line Hazardous Waste Investigation

( ) Positive Determination (Material Enclosed) Cost ($0)

(X) Requested information is not known to exist in EPA's Water Protection Division's possession.

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, N.W. (2822T), Washington, DC 20460 (U.S. Postal Service Only), FAX: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the RIN listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal

Sincerely,

Josephine Watson

Josephine Watson
Water Protection Division

Richard Vanholt: FOIA Officer (3PA00)

Customer Service Hotline: 1-800-438-2474

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October 17, 2011

Mr. Richard Van Holt
Freedom of Information Officer
U.S. EPA Region 3
1650 Arch Street (3CG10)
Philadelphia, PA 19103-2029

RE: Request for Information concerning the Purple Line Hazardous Waste Investigations, Montgomery and Prince George's Counties, MD [CEM Project No.: 10-037.001]

Dear Mr. Van Holt:

We are currently contracted by the Maryland Transit Administration (MTA) to review any available data regarding pollution/contamination incidents that may have occurred in the vicinity of the study area located in Montgomery and Price George's Counties in Maryland

Under the Freedom of Information Act, I would like to request any regulatory records published for this location or the surrounding area in order to search for any information you may have regarding air, land, or water pollution incidents, including:

- Chemical or Petroleum releases
- Underground Storage Tanks (USTs)
- RCRA Generators
- Asbestos or lead paint information
- CERCLA or Superfund haz-waste sites
- Hazardous or Toxic materials/waste spills
- Clean Air Act, RCRA, TSCA, or SARA violations

The properties in question are summarized in the attached table [Attachment 1].

Thank you very much for your time and consideration. I would appreciate your permission to review this information as soon as possible. If the cost associated with this file search would exceed $25, please contact me. If you have any additional questions, please do not hesitate to contact me at our offices at (410)-893-9016 at any time, or you can email me at kdimartino@cemscience.com.

Best Regards,

Kevin DiMartino

Kevin DiMartino
Chesapeake Environmental Management
Project Leader

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

NOV 10 2011

Kevin DiMartino
Project Leader
Chesapeake Environmental Management, Inc.
260 Gateway Drive, Suite 21-C
Bel Air, MD 21014

RE: Purple Line Hazardous Waste Investigations [CEM Proj.# 10-037.001]
Freedom of Information Act Request: # 03-FOI-00099-12

Dear Mr. DiMartino:

In response to the above-referenced Freedom of Information Act (FOIA) request, dated October 17, 2011 and received November 01, 2011, please be advised that the Resource Conservation and Recovery Act (RCRA) Program, the Toxics Programs Branch, and the Pesticides/Asbestos Programs Branch, Land and Chemicals Division processed your request and found no information responsive.

The information requested on storage tanks, above ground or below ground, is not in the possession of the Land and Chemicals Division, but may be available from the State at the following address:

Maryland Dept. of the Environment
1800 Washington Blvd.
Underground Storage Tank Management
Baltimore, MD 21230-1719
Phone: (410) 537-3000

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, Records, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, NW (2822T), Washington, DC 20460, Fax: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, NW, Room 6416J, Washington, DC 20004.

Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 day calendar day limit. The appeal letter should include the FOI listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

If you have any questions, feel free to contact Shanna Halpern, a member of my staff, at (215) 814-3396.

Sincerely,

Evelyn Velazquez
Environmental Protection Specialist
Land and Chemicals Division

cc: Richard Van Holt (3PA00)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

November 21, 2011

Mr. Kevin DiMartino
Project Leader
Chesapeake Environmental Management, Inc.
260 Gateway Drive, Suite 21-C
Bel Air,MD 21014

Re: Freedom of Information Act Request (FOIA) No. 03-FOI-00099-12

Dear Mr. DiMartino:

Thank you for your Freedom of Information Act request dated 10/17/11, which was received on 11/01/11.

The Air Protection Division of the Environmental Protection Agency (EPA) Region III has no records relating to your request pertaining to Purple Line Hazardous Waste Investigations.

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, N.W. (2822T), Washington, DC 20460 (U.S. Postal Service Only), FAX: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the FOI listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

Sincerely,

B. Graham

Benita Graham, FOIA Coordinator
Air Protection Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street

December 01, 2011

Kevin DiMarinto
Chesapeake Environmental Management, Inc.
General Engineering Consultant team
100 South Charles Street, 1 10th Floor
Baltimore, MD 21201

Dear Mr. DiMarinto:

This is in response to your Freedom of Information Act request
Request Identification No. 03-FOI-00099-12
Purple Line Hazardous Waste Investigations

( ) Positive Determination (Material Enclosed) Cost ($0)

(X) Requested information is not known to exist in EPA's Water Protection Division's possession.

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, N.W. (2822T), Washington, DC 20460 (U.S. Postal Service Only), FAX: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the RIN listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal

Sincerely,

Josephine Watson
Water Protection Division

Richard Vanholt: FOIA Officer (3PA00)

Customer Service Hotline: 1-800-438-2474

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

December 2, 2011

SUBJECT: 3FOI-0099-12

TO: Richard VanHolt (3CG00)
Freedom of Information Officer

FROM: Helen DuTeau, Chief (3HS52) HW
Community Involvement and
Outreach Branch

We wish to advise you that after a search of our CERCLIS database the Purple Lane Hazardous Waste Investigation Project, located in Montgomery and Prince George's Counties, Maryland, was not found. Therefore, the Superfund Program Office has no records responsive to this request.

You may appeal this response, to the National Freedom of Information Officer, U. S. EPA, Records, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, NW (2822T), Washington, DC 20460, Fax (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, NW Room 64161, Washington, DC 20004. The appeal must be made in writing, and it must be submitted no later than 30 calender days form the date of this letter. The Agency will not consider appeals received after the 30 calender day limit. The appeal letter should include the RIN listed above. For quickest possible handling, the appeal letter should be marked "Freedom of Information Act Appeal".

If you have any questions regarding this matter please contact Henrietta Woodard (Environmental Protection Assistant) at 215-814-3164.

CHESAPEAKE
• ENVIRONMENTAL MANAGEMENT, INC. •

Applying Practical Science to Improve Communities

November 14, 2011

Mr. Richard Van Holt
Freedom of Information Officer
U.S. EPA Region 3
1650 Arch Street (3CG10)
Philadelphia, PA 19103-2029

RE: Request for Information concerning the Purple Line Hazardous Waste Investigations, Montgomery and Prince George's Counties, MD [CEM Project No.: 10-037.001]

Dear Mr. Van Holt:

We are currently contracted by the Maryland Transit Administration (MTA) to review any available data regarding pollution/contamination incidents that may have occurred in the vicinity of the study area located in Montgomery and Price George's Counties in Maryland

Under the Freedom of Information Act, I would like to request any regulatory records published for this location or the surrounding area in order to search for any information you may have regarding air, land, or water pollution incidents, including:

- Chemical or Petroleum releases
- Underground Storage Tanks (USTs)
- RCRA Generators
- Asbestos or lead paint information
- CERCLA or Superfund haz-waste sites
- Hazardous or Toxic materials/waste spills
- Clean Air Act, RCRA, TSCA, or SARA violations

The properties in question are summarized in the attached table [Attachment 1].

Thank you very much for your time and consideration. I would appreciate your permission to review this information as soon as possible. If the cost associated with this file search would exceed $25, please contact me. If you have any additional questions, please do not hesitate to contact me at our offices at (410)-893-9016 at any time, or you can email me at kdimartino@cemscience.com.

Best Regards,

Kevin DiMartino

Kevin DiMartino
Chesapeake Environmental Management
Project Leader

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

DEC 13 2011

Kevin DiMartino
Project Leader
Chesapeake Environmental Management, Inc.
260 Gateway Drive, Suite 21-C
Bel Air, MD 21014

RE: Purple Line Hazardous Waste Investigations, Montgomery and Prince George's Counties, MD
Freedom of Information Act Request: # 03-FOI-00164-12

Dear Mr. DiMartino:

In response to the above-referenced Freedom of Information Act (FOIA) request, dated November 14, 2011 and received November 28, 2011, please be advised that the Resource Conservation and Recovery Act (RCRA) Program, the Toxics Programs Branch, and the Pesticides/Asbestos Programs Branch, Land and Chemicals Division processed your request and found no information responsive. However, the RCRA Program is enclosing three Compliance Monitoring & Enforcement (CM&E) Reports which may be helpful to you. The CM&E Reports show any violations or enforcement actions concerning facilities within the zip codes of interest.

Our search for records is based primarily on the information you provide. In order to complete searches for locations in another zip code that are either adjacent to, or within one mile of the above-mentioned property, we will need additional zip codes or property addresses. Kindly submit the additional information in a FOIA request format, to Richard Van Holt, Freedom of Information Act Officer, at the above address.

The information requested on storage tanks, above ground or below ground, is not in the possession of the Land and Chemicals Division, but may be available from the State at the following address:

Maryland Dept. of the Environment
1800 Washington Blvd.
Underground Storage Tank Management
Baltimore, MD 21230-1719
Phone: (410) 537-3000

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, Records, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, NW (2822T), Washington, DC 20460, Fax: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, NW, Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 day calendar day limit. The appeal letter should include the FOI listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

If you have any questions, feel free to contact Shanna Halpern, a member of my staff, at (215) 814-3396.

Sincerely,

Evelyn Velazquez

Evelyn Velazquez
Environmental Protection Specialist
Land and Chemicals Division

cc: Richard Van Holt (3PA00)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

December 13, 2011

SUBJECT: Purple Line Hazardous Waste Investigations

FROM: Helen DuTeau, Chief
Community Involvement and Outreach Branch (3HS52)

TO: Richard Van Holt, FOIA Officer (3PA00)

DATE REQUEST RECEIVED: 11/28/11
REQUEST ID NUMBER: 03-FOI-00164-12
(ESTIMATED) COST
CERCLIS PRINTOUT OF: Montgomery & Prince George's Counties

This information is provided in response to the above Freedom of Information Act request regarding the Purple Line Hazardous Waste Investigations, located in Montgomery County, Maryland and Prince George's County, Maryland. CERCLIS does not have any information response to the above site location. However, enclosed is a printout of known, alleged, or potential hazardous waste sites listed in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) report for Montgomery County and Prince George's County.

It should be noted that the CERCLIS system contains only those potential hazardous waste sites that have been brought to the attention of the Environmental Protection Agency prior to the last update. We cannot claim that it contains all the potential hazardous waste sites that exist. Therefore, although a certain property or area is not currently listed in CERCLIS, this is NOT a guarantee that a hazardous waste problem does not exist.

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, Records, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, NW (2822T), Washington, DC 20460, Fax: (202) 566-2147, E-mail: hq.foia @epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. The appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the RIN listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

If you have any questions, contact Cherese Peters, Environmental Protection Assistant at 215-814-3154.

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

December 7, 2011

Mr. Kevin DiMartino
Project Leader
Chesapeake Environmental Management, Inc.
260 Gateway Drive, Suite 21-C
Bel Air,MD 21014

Re: Freedom of Information Act Request (FOIA) No. 03-FOI-00164-12

Dear Mr. DiMartino:

Thank you for your Freedom of Information Act request dated 11/14/11, which was received on 11/28/11.

The Air Protection Division of the Environmental Protection Agency (EPA) Region III has no records relating to your request pertaining to Purple Line Hazardous Waste Investigations.

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, N.W. (2822T), Washington, DC 20460 (U.S. Postal Service Only), FAX: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the FOI listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

Sincerely,

B. Graham

Benita Graham, FOIA Coordinator
Air Protection Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street

January 31, 2012

Kevin DiMartino
Chesapeake Environmental Management, Inc.
200 Gateway Drive
Suite 21C
Bel Air, MD 21014

Dear Mr. DiMartino:

This is in response to your Freedom of Information Act request
Request Identification No. 0 3-FOI-00164-12
Purple Line Hazardous Waste Investigations

( ) Positive Determination (Material Enclosed) Cost ($0)

(X) Requested information is not known to exist in EPA's Water Protection Division's possession.

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, N.W. (2822T), Washington, DC 20460 (U.S. Postal Service Only), FAX: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the RIN listed above. For quickest possble handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal

Sincerely,

Josephine Watson

Josephine Watson
Water Protection Division

Richard Vanholt: FOIA Officer (3PA00)

Customer Service Hotline: 1-800-438-2474

CHESAPEAKE
• ENVIRONMENTAL MANAGEMENT, INC. •

Applying Practical Science to Improve Communities

December 19, 2011

Mrs. Joane Mueller
PIA Coordinator
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230

RE: Request for Information concerning the Purple Line Hazardous Waste Investigations, Montgomery and Prince George's Counties, MD [CEM Project No.: 10-037.001]

Dear Mrs. Mueller:

We are currently contracted by the Maryland Transit Administration (MTA) to review any available data regarding pollution/contamination incidents that may have occurred in the vicinity of the study area located in Montgomery and Price George's Counties in Maryland.

Under the Public Information Act, I would like to request any regulatory records published for this location or the surrounding area in order to search for any information you may have regarding air, land, or water pollution incidents, including:

- Chemical or Petroleum releases
- Underground Storage Tanks (USTs)
- RCRA Generators
- Asbestos or lead paint information
- CERCLA or Superfund haz-waste sites
- Hazardous or Toxic materials/waste spills
- Clean Air Act, RCRA, TSCA, or SARA violations

The properties in question are summarized in the attached table [Attachment 1].

Thank you very much for your time and consideration. I would appreciate your permission to review this information as soon as possible. If the cost associated with this file search would exceed $25, please contact me. If you have any additional questions, please do not hesitate to contact me at our offices at (410)-893-9016 at any time, or you can email me at kdimartino@cemscience.com.

Best Regards,

Kevin DiMartino

Kevin DiMartino
Chesapeake Environmental Management
Project Leader

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

JAN 17 2012

Kevin DiMartino
Project Leader
Chesapeake Environmental Management, Inc.
260 Gateway Drive, Suite 21-C
Bel Air, MD 21014

RE: Purple Line Hazardous Waste Investigations, Baltimore, MD
Freedom of Information Act Request: # 03-FOI-00251-12

Dear Mr. DiMartino:

In response to the above-referenced Freedom of Information Act (FOIA) request, dated December 19, 2011 and received December 29, 2011, please be advised that the Resource Conservation and Recovery Act (RCRA) Program, the Toxics Programs Branch, and the Pesticides/Asbestos Programs Branch, Land and Chemicals Division processed your request and found no information responsive. However, the RCRA Program is enclosing eight Compliance Monitoring & Enforcement (CM&E) Reports which may be helpful to you. The CM&E Reports show any violations or enforcement actions concerning facilities within the zip codes of interest.

Our search for records is based primarily on the information you provide. In order to complete searches for locations in another zip code that are either adjacent to, or within one mile of the above-mentioned property, we will need additional zip codes or property addresses. Kindly submit the additional information in a FOIA request format, to Richard Van Holt, Freedom of Information Act Officer, at the above address.

The information requested on storage tanks, above ground or below ground, is not in the possession of the Land and Chemicals Division, but may be available from the State at the following address:

Maryland Dept. of the Environment
1800 Washington Blvd.
Underground Storage Tank Management
Baltimore, MD 21230-1719
Phone: (410) 537-3000

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, Records, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, NW (2822T), Washington, DC 20460, Fax: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, NW, Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 day calendar day limit. The appeal letter should include the FOI listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

If you have any questions, feel free to contact Shanna Halpern, a member of my staff, at (215) 814-3396.

Sincerely,

Evelyn Velazquez

Evelyn Velazquez
Environmental Protection Specialist
Land and Chemicals Division

cc: Richard Van Holt (3PA00)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

January 17, 2012

Mr. Kevin DiMartino
Project Leader
Chesapeake Environmental Management, Inc.
260 Gateway Drive, Suite 21-C
Bel Air,MD 21014

Re: Freedom of Information Act Request (FOIA) No. 03-FOI-00251-12

Dear Mr. DiMartino:

Thank you for your Freedom of Information Act request dated 12/19/11, which was received on 12/29/11.

The Air Protection Division of the Environmental Protection Agency (EPA) Region III has no records relating to your request pertaining to Purple Line Hazardous Waste Investigations.

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, N.W. (2822T), Washington, DC 20460 (U.S. Postal Service Only), FAX: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the FOI listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

Sincerely,

Benita Graham, FOIA Coordinator
Air Protection Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

January 17, 2012

SUBJECT: 3FOI-0251-12

TO: Richard VanHolt (3CG00)
Freedom of Information Officer

FROM: Helen DuTeau, Chief (3HS52)
Community Involvement and
Outreach Branch

We wish to advise you that after a search of our CERCLIS database the Purple Lane Properties, located in Region III, were not found. Therefore, the Superfund Program Office has no records responsive to this request.

You may appeal this response, to the National Freedom of Information Officer, U. S. EPA, Records, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, NW (2822T), Washington, DC 20460, Fax (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, NW Room 64161, Washington, DC 20004. The appeal must be made in writing, and it must be submitted no later than 30 calender days form the date of this letter. The Agency will not consider appeals received after the 30 calender day limit. The appeal letter should include the RIN listed above. For quickest possible handling, the appeal letter should be marked "Freedom of Information Act Appeal".

If you have any questions regarding this matter please contact Henrietta Woodard (Environmental Protection Assistant) at 215-814-3164.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street

January 31, 2012

Kevin DiMartino
Chesapeake Environmental Management, Inc.
200 Gateway Drive
Suite 21C
Bel Air, MD 21014

Dear Mr. DiMartino:

This is in response to your Freedom of Information Act request
Request Identification No. 0 3-FOI-00251-12
Purple Line Hazardous Waste Investigations

( ) Positive Determination (Material Enclosed) Cost ($0)

(X) Requested information is not known to exist in EPA's Water Protection Division's possession.

You may appeal this response to the National Freedom of Information Officer,U.S. EPA, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, N.W. (2822T), Washington, DC 20460 (U.S. Postal Service Only), FAX: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the RIN listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal

Sincerely,

Josephine Watson
Water Protection Division

Richard Vanholt: FOIA Officer (3PA00)

Customer Service Hotline: 1-800-438-2474

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Applying Practical Science to Improve Communities

January 17, 2012

Mr. Richard Van Holt
Freedom of Information Officer
U.S. EPA Region 3
1650 Arch Street (3CG10)
Philadelphia, PA 19103-2029

RE: Request for Information concerning the Purple Line Hazardous Waste Investigations, Montgomery and Prince George's Counties, MD [CEM Project No.: 10-037.001]

Dear Mr. Van Holt:

We are currently contracted by the Maryland Transit Administration (MTA) to review any available data regarding pollution/contamination incidents that may have occurred in the vicinity of the study area located in Montgomery and Price George's Counties in Maryland

Under the Freedom of Information Act, I would like to request any regulatory records published for this location or the surrounding area in order to search for any information you may have regarding air, land, or water pollution incidents, including:

- Chemical or Petroleum releases
- Underground Storage Tanks (USTs)
- RCRA Generators
- Asbestos or lead paint information
- CERCLA or Superfund haz-waste sites
- Hazardous or Toxic materials/waste spills
- Clean Air Act, RCRA, TSCA, or SARA violations

The properties in question are summarized in the attached table [Attachment 1].

Thank you very much for your time and consideration. I would appreciate your permission to review this information as soon as possible. If the cost associated with this file search would exceed $25, please contact me. If you have any additional questions, please do not hesitate to contact me at our offices at (410)-893-9016 at any time, or you can email me at kdimartino@cemscience.com.

Best Regards,

Kevin DiMartino

Kevin DiMartino
Chesapeake Environmental Management
Project Leader

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

February 2, 2012

Mr. Kevin DiMartino
Project Leader
Chesapeake Environmental Management, Inc.
260 Gateway Drive, Suite 21-C
Bel Air,MD 21014

Re: Freedom of Information Act Request (FOIA) No. 03-FOI-00332-12

Dear Mr. DiMartino:

Thank you for your Freedom of Information Act request dated 01/17/12, which was received on 01/26/12.

The Air Protection Division of the Environmental Protection Agency (EPA) Region III has no records relating to your request pertaining to Purple Line Hazardous Waste Investigations.

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, N.W. (2822T), Washington, DC 20460 (U.S. Postal Service Only), FAX: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the FOI listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

Sincerely,

B. Graham

Benita Graham, FOIA Coordinator
Air Protection Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

February 2, 2012

Kevin DiMartino
Chesapeake Environmental Management, Inc.
260 Gateway Drive, suite 21C
Bel Air, MD 21014

Re: Purple Line Hazardous Waste Investigations
Freedom of Information Act Request: 03-FOI-00332-12

Dear Mr. DiMartino:

In response to the above-referenced Freedom of Information Act request dated January 17, 2012 and received January 26, 2012, the Land and Chemicals Division searched its records and made the following determinations:

The Resource Conservation and Recovery Act Program found information responsive to your request. As agreed in earlier conversations between you and Shanna Halpern of my staff, we are sending you the Compliance Monitroing and Enforcement Data reports for the zip codes listed.

The Pesticides/Asbestos Programs Branch and the Toxics Programs found no information responsive to your request.

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, Records, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, NW (2822T), Washington, DC 20460, Fax: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the RIN listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

If you have any questions, feel free to contact Shanna Halpern, a member of my staff at (215) 814-3396.

Sincerely,

Evelyn Velazquez
Environmental Protection Specialist
Land and Chemicals Division

Enclosures

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

February 15, 2012

SUBJECT: 3FOI-0332-12

TO: Richard VanHolt (3CG00)
Freedom of Information Officer

FROM: Helen DuTeau, Chief (3HS52) HD
Community Involvement and
Outreach Branch

We wish to advise you that after a search of our CERCLIS database the Purple Lane investigation, located in Montgomery and Prince George's Counties, Maryland, was not found. Therefore, the Superfund Program Office has no records responsive to this request.

You may appeal this response, to the National Freedom of Information Officer, U. S. EPA, Records, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, NW (2822T), Washington, DC 20460, Fax (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, NW Room 64161, Washington, DC 20004. The appeal must be made in writing, and it must be submitted no later than 30 calender days form the date of this letter. The Agency will not consider appeals received after the 30 calender day limit. The appeal letter should include the RIN listed above. For quickest possible handling, the appeal letter should be marked "Freedom of Information Act Appeal".

If you have any questions regarding this matter please contact Henrietta Woodard (Environmental Protection Assistant) at 215-814-3164.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street

February 28, 2012

Kevin DiMartino
Chesapeake Environmental Management,Inc.
260 Gateway Drive
Suite 21-C
Bel Air,MD 21014

Dear Mr DiMartino:

This is in response to your Freedom of Information Act request
Request Identification No. 03-FOI-00332-12
Purple Line Hazardous Waste Investigations

( ) Positive Determination (Material Enclosed) Cost ($0)

(X) Requested information is not known to exist in EPA's Water Protection Division's possession.

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, N.W. (2822T), Washington, DC 20460 (U.S. Postal Service Only), FAX: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the RIN listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal

Sincerely,

Josephine Watson
Water Protection Division

Richard Vanholt: FOIA Officer (3PA00)

Customer Service Hotline: 1-800-438-2474

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February 8, 2012

Mr. Richard Van Holt
Freedom of Information Officer
U.S. EPA Region 3
1650 Arch Street (3CG10)
Philadelphia, PA 19103-2029

RE: Request for Information concerning the Purple Line Hazardous Waste Investigations, Montgomery and Prince George's Counties, MD [CEM Project No.: 10-037.001]

Dear Mr. Van Holt:

We are currently contracted by the Maryland Transit Administration (MTA) to review any available data regarding pollution/contamination incidents that may have occurred in the vicinity of the study area located in Montgomery and Price George's Counties in Maryland

Under the Freedom of Information Act, I would like to request any regulatory records published for this location or the surrounding area in order to search for any information you may have regarding air, land, or water pollution incidents, including:

- Chemical or Petroleum releases
- Underground Storage Tanks (USTs)
- RCRA Generators
- Asbestos or lead paint information
- CERCLA or Superfund haz-waste sites
- Hazardous or Toxic materials/waste spills
- Clean Air Act, RCRA, TSCA, or SARA violations

The properties in question are summarized in the attached table [Attachment 1].

Thank you very much for your time and consideration. I would appreciate your permission to review this information as soon as possible. If the cost associated with this file search would exceed $25, please contact me. If you have any additional questions, please do not hesitate to contact me at our offices at (410)-893-9016 at any time, or you can email me at kdimartino@cemscience.com.

Best Regards,

Kevin DiMartino

Kevin DiMartino
Chesapeake Environmental Management
Project Leader

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

February 15, 2012

SUBJECT: 3FOI-0393-12

TO: Richard VanHolt (3CG00)
Freedom of Information Officer

FROM: Helen DuTeau, Chief (3HS52)
Community Involvement and
Outreach Branch

We wish to advise you that after a search of our CERCLIS database the Purple Lane investigation, located in Montgomery and Prince George's Counties, Maryland, was not found. Therefore, the Superfund Program Office has no records responsive to this request.

You may appeal this response, to the National Freedom of Information Officer, U. S. EPA, Records, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, NW (2822T), Washington, DC 20460, Fax (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, NW Room 64161, Washington, DC 20004. The appeal must be made in writing, and it must be submitted no later than 30 calender days form the date of this letter. The Agency will not consider appeals received after the 30 calender day limit. The appeal letter should include the RIN listed above. For quickest possible handling, the appeal letter should be marked "Freedom of Information Act Appeal".

If you have any questions regarding this matter please contact Henrietta Woodard (Environmental Protection Assistant) at 215-814-3164.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

February 22, 2012

Mr. Kevin DiMartino
Project Leader
Chesapeake Environmental Management, Inc.
260 Gateway Drive, Suite 21-C
Bel Air,MD 21014

Re: Freedom of Information Act Request (FOIA) No. 03-FOI-00393-12

Dear Mr. DiMartino:

Thank you for your Freedom of Information Act request dated 02/08/12, which was received on 02/15/12.

The Air Protection Division of the Environmental Protection Agency (EPA) Region III has no records relating to your request pertaining to Purple Line Hazardous Waste Investigations.

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, N.W. (2822T), Washington, DC 20460 (U.S. Postal Service Only), FAX: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the FOI listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

Sincerely,

B. Graham

Benita Graham, FOIA Coordinator
Air Protection Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

February 24, 2012

Kevin DiMartino
Chesapeake Environmental Management
260 Gateway Drive, suite 21-C
Bel Air, MD 21014

Re: Purple Line Hazardous Waste Investigations
Freedom of Information Act Request: 03-FOI-00393-12

Dear Mr. DiMartino:

In response to the above-referenced Freedom of Information Act request dated February 8, 2012 and received February 15, 2012, the Land and Chemicals Division searched its records and:

The Resource Conservation and Recovery Act Program found no information responsive to your request. However as agreed in conversation with Shanna Halpern of my staff, we are sending you the Compliance Monitoring and Enforcement Data Reports for zip codes listed in your request.

The Toxics and Pesticides/Asbestos Programs Branch found no information responsive to your request.

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, Records, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, NW (2822T), Washington, DC 20460, Fax: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the RIN listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

If you have any questions, feel free to contact Shanna Halpern, a member of my staff at (215) 814-3396.

Sincerely,

Evelyn Velazquez

Evelyn Velazquez
Environmental Protection Specialist
Land and Chemicals Division

Enclosures
cc: Richard Van Holt (3PA00)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street

March 12, 2012

Kevin DiMartino, Project Leader
Chesapeake Environmental Management,Inc.
General Engineering Consultant Ream
100 South Charles Street,Tower 1, 10th Floor
Baltimore, MD 21201

Dear Mr DiMartino:

This is in response to your Freedom of Information Act request
Request Identification No. 03-FOI-00393-12
Purple Line Hazardous Waste Investigations

( ) Positive Determination (Material Enclosed) Cost ($0)

(X) Requested information is not known to exist in EPA's Water Protection Division's possession.

You may appeal this response to the National Freedom of Information Officer, U.S. EPA, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, N.W. (2822T), Washington, DC 20460 (U.S. Postal Service Only), FAX: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, youmust address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. TheAgency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the RIN listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal

Sincerely,

Josephine Watson
Water Protection Division

Richard Vanholt: FOIA Officer (3PA00)

Customer Service Hotline: 1-800-438-2474

United States Department of the Interior
U.S. Fish & Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401
410/573 4575

Online Certification Letter

Today's date: 9/30/11

Project: Purple Line Transit Project

Dear Applicant for online certification:

Thank you for choosing to use the U.S. Fish and Wildlife Service Chesapeake Bay Field Office online list request certification resource. This letter confirms that you have reviewed the conditions in which this online service can be used. On our website (www.fws.gov/chesapeakebay) are the USGS topographic map areas where **no** federally proposed or listed endangered or threatened species are known to occur in Maryland, Washington D.C. and Delaware.

You have indicated that your project is located on the following USGS topographic map
Washington East and Kensington
Based on this information and in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), we certify that except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project area. Therefore, no Biological Assessment or further section 7 consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For additional information on threatened or endangered species in Maryland, you should contact the Maryland Wildlife and Heritage Division at (410) 260-8540. For information in Delaware you should contact the Delaware Natural Heritage and Endangered Species Program, at (302) 653-2880. For information in the District of Columbia, you should contact the National Park Service at (202) 535-1739.

The U.S. Fish and Wildlife Service also works with other Federal agencies and states to minimize loss of wetlands, reduce impacts to fish and migratory birds, including bald eagles, and restore habitat for wildlife. Information on these conservation issues and how development projects can avoid affecting these resources can be found on our website (www.fws.gov/chesapeakebay).

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interest in these resources. If you have any questions or need further

assistance, please contact Chesapeake Bay Field Office Threatened and Endangered Species program at (410) 573-4531.

Sincerely,

Leopoldo Miranda
Field Supervisor

United States Department of the Interior
U.S. Fish & Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401
410/573 4575

Endangered Species List Review

Today's date	9/30/11
Name	Bridgette Garner
Company	Coastal Resources, Inc.
street address	25 Old Solomons Island Road
county	Anne Arundel
city, state, zip	Annapolis, MD, 21401
email	bridgetteg@coastal-resources.net

My project is *not* located on one of the quad maps on the Chesapeake Bay Field Office web site.

Please send the endangered species and critical habitats list review to me at either the address above, or email a response. If additional information is required, please call me.

Project Location:

Street name	
City, state, zip	Montgomery and Prince George's Counties, MD

Proposed Construction/ Refurbishment Activity:
(Example: The proposed project is to build 100 rental units to replace apartments that were razed. This is Phase I of a larger residential development.)

The Maryland Transit Administration is currently preparing a Final Environmental Impact Statement (EIS) for the proposed Purple Line project located in Montgomery and Prince George's Counties, Maryland (see attached map). The proposed transitway is a 16 mile corridor between Bethesda and New Carrollton, Maryland (See Vicinity Map). The Purple Line will connect Metrorails's Red Line (Bethesda and Silver Spring stations), Green Line (College Park station), and Orange Line (New Carrollton station).

Enclosed are photographs (optional), either a location map or current topographic map, or a site map of the subject property.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
http://www.fws.gov/chesapeakebay

October 27, 2011

Coastal Resources, Inc.
25 Old Solomons Island road
Annapolis, MD 21401

RE: MD Transit Purple Line Project Montgomery and Prince Georges Counties MD

Dear Bridgette Gamer:

This responds to your letter, received September 30, 2011, requesting information on the presence of species which are federally listed or proposed for listing as endangered or threatened within the vicinity of the above reference project area. We have reviewed the information you enclosed and are providing comments in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

Except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area. Therefore, no Biological Assessment or further section 7 Consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For information on the presence of other rare species, you should contact Lori Byrne of the Maryland Wildlife and Heritage Division at (410) 260-8573.

Effective August 8, 2007, under the authority of the Endangered Species Act of 1973, as amended, the U.S. Fish and Wildlife Service (Service) removed (delist) the bald eagle in the lower 48 States of the United States from the Federal List of Endangered and Threatened Wildlife. However, the bald eagle will still be protected by the Bald and Golden Eagle Protection Act, Lacey Act and the Migratory Bird Treaty Act. As a result, starting on August 8, 2007, if your project may cause "disturbance" to the bald eagle, please consult the "National Bald Eagle Management Guidelines" dated May 2007.

If any planned or ongoing activities cannot be conducted in compliance with the National Bald Eagle Management Guidelines (Eagle Management Guidelines), please contact the Chesapeake Bay Ecological Services Field Office at 410-573-4573 for technical assistance. The Eagle Management Guidelines can be found at: **http://www.fws.gov/migratorybirds/issues/BaldEagle/NationalBaldEagleManagementGuidelines.pdf**.

In the future, if your project can not avoid disturbance to the bald eagle by complying with the Eagle Management Guidelines, you will be able to apply for a permit that authorizes the take of bald and golden eagles under the Bald and Golden Eagle Protection Act, generally where the take to be authorized is associated with otherwise lawful activities. This proposed permit process will not be available until the Service issues a final rule for the issuance of these take permits under the Bald and Golden Eagle Protection Act.

An additional concern of the Service is wetlands protection. Federal and state partners of the Chesapeake Bay Program have adopted an interim goal of no overall net loss of the Basin's remaining wetlands, and the long term goal of increasing the quality and quantity of the Basin's wetlands resource base. Because of this policy and the functions and values wetlands perform, the Service recommends avoiding wetland impacts. All wetlands within the project area should be identified, and if construction in wetlands is proposed, the U.S. Army Corps of Engineers, Baltimore District, should be contacted for permit requirements. They can be reached at (410) 962-3670.

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interests in these resources. If you have any questions or need further assistance, please contact Devin Ray at (410) 573-4531.

Sincerely,

Leopoldo Miranda
Supervisor

Maryland Department of Planning
Maryland Historical Trust

Martin O'Malley
Governor

Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary

Matthew J. Power
Deputy Secretary

August 19, 2011

John Newton, Manager
Environmental Planning Division
Office of Planning
Maryland Transit Administration
6 St. Paul Street
Baltimore, MD 21202-1614

Re: Purple Line Corridor Transit Study
Historic Structures Investigations – Determination of Eligibility Forms
Montgomery and Prince George's Counties, Maryland

Dear Mr. Newton:

Thank you for your recent letter, received by the Maryland Historical Trust (Trust) on 2 August 2011, which provided us with Determination of Eligibility (DOE) Forms produced for the above-referenced undertaking. The Trust, Maryland's State Historic Preservation Office, reviewed the materials as part of our ongoing consultation for this undertaking, pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended. We offer the following comments and recommendations regarding the historic structures investigations and next steps in the Section 106 consultation process, as presented below and in the attachment to this letter.

Trust's Comments on the DOE Forms: Trust staff reviewed the Determination of Eligibility (DOE) Forms prepared by Parsons Brinkerhoff on behalf of the Maryland Transit Administration (MTA). MTA's submittal of 25 DOE forms represents the first phase of historic structure investigations for the current Purple Line planning study. The feedback presented below and in the attachment should be incorporated into the forthcoming DOEs for the remaining resources within the study area.

Overall, the excellent quality of the DOE forms indicates a great understanding of the region and its suburban property types by the consultants. The properties are thoroughly described, well researched and benefit from the application of existing historic contexts. MTA identified and evaluated all built resources and landscapes more than 40 years of age as of 2010. The 40-year age threshold is intended to encompass all elements of the built environment that will become 50 years old during the period of project planning and construction. Since the ultimate goal of this survey effort is to identify all historic properties, Criteria Consideration G does not need to be applied to properties less than 50 years old in order to establish DOE consensus between our agencies for project planning purposes. We believe that sufficient historical perspective exists to evaluate the National Register eligibility of these properties within the multiple historic contexts established for suburban Washington, D.C. Requiring that properties must be exceptionally important today is contrary to the objective of making eligibility decisions for all properties that will be at least 50 years old by the conclusion of project planning.

Our comments regarding the eligibility of historic properties for listing in the National Register of Historic Places are provided below.

The following property is **eligible** for listing in the National Register of Historic Places:

- Sligo Adventist School (M: 37-33); this property is eligible under National Register Criterion A since it represents the continuing influence of Adventists in the community and under National Register Criterion C as an exceptionally well-preserved example of mid-twentieth century Modern school design.

The following properties are **not eligible** for listing in the National Register of Historic Places:

- Auburn Manor Apartments (PG:69-43)
- Campus Gardens Apartments (PG:65-31)
- Chevy Chase Hills (M: 35-166)
- Clean Drinking Farm (M: 35-167)
- Clifton Park Village (M: 37-26)
- Flower Branch Apartments (M: 32-24)
- Forest Hills Apartments (M: 32-22)
- Forest Hills of Sligo Park (M: 32-23)
- Foxhall Apartments (M: 37-27)
- Goodacre-Pine Ridge Apartments (M: 37-28)
- Langley Gardens Apartments (PG:65-33)
- London Terrace (M: 32-25)
- ManorCare Health Services Facility (M: 35-169)
- New Carrollton Woods Apartments (PG:69-45)
- Paddington Square Apartments (M: 36-64)
- Park Wayne Apartments (M: 32-36)
- Parkview Gardens Apartments (PG:69-46)
- Pickwick Village (M: 32-18)
- Round Hill Apartments (M: 36-65)
- Sligo Terrace Apartments (M: 32-27)
- University City Apartments (PG:65-38)
- University Landing Apartments (PG:65-41)
- Wayne Manchester Towers (M: 32-29)
- Wildercroft Terrace Apartments (PG:69-56)

Section 106 – Next Steps: To facilitate our ongoing consultation and ensure the effective resolution of historic preservation review, we request that MTA provide the Trust with an overview of the current undertaking. MTA should describe the Locally Preferred Alternative, delineate the Area of Potential Effects (APE), identify potential consulting parties and complete the cultural resource studies. We recognize that the DOEs discussed above comprise the first of several planned DOE submittals. However, we cannot provide meaningful comments on the adequacy of the overall survey effort until MTA affords the Trust an opportunity to review and comment on the APE for this undertaking.

We look forward to ongoing consultation with MTA and other involved parties to successfully complete the Section106 review of the Purple Line as project planning progresses. If you have questions or require additional information, please contact Beth Cole (for archeology) at bcole@mdp.state.md.us / 410-514-7631 or Tim Tamburrino (for historic built environment) at ttamburrino@mdp.state.md.us / 410-514-7637.

Thank you for your ongoing cooperation on this undertaking.

Sincerely,

J. Rodney Little
Director/State Historic Preservation Officer

EJC/201103054
Attachment – MHT's Comments on the Purple Line DOE forms
cc: Henry Ward (PB)
Bob Pillote (Columbia Country Club)

Attachment 1 – MHT's Comments on Purple Line DOE Forms:

Photos

- Please prepare a new DVD/CD disk that addresses the following issues:
  - Disk must be labeled with MIHP number and date;
  - Disk must only contain image files and photo logs;
  - The some image files are incorrectly named. You must use a colon after the county code (PG) in the name instead of an underscore;

Mapping

- Please provide two copies of the quadrangle-based location map for each DOE form;
- Please use a thicker line to delineate the outline of property boundaries.
- Please provide an overall map that illustrates the project's APE and illustrates the location of all known historic properties within the APE.

Forms

- Please include a printed photo log with each DOE form.
- Park Wayne Apartments (M: 32-36) DOE form includes contextual information pertaining to Prince George's County instead of Montgomery County. Please correct the property history section and provide our office with a revised DOE for this resource.
- We greatly appreciate the photographs and descriptions of individual representative buildings within the single-family residential neighborhoods. However, the overall character of the neighborhood would be more successfully portrayed if the DOE forms included more streetscape photographs. For future submittals, please provide additional photographs illustrating the overall neighborhood streetscape.
- In the future, please organize the forms either geographically or by MIHP number.

FILE COPY

Maryland Department of Planning
Maryland Historical Trust

Martin O'Malley
Governor

Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary

Matthew J. Power
Deputy Secretary

March 13, 2012

Michele Destra
Director, Office of Planning and Program Management
U.S. Department of Transportation
Federal Transit Administration
1760 Market Street, Suite 500
Philadelphia, PA 19103-4124

Re: Purple Line Corridor Transit Study
Historic Structures Investigations – Determination of Eligibility Forms
Montgomery and Prince George's Counties, Maryland

Dear Ms. Destra:

Thank you for providing the Maryland Historical Trust (Trust) with Determination of Eligibility (DOE) Forms produced for the above-referenced undertaking. The Trust has reviewed the materials as part of our ongoing consultation for this undertaking, pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended. We offer the following comments and recommendations regarding the historic structures investigations.

Trust staff reviewed the Determination of Eligibility (DOE) Forms prepared by Parsons Brinkerhoff on behalf of the Maryland Transit Administration (MTA). MTA's submittal of 25 DOE forms represents the second phase of historic structure investigations for the current Purple Line planning study.

Once again, the excellent quality of the DOE forms indicates a great understanding of the region and its suburban property types by the project consultants. The properties are thoroughly described, well researched and benefit from the application of existing historic contexts. Our comments regarding the eligibility of historic properties for listing in the National Register of Historic Places are provided below.

The following properties are **eligible** for listing in the National Register of Historic Places:

- Preston Place (M: 35-170); this property is eligible under National Register Criteria A and C as an example of post-WWII suburban townhouse development in Maryland. Designed by the architectural firm Bagley & Soulé and developed by the Chevy Chase Land Company, Preston Place is an early and representative use of the townhouse form. The same developer attracted nationwide interest when the Preston Place design was later replicated in Manassas, Virginia at the community known as Georgetown South. Preston Place is one component of the mixed-use Chevy Chase Lake community that was developed over time by the Chevy Chase Land Company. Still owned and managed by the Land Company, the Colonial Revival style buildings and grounds retain a high degree of integrity.

- M-NCPPC Department of Parks and Recreation Headquarters (M: 68-101); this property was previously recommended eligible for listing in the National Register as part of the *Modern Movement in Maryland* survey conducted in 2005. The building is eligible under National Register Criterion C.

The following properties are **not eligible** for listing in the National Register of Historic Places:

- Summit Hills Apartments (M: 32-28)
- Yeabower Tract Apartments (M: 32-30)
- Hamlet Place (M: 35-168)
- ~~Preston Place (M: 35-170)~~ TJT 10/2/2012 REVISION
- Rock Creek Estates (M: 35-171)
- Topaz House (M: 35-172)
- Henderson's Addition to Woodside (M: 36-63)
- Rock Creek Terrace (M: 36-70)
- Long Branch View (M: 37-29)
- New Hampshire Estates (M: 37-30)
- New Hampshire Gardens (M: 37-31)
- Rolling Terrace (M: 37-32)
- Adelphi Manor (M: 65-30)
- Langley Park Apartments (M: 65-34)
- Riggs Hill Condominiums (M: 65-36)
- Tacoma-Langley Crossroads Commercial District (M: 65-37)
- University Gardens Apartments (M: 65-40)
- University Baptist Church (M: 66-70)
- University United Methodist Church (M: 66-71)
- University Hills Apartments (M: 68-108)
- Riverdale Baptist Church (M: 69-12)
- Ascension Lutheran Church (M: 69-42)
- Prince Georgetown Apartments (M: 69-47)
- St. Bernard of Clairvaux (M: 69-52)

It appears that a CD containing the DOE database and digital photographs was not included with this submittal. In order to allow our office to process these inventory forms, please send us the electronic data at your earliest convenience.

We look forward to ongoing consultation with MTA and other involved parties to successfully complete the Section106 review of the Purple Line as project planning progresses. If you have questions or require additional information, please contact Beth Cole (for archeology) at bcole@mdp.state.md.us / 410-514-7631 or Tim Tamburrino (for historic built environment) at ttamburrino@mdp.state.md.us / 410-514-7637.

Thank you for your ongoing cooperation on this undertaking.

Sincerely,

J. Rodney Little
Director/State Historic Preservation Officer

EJC/201200180
cc: John Newton (MTA)
John Martin (Gannett Flemming)
Bob Pillote (Columbia Country Club)

Maryland Department of Planning
Maryland Historical Trust

Martin O'Malley
Governor

Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary

Matthew J. Power
Deputy Secretary

April 3, 2012

Michele Destra
Director, Office of Planning and Program Management
U.S. Department of Transportation
Federal Transit Administration
1760 Market Street, Suite 500
Philadelphia, PA 19103-4124

Re: Purple Line Corridor Transit Study
Historic Structures Investigations – Determination of Eligibility Forms
Montgomery and Prince George's Counties, Maryland

Dear Ms. Destra:

Thank you for providing the Maryland Historical Trust (Trust) with Determination of Eligibility (DOE) Forms produced for the above-referenced undertaking. The Trust has reviewed the materials as part of our ongoing consultation for this undertaking, pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended. We offer the following comments and recommendations regarding the historic structures investigations.

Trust staff reviewed the Determination of Eligibility (DOE) Forms prepared by John Milner Associates, Inc. on behalf of the Maryland Transit Administration (MTA). MTA's submittal of 8 DOE forms and 5 Addendum forms represents the third phase of historic structure investigations for the current Purple Line planning study. Our comments regarding the eligibility of historic properties for listing in the National Register of Historic Places (National Register) are provided below.

The following properties are **not eligible** for listing in the National Register:

- Brooks Photographers (M: 35-14-6);
- Community Paint and Hardware (M: 35-14-7); We disagree with the consultant's recommendation that this building is eligible for listing in the National Register. It is the Trust's opinion that this moved building does not possess sufficient integrity to convey significance under any of the National Register Criteria;
- Columbia Forest/Meadowbrook Village Subdivision (M: 35-145);
- Old Masonic Temple (M: 36-17);
- Ertter's Market (M: 36-28);
- North Woodside Subdivision (M: 36-45);
- Lakeland (PG:66-000); We have determined that the Lakeland community is not eligible for listing in the National Register, however, the Lakeland Rosenwald High School (PG:66-14) may be individually eligible. If MTA determines that this property is within the APE for the undertaking, then we request that a separate DOE be prepared for this resource.

We have also accepted the revised National Register boundary of the Engineering and Research Corporation (PG:68-22) and the five Addendum forms prepared to update our MIHP records.

We look forward to ongoing consultation with MTA and other involved parties to successfully complete the Section106 review of the Purple Line as project planning progresses. If you have questions or require additional information, please contact Beth Cole (for archeology) at bcole@mdp.state.md.us / 410-514-7631 or Tim Tamburrino (for historic built environment) at ttamburrino@mdp.state.md.us / 410-514-7637.

Thank you for your ongoing cooperation on this undertaking.

Sincerely,

J. Rodney Little
Director/State Historic Preservation Officer

JRL/EJC/TJT 201200526/201200753
cc: John Newton (MTA)
John Martin (Gannett Fleming)
Bob Pillote (Columbia Country Club)

Maryland Department of Planning
Maryland Historical Trust

Martin O'Malley
Governor

Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary

Matthew J. Power
Deputy Secretary

May 1, 2012

Brigid Hynes-Cherin
Regional Administrator
U.S. Department of Transportation
Federal Transit Administration
1760 Market Street, Suite 500
Philadelphia, PA 19103-4124

Re: Purple Line Light Rail Study
Archeological Investigations – Phase IB Archeological Survey Report
Montgomery and Prince George's Counties, Maryland

Dear Ms. Hynes-Cherin:

Thank you for your recent letter, dated April 20, 2012 and received by the Maryland Historical Trust (Trust) on April 23, 2012 regarding the above-referenced undertaking. Your letter provided the Trust with a copy of the draft report on the Phase IB archeological survey conducted of the archeologically sensitive areas along the Locally Preferred Alternate (LPA). The Trust has reviewed the materials as part of our ongoing consultation for this undertaking, pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended. We offer the following comments and recommendations regarding the archeological investigations.

Trust staff reviewed examined the following draft report submitted with your letter: *Phase IB Archeological Survey of Light Rail Alignment Areas Associated with the Purple Line Project, Montgomery and Prince George's Counties, Maryland* (Proper et al. 2012). Dovetail Cultural Resource Group prepared the draft report on behalf of the Maryland Transit Administration (MTA). The report presents detailed documentation of the survey's goals, methods, results and recommendations. The draft is well written and contains useful illustrations to document the survey efforts. The draft meets the reporting requirements of the Trust's *Standards and Guidelines for Archeological Investigations in Maryland* (Shaffer and Cole 1994). Attachment 1 lists the Trust's specific comments on the draft itself. We ask FTA/MTA to have its consultant address these issues in the preparation of the final report and look forward to receiving two copies of the final document for our library.

The survey examined 17 areas identified as having archeological potential as part of the planning study - *Phase IA Archeological Assessment Survey of the Purple Line Locally Preferred Alternative from Bethesda, Montgomery County to New Carrollton, Prince George's County, Maryland* (March 3, 2011). The investigations identified five newly recorded archeological sites within the areas tested The report recommends four sites as ineligible for the National Register of Historic Places and one site that would require further Phase II evaluation, if slated for impact, to determine its National Register eligibility.

Sites 18PR1035 and 18PR1036 consist of a light scatter of historic artifacts dating from the mid-19th – mid 20th c. Shovel testing recovered 25 artifacts from 18PR1035 and 14 artifacts from 18PR1026 comprising architectural remains and domestic materials. The shovel test pits also revealed extensive disturbance of the

site areas from utility work, adjacent road and Metro tracks construction, and filling activities. The investigations did not identify any intact features or other cultural deposits at the sites. Site 18PR1035 likely represents the remains of former historic occupation in the area and/or roadside dumping. The property where site 18PR1036 is situated was originally part of the larger Riverdale plantation tract, so it is probable that the site relates to former historic uses of Riverdale. Based on the information presented in the report, the Trust concurs with FTA/MTA that 18PR1035 and 18PR1036 do not meet the criteria for eligibility in the National Register, given the sites' lack of potential to yield important information and loss of integrity.

The remaining three sites are situated in the median of the Baltimore Washington Parkway, owned by the National Park Service (NPS). 18PR1032 consists of a moderate scatter of historic artifacts dating from the late 19th – early 20th c. Thirty eight shovel tests recovered 339 artifacts including architectural, domestic, and personal items. The testing also identified concrete structural remains of a foundation or possible enclosure. The site area corresponds with the location of a structure illustrated on the 1901 quadrangle. We agree that further Phase II investigations of 18PR1032 would be warranted to conclusively determine the site's National Register eligibility, if the site is slated for impact,. We understand that MTA has identified alignment modifications that would successfully avoid disturbance to this site.

Site 18PR1033 consists of a low density scatter of historic artifacts from the late 18th – early 19th c. Testing recovered 8 artifacts, including architectural and domestic items, from 7 shovel test pits. Site 18PR1034 includes 25 artifacts recovered from a single shovel test. The materials consist primarily of glass fragments dating from the early – mid 20th c. and likely represent trash dumping from a former 20th c. dwelling in the vicinity. The investigations did not identify any intact features or other cultural deposits at the sites. The report concludes that 18PR1033 and 18PR1034 do not meet the criteria for eligibility in the National Register given the sites' lack of potential to yield important information and loss of integrity and the Trust concurs with this recommendation. Nevertheless, since the sites are located on federal NPS-owned land, FTA/MTA should afford NPS the opportunity to share their views regarding the resources identified on their property. Please provide the Trust with a copy of any NPS comments received. We may revise our recommendations, if needed, based on any relevant NPS remarks.

The Trust's prior letter (July 8, 2011) on the Phase IA Archeological Assessment study raised questions regarding several previously inventoried archeological sites located within or in close proximity to the LPA. Based on the information presented in the draft Phase I report, we agree that the following archeological sites are located outside the LPA's area of potential effect: 18MO356, 18PR200 and 18PR257. The current LPA includes portions of site 18PR258, the archeological component of the ERCO complex (PG: 68-22). As part of FTA/MTA's architectural identification efforts, the Trust recently reconfirmed that the ERCO complex is eligible for the National Register under Criteria A and C, and concurred with revised boundaries for the eligible property. The archeological component of the resource has lost its integrity, due to new construction and multiple disturbances within the larger site area. Thus, it is our opinion that the archeological site 18PR258 does not contribute to the significance of the architectural resource and is not eligible for the National Register. Further consideration of these four previously inventoried resources is not needed based on the project plans at this time.

Completion of the Phase I archeological survey essentially concludes FTA/MTA's efforts to identify archeological sites that may be affected by the project, given available project information at this time.

The project as currently planned appears unlikely to impact any National Register eligible archeological sites. Additional survey may be warranted due to alignment modifications and the inclusion of additional areas needed for ancillary actions (such as environmental site design and mitigation areas, etc.) We await further coordination regarding any modifications to the APE and additional cultural resources investigations needed for those new areas.

We look forward to ongoing consultation with FTA, MTA and other involved parties to successfully complete the Section106 review of the Purple Line as project planning progresses. If you have questions or require additional information, please contact Tim Tamburrino (for historic built environment) at ttamburrino@mdp.state.md.us / 410-514-7637 or me (for archeology) at bcole@mdp.state.md.us / 410-514-7631 or. Thank you for your ongoing cooperation on this undertaking.

Sincerely,

Beth Cole

Beth Cole
Administrator, Project Review and Compliance

EJC/201202249
Attachment 1 – Trust Comments on Draft Phase IB Report

cc: John Newton (MTA)
John Martin (Gannett Flemming)
David Hayes (NPS NCR)
Stephen Potter (NPS NCR)
Jennifer Stabler (M-NCPPC, Prince George's County)
Heather Bouslog (M-NCPPC, Montgomery County)
Charles Hall (MHT)
Becky Morehouse (MHT-JPPM)

ATTACHMENT 1
TRUST COMMENTS ON DRAFT REPORT
PHASE IB ARCHEOLOGICAL SURVEY OF PURPLE LINE LIGHT RAIL ALIGNMENT

1. Please correct all references to the Trust in the text and on the cover to read *Maryland Historical Trust.*

2. The clarity of Figure 3 needs improvement, so the exact locations of the LPA and archeologically sensitive survey areas are easily distinguishable on the USGS quadrangle. It may be advisable to produce the figure at a larger scale in sections on multiple pages to enhance its readability.

3. The Area B section should discuss archeological site 18MO356, which appears to be located immediately north and outside of the APE, and clarify its relation to the APE.

4. The Area H and I sections should add a discussion of the previously inventoried ERCO archeological site (18PR256) recorded in this locale. As described above, it is our opinion that the archeological site is not eligible for the National Register since it does not contribute to the significance of the associated ERCO complex (PG: 68-22).

5. The Area P section mentions a small portion of Area P to which access for survey was denied. In light of the overall fieldwork results, and specific potential of this area, the report should address whether or not survey of this area is still warranted. This recommendation, with appropriate justification, should be presented in the concluding chapter.

6. The Summary and Recommendations should include a figure that illustrates the avoidance of archeological site 18PR1032, if available, to document that Phase II evaluation of the site is not warranted at this time.

7. Appendix B should include the appropriate lot numbers assigned to the non-NPS owned artifacts that will be curated at the Trust's MAC Lab.

Maryland Department of Planning
Maryland Historical Trust

Martin O'Malley
Governor

Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary

Matthew J. Power
Deputy Secretary

June 12, 2012

Michele Destra
Director, Office of Planning and Program Management
U.S. Department of Transportation
Federal Transit Administration
1760 Market Street, Suite 500
Philadelphia, PA 19103-4124

Re: Purple Line Corridor Transit Study
Historic Structures Investigations – Determination of Eligibility Forms
Montgomery and Prince George's Counties, Maryland

Dear Ms. Destra:

Thank you for providing the Maryland Historical Trust (Trust) with Determination of Eligibility (DOE) Forms produced for the above-referenced undertaking. The Trust has reviewed the materials as part of our ongoing consultation for this undertaking, pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended. We offer the following comments and recommendations regarding the historic structures investigations.

Trust staff reviewed the Determination of Eligibility (DOE) Forms prepared by Parsons Brinkerhoff on behalf of the Maryland Transit Administration (MTA). MTA's submittal of 23 DOE forms represents the fourth phase of historic structure investigations for the current Purple Line planning study. Our comments regarding the eligibility of historic properties for listing in the National Register of Historic Places (National Register) are provided below.

The following property is **eligible** for listing in the National Register:
- Martins Woods (PG:72-68), eligible under Criterion C.

The following properties are **not eligible** for listing in the National Register:
- The Barrington Apartments (M: 36-62);
- Sixteenth Street Village (M: 36-66);
- Rosemary Knolls (M: 36-67);
- Rosemary Hills Elementary School (M: 36-68);
- Rosemary Hills (M: 36-69);
- Chatham (PG:65-32);
- Lewisdale (PG:65-35);
- University Gardens (PG:65-39);
- Columbia Apartment (PG:66-26);
- Green Manor (PG:68-105);
- Gretta Addition to Riverdale (PG:68-106);
- University Estates (PG:68-107);
- Ardwick Historic Community (PG:69-23);
- Eastpines (PG:69-44);
- Riverdale Heights (PG:69-48);

- Riverdale Hills (PG:69-49);
- Riverdale Plaza (PG:69-50);
- Riverdale Woods (PG:69-51);
- West Lanham Estates (PG:69-53);
- West Lanham Hills (PG:69-54);
- Wildercroft Elementary School (PG:69-55);
- Lanham Woods (PG:72-67).

We look forward to ongoing consultation with MTA and other involved parties to successfully complete the Section106 review of the Purple Line as project planning progresses. If you have questions or require additional information, please contact Beth Cole (for archeology) at bcole@mdp.state.md.us / 410-514-7631 or Tim Tamburrino (for historic built environment) at ttamburrino@mdp.state.md.us / 410-514-7637.

Thank you for your ongoing cooperation on this undertaking.

Sincerely,

J. Rodney Little
Director/State Historic Preservation Officer

JRL/EJC/TJT 201201569
cc: John Newton (MTA)
John Martin (Gannett Flemming)
Stephanie Foell (Parsons Brinkerhoff)
Bob Pillote (Columbia Country Club)

Maryland Department of Planning
Maryland Historical Trust

Martin O'Malley
Governor

Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary

Matthew J. Power
Deputy Secretary

September 13, 2012

Michele Destra
Director, Office of Planning and Program Management
U.S. Department of Transportation
Federal Transit Administration
1760 Market Street, Suite 500
Philadelphia, PA 19103-4124

Re: Purple Line Corridor Transit Study
Historic Structures Investigations – Determination of Eligibility Forms ("Batch 5")
Montgomery and Prince George's Counties, Maryland

Dear Ms. Destra:

Thank you for providing the Maryland Historical Trust (Trust) with Determination of Eligibility (DOE) Forms produced for the above-referenced undertaking. The Trust has reviewed the materials as part of our ongoing consultation for this undertaking, pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended. We offer the following comments and recommendations regarding the historic structures investigations.

Trust staff reviewed the Determination of Eligibility (DOE) Forms prepared by John Milner Associates, Inc. on behalf of the Maryland Transit Administration (MTA). MTA's submittal of 10 DOE forms, 145 Short Form DOEs and 3 MIHP Addenda represents the fifth phase of historic structure investigations for the current Purple Line planning study. Our comments regarding the eligibility of historic properties for listing in the National Register of Historic Places (National Register) are provided below.

The following properties are **eligible** for listing in the National Register:
- Madonna of the Trails Statue (M: 35-14-02);
- First Baptist Church of Silver Spring (M: 36-61);
- Rossborough Inn (PG:66-2);
- College Lawn Station (PG:66-3);
- College Park Volunteer Fire Department Building (PG:66-33), contributes to the Calvert Hills Historic District (PG:66-37);
- dwelling, 4808 Erskine Road (PG:66-37-26), contributes to the Calvert Hills Historic District (PG:66-37);
- dwelling, 4811 Guilford Road (PG:66-37-37), contributes to the Calvert Hills Historic District (PG:66-37); and
- The Forbes House/The Lustron House (PG:66-37-41), contributes to the Calvert Hills Historic District (PG:66-37).

The following properties are **not eligible** for listing in the National Register:
- Kropps Addition (PG:66-73);
- Wormley House (PG:69-17); and
- We concur that all 145 resources documented with the "Short Form for Ineligible Properties" are not eligible for listing in the National Register.

100 Community Place Crownsville, Maryland 21032-2023
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Internet: www.marylandhistoricaltrust.net

We look forward to ongoing consultation with MTA and other involved parties to successfully complete the Section106 review of the Purple Line as project planning progresses. If you have questions or require additional information, please contact Beth Cole (for archeology) at bcole@mdp.state.md.us / 410-514-7631 or Tim Tamburrino (for historic built environment) at ttamburrino@mdp.state.md.us / 410-514-7637.

Thank you for your ongoing cooperation on this undertaking.

Sincerely,

J. Rodney Little
Director/State Historic Preservation Officer

JRL/EJC/TJT 201202733
cc: John Newton (MTA)
John Martin (Gannett Flemming)
Bob Pillote (Columbia Country Club)

Maryland Department of Planning
Maryland Historical Trust

Martin O'Malley
Governor

Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary

Matthew J. Power
Deputy Secretary

October 23, 2012

Brigid Hynes-Cherin
Regional Administrator
U.S. Department of Transportation
Federal Transit Administration
1760 Market Street, Suite 500
Philadelphia, PA 19103-4124

Re: Purple Line Corridor Transit Study
Historic Structures Investigations – Determination of Eligibility Forms ("Batch 6")
Montgomery and Prince George's Counties, Maryland

Dear Ms. Hynes-Cherin:

Thank you for providing the Maryland Historical Trust (Trust) with Determination of Eligibility (DOE) Forms produced for the above-referenced undertaking. The Trust has reviewed the materials as part of our ongoing consultation for this undertaking, pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended. We offer the following comments and recommendations regarding the historic structures investigations.

Trust staff reviewed the Determination of Eligibility (DOE) Forms prepared by Dovetail Cultural Resource Group, Inc. on behalf of the Maryland Transit Administration (MTA). MTA's submittal of 20 DOE forms, represents the sixth phase of historic structure investigations for the current Purple Line planning study. Our comments regarding the eligibility of historic properties for listing in the National Register of Historic Places (National Register) are provided below.

The following property is **eligible** for listing in the National Register:

- Bethesda-Chevy Chase High School (M: 35-14-14): Only the 1935 school and 1952 administration building are eligible for listing in the National Register. The later additions do not contribute to the significance of the resource.

The following properties are **not eligible** for listing in the National Register:

- Chevy Chase Section 4-A (M: 35-174);
- Chevy Chase Section 4-D (Edgevale) (M: 35-175);
- Rock Creek Knolls (M: 35-176);
- Chevy Chase Lake Commercial Center (M: 35-177);
- Chevy Chase Lake East Commercial Center (M: 35-178);
- St. Michael's Catholic Church (M: 36-72);
- Pilgrim Church Tract (M: 36-73);
- Cissel-Lee Building (M: 36-74);
- Highland View of Sligo Park, Section 2 and 4 (M: 36-77);
- Leighton's Addition to Woodside (M: 36-78);
- Old Orchard Village (M: 36-79);

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Internet: www.marylandhistoricaltrust.net

- SECO Theater (M: 36-80);
- Silver Spring National Bank (M: 36-81);
- Robert H. McNeil's Addition to Silver Spring (M: 36-82);
- Section 5 of Sligo Park Hills (M: 36-83);
- Sligo Village (M: 36-84); and
- Eugene A. Smith's Additions to Silver Spring (M: 36-85).

The Trust is not providing comments on the documentation submitted for the following properties:
- House, 601 Woodside Parkway; and
- House, 603 Woodside Parkway.

The two resources noted above are located within the neighborhood known as Eugene A. Smith's Additions to Silver Spring, which was documented as part of this study and determined not eligible for listing in the National Register. The study also recommended the two individual properties listed above as not eligible for the National Register. Therefore, we find no compelling reason for the individual survey of these properties and believe that our comments on their eligibility would be redundant. Please note that we are not accessioning the survey documentation and we are removing the inventory numbers assigned to these two resources since they are already included within the neighborhood known as Eugene A. Smith's Additions to Silver Spring (M: 36-85).

We look forward to ongoing consultation with FTA, MTA and the other involved parties to successfully complete the Section106 review of the Purple Line as project planning progresses. If you have questions or require additional information, please contact Beth Cole (for archeology) at bcole@mdp.state.md.us / 410-514-7631 or Tim Tamburrino (for historic built environment) at ttamburrino@mdp.state.md.us / 410-514-7637.

Thank you for your ongoing cooperation on this undertaking.

Sincerely,

J. Rodney Little
Director/State Historic Preservation Officer

JRL/EJC/TJT 201203131
cc: John Newton (MTA)
John Martin (Gannett Flemming)
Bob Pillote (Columbia Country Club)

MDP
Maryland Department of Planning
Maryland Historical Trust

Martin O'Malley
Governor

Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary

Matthew J. Power
Deputy Secretary

November 6, 2012

Brigid Hynes-Cherin
Regional Administrator
U.S. Department of Transportation
Federal Transit Administration
1760 Market Street, Suite 500
Philadelphia, PA 19103-4124

Re: Purple Line Corridor Transit Study
Historic Structures Investigations – Determination of Eligibility Forms ("Batches 7 and 8")
Montgomery and Prince George's Counties, Maryland

Dear Ms. Hynes-Cherin:

Thank you for providing the Maryland Historical Trust (Trust) with Determination of Eligibility (DOE) Forms produced for the above-referenced undertaking. The Trust has reviewed the materials as part of our ongoing consultation for this undertaking, pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended. We offer the following comments and recommendations regarding the historic structures investigations.

Trust staff reviewed the Determination of Eligibility (DOE) Forms prepared by Dovetail Cultural Resource Group, Inc. and John Milner Associates, Inc. on behalf of the Maryland Transit Administration (MTA). MTA's submittal of five DOE forms represents the final seventh and eighth phases of historic structure investigations for the current Purple Line planning study. Our comments regarding the eligibility of historic properties for listing in the National Register of Historic Places (National Register) are provided below.

- **Columbia Country Club** (M: 35-140): The Columbia Country Club was determined eligible for listing in the National Register in 2002. It is the Trust's opinion that the Columbia Country Club remains eligible for listing in the National Register under Criteria A and C. We also concur with the period of significance assigned to the property and we agree with the classification of contributing and non-contributing elements within the resource's historic boundary.

- **Silver Spring Park** (MIHP No. M: 36-86): We concur that this neighborhood is not eligible for listing in the National Register.

- **Rock Creek Park Montgomery County Survey Area** (M: 36-87): The Rock Creek Park Montgomery County Survey Area is eligible for listing in the National Register under Criteria A within the context of 20th century suburbanization as an early effort to conserve the natural environment from encroaching development.

- **University of Maryland, College Park** (PG:66-35): The Trust concurs that the University of Maryland, College Park is eligible for listing in the National Register under Criteria A and C. We

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also agree that the period of significance for the district should encompass the structures and landscape associated with the post-WWII expansion of the university. We request a few minor revisions to the DOE form to ensure that the documentation is a useful planning tool for the Purple Line project and future undertakings. We understand that it is beyond the scope of this current undertaking to identify contributing and non-contributing buildings outside of the project's APE. However, please ensure that all buildings within the APE are represented on the list of contributing/non-contributing buildings. For example, the list appears to omit Building 054, which is within the historic boundary and would contribute to the significance of the district. We request that the project team revisit the list of contributing buildings to make certain that no buildings or features are overlooked. Please also provide a more detailed map that includes building numbers in addition to the resource and study area boundaries. Finally, we believe that the McKeldin Mall is a primary character-defining element of the historic campus. Although functions, materials, vegetation and pathways have evolved over time within and around the mall, the open space has served as a focal point of the school and contributes to the significance of the historic district.

- **Baltimore-Washington Parkway / Riverdale Road Bridges** (PG:69-26): The Trust agrees that the Riverdale Road bridges constructed in 1997 are not eligible for the National Register and do not contribute to the significance of the National Register-listed Baltimore-Washington Parkway, although they were constructed in a manner that is sympathetic to the design and character of the parkway.

We look forward to continuing consultation with FTA, MTA and the other involved parties to successfully complete the Section106 review of the Purple Line as project planning progresses. If you have questions or require additional information, please contact Beth Cole (for archeology) at bcole@mdp.state.md.us / 410-514-7631 or Tim Tamburrino (for historic built environment) at ttamburrino@mdp.state.md.us / 410-514-7637.

Thank you for your ongoing cooperation on this undertaking.

Sincerely,

J. Rodney Little
Director/State Historic Preservation Officer

JRL/EJC/TJT 201203829, 201204102 and 201204220
cc: John Newton (MTA)
John Martin (Gannett Flemming)
Bob Pillote (Columbia Country Club)
David Hayes (NPS National Capital Region)
Brenda D. Testa (University of Maryland Department of Facilities Planning)

20110428I

RECEIVED
OCT 31 2011

U.S. Department
of Transportation
**Federal Transit
Administration**

REGION III
Delaware, District of
Columbia, Maryland,
Pennsylvania, Virginia,
West Virginia

1760 Market Street
Suite 500
Philadelphia, PA 19103-4124
215-656-7100
215-656-7260 (fax)

F
FTA

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OCT 27 2011

J. Rodney Little, State Historic Preservation Officer
Director, Maryland Historical Trust
Maryland Department of Planning
100 Community Place
Crownsville, Maryland 21032-2023

RECEIVED
NOV 21 2011

RE: Purple Line Section 106 Initiation

Dear Mr. Little:

The Federal Transit Administration (FTA) in cooperation with the Maryland Transit Administration (MTA) is preparing an Environmental Impact Statement (EIS) for the Purple Line project (formerly referred to as the Bi-County Transitway). The Purple Line project seeks to provide efficient, reliable, and high capacity transit for east-west travel between Montgomery and Prince Georges Counties in Maryland, herein referenced as "the corridor." The Purple Line would serve transit patrons whose journey is solely within the corridor, as well as those who want to access the existing radial Metrorail system as the Purple Line links with the Red, Green and Orange lines of the WMATA Metrorail system. The Purple Line would also provide a direct link to the Brunswick, Camden, and Penn Lines of the Maryland MARC commuter rail system and to Amtrak's Northeast Corridor service at New Carrollton.

Following consultation with your agency during the preparation of the Purple Line Draft EIS, the Maryland Historic Trust (MHT) deferred in-depth consultation until a Locally Preferred Alternative (LPA) was selected. The Governor has now selected an LPA and development of a Final EIS is underway. As a Federal undertaking, the project is subject to Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated implementing regulations, 36 CFR Part 800. This letter serves as the official notification from FTA of the initiation of the Section 106 process.

In response to MHT's letter of August 19, 2011 to MTA, several items are provided for your use and action as part of Section 106 consultation:

- Description of the LPA and accompanying graphic (Attachment and Figure 1)
- Area of Potential Effects boundary map and request for MHT concurrence
- List of potential Consulting Parties
- Key milestone project schedule

2PE TJT/EJC 11/17/2011

Description of the Locally Preferred Alternative

The current project studies are focused primarily on the LPA announced by Governor Martin O'Malley on August 4, 2009. The LPA is a 16.3-mile east-west light rail line that would extend from Bethesda to the New Carrollton Metro Station (see attached Figure 1). The LPA would be largely surface-running with one short tunnel section, one aerial section, and several underpasses and overpasses of busy roadways. The Purple Line would operate mainly in dedicated or exclusive lanes, allowing for fast, reliable transit operations. A complete description and map accompany this letter. The Purple Line includes 21 proposed stations:

- Bethesda
- Connecticut Avenue
- Lyttonsville
- Woodside / 16th Street
- Silver Spring Transit Center
- Silver Spring Library (formerly Fenton Street)
- Dale Drive (under study)
- Manchester Place
- Long Branch (formerly Arliss Street)
- Piney Branch Rd /University Blvd (formerly Gilbert Street)
- Takoma-Langley Transit Center
- Riggs Road
- West Campus/Adelphi Road
- Campus Center
- East Campus
- College Park Metro
- River Road
- Riverdale Park
- Riverdale Road/Beacon Heights
- Annapolis Road/Glenridge
- New Carrollton.

Area of Potential Effects Boundary and Concurrence Request

Attached is aerial mapping that illustrates the 500-foot architectural APE boundary along each side of the proposed LPA alignment for identification, investigation, and preliminary recommendations for cultural resources. Within the architectural APE there is an area of soil disturbance where there is potential for archeological impact (labeled the archaeological APE). During the early planning phase of the project the area of soil disturbance was defined as 250 feet from the proposed alignment. As the project moves forward and more detailed engineering is completed, this area will be more specifically delineated as the anticipated limits of disturbance. These boundaries were determined by considering direct and indirect impacts that may occur as a result of the project. Considerations included construction right-of-way, stormwater management facilities, traction power substations, maintenance of traffic, staging areas, storage yards, access roads, and other ancillary facilities needed to complete the project.

We request MHT's concurrence on these boundaries; a signature block is provided at the conclusion of this letter for your convenience. However, please note that as the design progresses, additional refinements may occur that may require the APE to be adjusted in places. Future design refinements, approved by the MTA, will be coordinated with MHT through FTA.

A Phase IA archeological assessment of the project alternatives was submitted to your office by the MTA on June 8, 2011, with comments received via MHT letter dated July 8, 2011. This assessment identified areas of archeological potential within the archaeological APE. Currently,

the MTA is conducting Phase I level archeological investigations of the areas identified as having potential for archeological impacts within this area.

Additionally, an assessment of historic architecture during the Draft EIS identified properties warranting survey and Determination of Eligibility (DOE). The MTA is currently conducting a Phase I level historic architecture survey of all properties within the LPA's architectural APE that meet the age criterion for listing on the National Register of Historic Places. You recently reviewed and provided comments on the first set of 25 DOE forms via your August 19, 2011 letter to the MTA. We are addressing those comments and the MTA is preparing the next set of DOE forms; we will submit draft DOE forms to you in sets as they are completed.

List of Potential Consulting Parties

In addition to the jurisdictions and municipalities along the LPA, the following is a list of agencies and individuals that have either expressed interest in being consulting parties to the Section 106 process or would typically be invited to be consulting parties. The FTA and MTA will coordinate with you to refine this list and develop invitation letters.

- Columbia Country Club
- Falklands Chase
- Friends of Sligo Creek
- Hawkins Lane Historic District
- Hawkins Lane Historic District Local Advisory Panel
- Historic Takoma
- Hyattsville Preservation Association
- Maryland-National Capital Parks and Planning Commission, Montgomery County
- Maryland-National Capital Parks and Planning Commission, Prince George's County
- Montgomery County Historic Preservation Commission
- Montgomery Preservation, Inc.
- National Institutes of Health, Office of Community Liaison
- National Park Service
- North College Park Citizens Association
- Old Town College Park Preservation Association
- Peerless Rockville Historic Preservation, Ltd.
- Prince George's County Historical and Cultural Trust
- Prince George's County Historical Society
- Prince George's Heritage, Inc.
- Anacostia Trails Heritage Area/ Redevelopment Authority of Prince George's County
- Riverdale Historical Society
- Rockville Historic District Commission
- Silver Spring Historical Society
- University Hills Civic Association
- University of Maryland

any Certified Heritage Areas in the APE or vicinity?

Montgomery County Heritage Area / Heritage Montgomery

Projected Schedule for the Final EIS and Record of Decision

The Purple Line schedule provides for Final EIS studies to continue through Summer 2012, followed by delivery of the Final EIS document by Fall 2012. A Record of Decision on the Final EIS is anticipated by Summer 2013.

We look forward to continuing our work with you on this most important project. If you have questions about the information in this initiation letter, please do not hesitate to contact Tim Lidiak, FTA Environmental Planner (215-656-7084), John Newton, MTA's Environmental Manager (410-767-3769), or John Martin, Purple Line Section 106 Lead (856-802-9930). Because of the size of the project as well as the many details of the LPA alignment, stations, and other facilities, the FTA and MTA would like to offer you a Google Earth "flyover" aerial presentation of the LPA at your convenience this fall. We can also arrange field meetings or tours at any time if they are helpful to you.

Sincerely,

Brigid Hynes-Cherin
Acting Regional Administrator

Attachment

cc: Mike Madden, MTA
John Newton, MTA
Leslie Roche, PMC
Amanda Baxter, GEC
Stephen Hawtof, GEC
John Martin, GEC

We, MHT, concur with the 500-foot APE for the investigation, identification and recommendations for architectural resources, and the 250-foot APE for archeological impact, along the Locally Preferred Alternative of the Purple Line project.

11-17-11

MHT SignatureDate

* PLEASE ADD THE ANACOSTIA TRAILS HERITAGE AREA / REDEVELOPMENT AUTHORITY OF PRINCE GEORGE'S COUNTY AND THE MONTGOMERY COUNTY HERITAGE AREA/ HERITAGE MONTGOMERY TO THE LIST OF POTENTIAL CONSULTING PARTIES.

Cc: John Newton (MTA)
Steve Hawtof (Gannett Fleming)
John Martin (Gannett Fleming)

MEETING MINUTES

MEETING SUBJECT:	**Consulting Party Meeting No. 1**
MEETING DATE, TIME:	6/11/13 1:00 pm
MEETING LOCATION:	State Highway District 3 Office "Auditorium"
ATTENDEES:	See attached Attendance Roster
PREPARED BY:	John Martin
DISTRIBUTION DATE:	7/17/13
DCN:	2013.06.11.PM.PE.02.CP Mtg.1-

Meeting Initiation/Purpose

The purpose of this meeting is to provide the Consulting Parties an opportunity to provide input on the identified historic properties within the Purple Line Area of Potential Effects.

Discussion

The meeting opened with introductions around the room. There were 3 Consulting Parties represented at the meeting; The Columbia Country Club, NCPC and the Anacostia Trails Heritage Area.

Steve Hawtof provided a brief overview of the Purple Line project.

John Martin presented an overview of Section 106 and where the project is in the process. He then presented all of the identified historic properties within the project APE, some of which had been previously identified, some that underwent boundary or historic significance refinement. A copy of the presentation is attached to the minutes.

Following the presentation, the floor was opened to questions.

Dan Koenig asked about the Madonna of the Trails statue since it appears outside of the APE.

Response: originally inside APE but later refinements place it outside. However, since it had been surveyed and was close, it was left in and MHT was okay with it.

Bob Pillotte (CCC) asked about the Country Club's boundaries (refined) and its status.

Response: The CCC was originally opined eligible in 2002, but at the time the boundary was drawn so as to include the rail line property. The reassessment/refinement included excluding the county property, but including golf course shifts that intrude onto the county's parcel. Also, the contributing features were evaluated and the basis for the historic significance strengthened.

Aaron Marcautch expressed concern over early 20th century building being overlooked because they are less than 70 years of age, but have importance to the local communities.

Response: It was explained that prior to his joining the meeting, it was stated that properties over 40 years of age were included in the evaluation (as opposed to 50, because of the expected project that schedule that could span long enough to require additional survey).

Aaron Marcautch also offered to assist in the next CP meeting logistics.

There was discussion about the attendance and suggestions to follow up on invitation letters with e-mails or phone calls to better ensure awareness of the meeting. In addition, MTA stated that minutes would be distributed to the consulting parties and that the presentation would also be attached.

Purple Line GEC
Section 106 Consulting Party Meeting
SHA District 3 Office *AUDITORIUM*
9300 Kenilworth Avenue Greenbelt, MD 20770
June 11, 2013 – 1:00 pm

Sign In Sheet

Name	Company	Phone Number	E-mail Address
John W. Martin	Purple Line GEC	(856) 802-9930 x113	jmartin@gfnet.com
Kerri Barile	Purple Line GEC	540-899-9170	kbarile@dovetailcrg.com
Steve Hawtof	Purple Line GEC	443-348-2017	shawtof@gfnet.com
Amanda Baxter	Purple Line GEC	703-293-7437	abaxter@wrallp.com
Harriet Levine	Purple Line GEC	(410) 837-5840	Harriet.levine@jacobs.com
Mike Madden	MTA		mmadden@mta.maryland.gov
Dan Koenig	FTA	(202) 219-3528	Daniel.Koenig@dot.gov
Adam Stephenson	FTA-HQ	(202) 366-5183	Adam.Stephenson@dot.gov
Amy Zaref (by phone)	FTA		Amy.Zaref.crf@dot.gov
Beth Cole	MHT - SHPO		Bcole@mdp.state.md.us
Tim Tamburrino	MHT - SHPO		ttamburrino@mdp.state.md.us
Michael Weil	NCPC	202.482.7253	Michael.Weil@ncpc.gov
Bob Pillote	Columbia Country Club	301-984-4790	bpillote@aol.com
Aaron Marcautch	Anacostia Trails Heritage Area Inc	301-887-0777	aaron@anacostiatrails.org

MEETING MINUTES

MEETING SUBJECT:	Historic Preservation Consultation Pursuant to Section 106
MEETING DATE, TIME:	8/8/2013
MEETING LOCATION:	Maryland Department of Transportation Regional Office
ATTENDEES:	See attached Attendance Roster
PREPARED BY:	Caleb Parks, Purple Line Team
DISTRIBUTION DATE:	8/15/13

Meeting Initiation/Purpose

In accordance with Section 106 of the National Historic Preservation Act of 1966, consulting parties, including regulatory agencies, appropriate stakeholders, and interested public are provided with an opportunity to consult with the FTA and MTA to provide comments related to historic preservation issues that will be considered as part of the Purple Line project. The purpose of this second Consulting Parties meeting was to review historic properties in the project's Area of Potential Effects (APE); discuss how project effects are evaluated; review the preliminary effects assessment for identified historic properties; and discuss potential mitigation measures.

Discussion

1) Welcome and Introductions. Monica Meade, Purple Line Team, initiated the meeting followed by a brief round of introductions among the meeting attendees.

2) Project Overview. Following the welcome and introduction, Michael Madden, Purple Line Project Manager, provided an overview of the Purple Line Light Rail project along its planned sixteen-mile alignment. He described how the Purple Line would be integrated into the built environment that characterizes the Washington, DC metropolitan area, specifically focusing on interesting project elements, station locations, and roadway configurations.

   a) Mr. Madden also mentioned that Maryland Governor Martin O'Malley recently announced that funding for the project would be sought as a public-private partnership (P3) for an anticipated 30-year term, through which the MTA would maintain ownership and would be responsible for upholding commitments made during the planning process.

   b) Mr. Madden emphasized that the urban setting of the project has resulted in the involvement of many stakeholders and ongoing coordination among these parties has remained a key element of project planning.

3) Section 106 Overview. Stephanie Foell, Purple Line Architectural Historian, described the Section 106 process and its relationship to the Purple Line. The Area of Potential Effect (APE) for historic properties, which included architectural and archeological resources, was a 500-foot buffer on either side of the project alignment.

   a) Within the APE, Ms. Foell stated that there had been 256 assessments conducted, of which twenty-three historic properties under Section 106 were identified (twenty-two architectural sites and one archeological site).

b) Mr. Madden requested that Ms. Foell clarify how the Section 106 process is related to the National Environmental Policy Act (NEPA) efforts currently underway. She described that Section 106 evaluations had been done in parallel to the Final Environmental Impact Statement (FEIS) that is anticipated to be signed by the FTA in September.

c) Ms. Foell then explained Section 106 key activities and milestones, as well as the remaining schedule for the Section 106 process, which includes the completion of an Assessment of Effects Report as well as a Programmatic Agreement. In order to have a signed Record of Decision (ROD) for the FEIS, a Programmatic Agreement must be executed. This is anticipated to occur by mid-October 2013. She also encouraged consulting parties to actively participate and provide comments as part of the Section 106 process.

4) Review of Historic Properties. The 23 historic properties identified within the project APE are as follows:

- Bethesda-Chevy Chase High School (No Effect)
- Columbia Country Club (No Adverse Effect)
- Preston Place (No Adverse Effect)
- Rock Creek Park Montgomery County Survey Area (No Adverse Effect)
- Metropolitan Branch, Baltimore & Ohio Railroad (Adverse Effect)
- Talbot Avenue Bridge (Adverse Effect)
- Woodside Historic District (No Effect)
- The Falkland Apartments (Adverse Effect)
- Old Silver Spring Post Office (No Effect)
- First Baptist Church of Silver Spring (No Adverse Effect)
- Montgomery Blair High School (No Adverse Effect)
- Sligo Creek Parkway (No Adverse Effect)
- Sligo Adventist School (No Effect)
- University of Maryland, College Park (No Adverse Effect)
- Rossborough Inn (No Adverse Effect)
- Old Town College Park Historic District (No Effect)
- College Park Airport (No Adverse Effect)
- College Lawn Station (No Effect)
- Calvert Hills District (No Effect)
- M-NCPPC Department of Parks and Recreation Regional Headquarters (No Effect)
- Baltimore-Washington Parkway (Gladys Noon Spellman Parkway) (No Adverse Effect)
- Area K Domestic Site (No Effect)
- Martins Woods (No Effect)

5) Preliminary Effects Assessment. After going over all of the Section 106 properties that had been identified within the Purple Line APE, Ms. Foell moved to address the preliminary effects determination for historic properties.

a) Of the 23 properties within the project APE, ten were determined to have no effect.

b) Ten properties were determined to have no adverse effect (physical destruction or damage to all or part of historic property; change in character of a historic property; and/or introduction of visual, atmospheric, or audible elements that diminish the significant features of a historic property).

- Specific discussion focused on the Columbia Country Club, the University of Maryland, and the Baltimore-Washington Parkway; the project team has worked to minimize effects to these properties where possible, as required by Section 106.
- Mr. Madden and Ms. Foell discussed the changes that would occur at the Columbia Country Club with project renderings to provide visual reference. The MTA will shift the alignment slightly to the north to avoid the tees and greens on the south side of the alignment. Bob Pillote, of the Club's Board of Governors, clarified that some green and hole reconfigurations on the north side of the alignment would be required. The coordination between the Country Club and MTA was noted.
- Ms. Foell explained how the Purple Line would be incorporated into the University of Maryland. The relocation of the 'M Circle' was described but it was noted that the "M" is not historic. The coordination between the University and MTA was noted.
- Ms. Meade, with some input provided by Steve Hawtof, gave an overview of the changes that would result from the reconstruction of the Baltimore Washington-Parkway bridges over Riverdale Road. Kate Birmingham, of the National Park Service, was in approval that the bridges' stone facing would be preserved. There was a discussion of the construction methodology which had been developed to avoid impacts to the parkway and the archeological site. The coordination between the National Park Service and MTA was noted.

c) Finally, the three adverse property impacts determined in the preliminary effects assessment were discussed. These adverse effects are a result of proposed demolitions.

- Talbot Avenue Bridge – this bridge will be removed by the project.
- Metropolitan Branch – The Talbot Avenue Bridge is a contributing element to this resource, so its removal results in an adverse effect to the
- Falklands Apartments- the removal of several units off two of the buildings would be an adverse effect.

6) Preliminary Proposed Mitigation. Because of the anticipated adverse effect determination for the project, mitigation would be required. Several preliminary mitigation concepts were introduced. Specifically these included the items discussed below:

- Prior to outlining the preliminary mitigation measures that are proposed, Beth Cole, of the Maryland Historic Trust, requested that even for properties not determined to be affected in the Preliminary Effects Assessment, ongoing coordination occur throughout the entire process of design and construction. Coordination would also be required for offsite properties for environmental mitigation such as wetlands or reforestation, etc.
- Henry Ward, archeologist for the Purple Line PMC, said that historic property reconnaissance would take place once a wetland mitigation roster was available.

a) Historic American Buildings Survey/Historic American Engineering Record documentation for the properties proposed for demolition.

b) Web-based mapping with documentation, photographs, and educational information on all historic properties within the APE

c) Development of an interpretive plan that could include historically themed signage or incorporation of historic images at stations.

- Aaron Marcautch, from the Anacostia Trails Heritage Area, suggested that updated signage and the development of an interpretive plan for the Anacostia Trail would be appreciated as a result of the

Purple Line. He gave an example of the InterCounty Connector, which provided way finding signs to the interstate along the trail and suggested that perhaps the Purple Line could provide bicycle and/or pedestrian way finding signage.

7) Next Steps. Ms. Foell then invited questions and discussion and highlighted the next steps of the Section 106 process. These steps included the following:

   a) FTA will finalize the project's effects assessment and submit an effects report to MHT for concurrence in mid-August 2013. All consulting parties will be able to review the report and any comments will be considered.

   b) A third Section 106 consulting parties meeting will occur in late September 2013.

   c) Mitigation for the Purple Line's adverse effect determination will be finalized and included in the project's Programmatic Agreement.

   d) Signatories will sign and execute the Programmatic Agreement by mid-October 2013.

- Ms. Cole clarified that agency comments on the Programmatic Agreement should go through the MTA and be distributed among the stakeholder groups.
- Ms. Cole also asked for clarification on the schedule and Ms. Foell said that consulting parties should expect to receive the effects report followed by a Draft Programmatic Agreement.
- Ms. Kelly Fanizzo of the Advisory Council on Historic Preservation applauded the team for the information presented during the meeting and stated that the council will formally respond to the consultation invitation provided by FTA.

The next consulting parties meeting will be held in late September 2013.

SUMMARY OF ACTION ITEMS

Action Item #	Description	Assigned To	Due Date	Status
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				

These minutes reflect the author's understanding of the discussions at the meeting. The minutes shall initially be considered as draft and open to comments for a period of 5 business days after the date of initial issuance. If no comments are received within five days, these minutes shall be considered final and will be issued as such within 2 business days of the initial comment period. (Remove this note from final version of the meeting minutes)

Attachments:
Attendance Roster

Distribution:
Attendees
PL GEC Core Team

Purple Line
Section 106 Consulting Parties Meeting #2
Maryland Department of Transportation Regional Office
4351 Garden City Drive, Suite 305
New Carrollton, Maryland 20785
Thursday, August 8, 2013 • 2:00 PM – 4:00 PM

ATTENDANCE ROSTER

Name	Company	Phone Number	E-mail Address
Michael Madden	PL-Maryland Transit Administration	443-451-3718	mmadden@mta.maryland.gov
Stephanie S. Foell	PL Team – Architectural Historian	443-765-3755	foell@pbworld.com
Monica Meade	PL Team - Planning	443-451-3712	meade@pbworld.com
Henry Ward	PL Team –Archeologist	410-336-8879	wardhe@pbworld.com
Steve Hawtof	PL Team - Environmental	443-348-2017	shawtof@gfnet.com
Beth Cole	Maryland Historic Trust	410-514-7631	bcole@mdp.state.md.us
Tim Tamburrino	Maryland Historic Trust	410-514-7637	ttamburrino@mdp.state.md.us
Carlo Colella	University of Maryland	301-405-2987	ccolella@umd.edu
Bob Pillote	Columbia Country Club	301-984-4790	bpillote@aol.com
Kate Birmingham	National Park Service – National Capital Parks-East	202-692-6038	katherine_birmingham@nps.gov
Adam Stephenson	Federal Transit Administration	202-366-5183	adam.stephenson@dot.gov
Amy Zaref (phone)	Federal Transit Administration	(801) 998-8581	amy.zaref@dot.gov
Anita Neal-Powell (phone)	Lincoln Park Historical Foundation	301-251-2749	lincolnparkhis@aol.com
Aaron Marcautch	Anacostia Trails Heritage Area Inc	301-887-0777	aaron@anacostiatrails.org
Kelly Fanizzo	Advisory Council on Historic Preservation	202-606-8507	kfanizzo@achp.gov

Appendix H

Draft Section 106 Programmatic Agreement

The preliminary Draft Section 106 Programmatic Agreement in this appendix will be refined in consultation with the Maryland Historical Trust and other consulting parties.

A preliminary Draft Section 106 Programmatic Agreement for mitigation of adverse effects to historic properties for the Purple Line is included in this FEIS for review in accordance with 36 CFR Part 800.6 and is subject to change based on comments from the public and consulting parties. The preliminary Draft Section 106 Programmatic Agreement is provided in Appendix H of the FEIS. FTA, MTA, and SHPO, in coordination with the consulting parties and invited signatories, will finalize this PA prior to the Record of Decision.

DRAFT

PROGRAMMATIC AGREEMENT

AMONG

**THE FEDERAL TRANSIT ADMINISTRATION,
THE MARYLAND TRANSIT ADMINISTRATION, AND
THE MARYLAND STATE HISTORIC PRESERVATION OFFICER,**

REGARDING

**THE PURPLE LINE PROJECT
FROM BETHESDA, MONTGOMERY COUNTY
TO NEW CARROLLTON, PRINCE GEORGE'S COUNTY, MARYLAND**

WHEREAS, the Purple Line Project (Undertaking) is a planned 16.2-mile light rail transit line to provide faster, more reliable and high capacity transit service for east-west travel between Bethesda, Montgomery County and New Carrollton, Prince George's County in Maryland (**Exhibit A**); and

WHEREAS, because the Federal Transit Administration (FTA) may provide funding to the Maryland Transit Administration (MTA) pursuant to Section 5309, this is a federal undertaking subject to Section 106 of the National Historic Preservation Act of 1966, as amended (codified at 16 USC 470f) and its implementing regulations at 36 CFR part 800, as amended, hereinafter collectively referred to as "Section 106;" and

WHEREAS, the MTA is the Undertaking's project sponsor and the FTA is serving as the Undertaking's lead federal agency pursuant to the National Environmental Policy Act (NEPA, codified as 42 USC 4321 *et seq.*), and is the federal agency responsible for compliance with Section 106); and

WHEREAS, after detailed study of various alternatives and their associated impacts, and consideration of efforts to avoid and minimize certain project impacts, the MTA, through coordination with the FTA, has defined a Preferred Alternative for detailed engineering and construction; and

WHEREAS, the FTA in consultation with the Maryland State Historic Preservation Officer (MD SHPO) has established the Undertaking's Area of Potential Effects (APE) for purposes of the 106 analysis, as defined at 36 CFR 800.16(d), to encompass the geographic areas within which the Undertaking may directly or indirectly cause alterations in the character or use of historic properties, as illustrated in **Exhibit B**, recognizing that the APE may require modification as more detailed engineering for the Undertaking is developed; and

WHEREAS, the FTA, in consultation with the MD SHPO, has identified <<insert corrected number>> historic properties that are eligible for or listed in the National Register of Historic Places (National Register) within the Undertaking's APE, illustrated on **Exhibit B**; and

WHEREAS, the FTA has determined that the Undertaking will have *adverse effects* on the following historic properties listed in or eligible for the National Register: the Metropolitan Branch-B&O Railroad (M: 37-16), Montgomery County; Talbot Avenue Bridge over the B&O Railroad (Bridge M-85; M: 36-30), Montgomery County; and the Falkland Apartments (M: 36-12), Montgomery County; and

WHEREAS, the FTA has determined that the Undertaking's effects on archeological resources cannot be fully determined prior to approval of the Undertaking; and

WHEREAS, it is understood that this PA is based upon review of preliminary engineering, which will be refined the project design advances and reviewed by the signatory parties to this PA and other consulting parties during project design; and

WHEREAS, the FTA, MTA and MD SHPO acknowledge that as a result of modifications or the addition of ancillary actions to the Undertaking, there may be effects on additional previously identified historic properties within the APE or additional cultural resources or archeologically sensitive areas outside the APE; therefore this PA sets forth the measures that will be implemented to identify and consider any further effects to historic properties; and

WHEREAS, the FTA, in coordination with the MTA, has consulted with the MD SHPO, pursuant to the requirements of Section 106; and FTA, MTA and the MD SHPO determined that it is appropriate to enter into this PA, pursuant to 36 CFR 800.14(b); and

WHEREAS, the MTA has participated in consultation, has responsibilities for implementing stipulations under this PA, pursuant to 36 CFR 800.6(c)(2), and has been invited to be a signatory to this PA; and

WHEREAS, the FTA has identified and invited the following parties (herein referred to as "consulting parties") to comment and consult on the Undertaking as part of the Section 106 process: Anacostia Trails Heritage Area, Inc., Columbia Country Club, Falklands Chase, Friends of Sligo Creek, Hawkins Lane Historic District, Heritage Tourism Alliance of Montgomery County, Historic Takoma, Inc., Hyattsville Preservation Association, Inc., Maryland-National Capital Parks and Planning Commission, Montgomery County, Maryland-National Capital Parks and Planning Commission, Prince George's County, Montgomery County Historic Preservation Commission, Montgomery Preservation, Inc., National Institutes of Health, Office of Communications and Public Liaison, North College Park Citizens Association, Old Town College Park Preservation Association, Peerless Rockville Historic Preservation, Ltd., Prince George's County Historical and Cultural Trust, Prince George's County Historical Society, Prince George's Heritage, Inc., Redevelopment Authority of Prince George's County, Riverdale Historical Society, Rockville Historic District Commission, Silver Spring Historical Society, University Hills Civic Association, University of Maryland, Tuscarora Nation, Shawnee Tribe, Saint Regis Mohawk Tribe, Delaware Tribe of Indians, Onondaga Nation, Oneida Indian Nation, Eastern Shawnee Tribe, The Delaware Nation, and Absentee-Shawnee Tribe of Oklahoma; and

WHEREAS, during the implementation of this PA, the FTA, MTA and MD SHPO may identify other relevant parties and invite them to participate as consulting parties in the consultation process specified in this PA; and

WHEREAS, the Project will cross properties under the authority of the National Park Service (NPS) and the National Capital Planning Commission (NCPC), they have been invited to be signatories to this Agreement; and

WHEREAS, the FTA notified the Advisory Council on Historic Preservation (ACHP) of the Undertaking's adverse effect on August 1, 2013, and invited the ACHP to participate in the Section 106 process for the Undertaking; and the ACHP declined in writing on August 14, 2013, to participate in consultation (**Exhibit G**); and

WHEREAS, the FTA and MTA sought and considered the views of the public on this Undertaking through the public involvement process described in the Final Environmental Impact Statement including a website, mass mailings, public workshops, and public comments, resulting in this PA being developed with appropriate public participation during the Section 106 process, and the public shall be duly notified as to the execution and effective dates of this PA through the issuance of the FTA Record of Decision for the Undertaking; and

WHEREAS, the MD SHPO agrees that fulfillment of the terms of the PA will satisfy the responsibilities of MTA and any Maryland state agency under the requirements of the Maryland Historical Trust Act of 1985, as amended (Sections 5A-325 and 5A-326 of the State Finance and Procurement Article, Annotated Code of Maryland), for any components of the Undertaking that require licensing, permitting and/or funding actions from Maryland state agencies;

NOW, THEREFORE, the FTA, MTA, MD SHPO, NPS, and NCPC agree that upon the FTA's decision to proceed with further design and construction of the Undertaking the FTA and MTA shall ensure that the following stipulations are implemented in order to take into account the effects of the Undertaking on historic properties, and that these stipulations shall govern the Undertaking and all its parts until this PA expires or is terminated.

STIPULATIONS

The FTA and MTA shall ensure that the following measures are implemented:

I. PURPOSE

This PA sets forth the process by which the FTA, with the assistance of the MTA, will meet its responsibilities under Section 106 for the Undertaking. The PA establishes procedures for ongoing consultation between the FTA, MTA, MD SHPO, NPS, and NCPC and the consulting parties to consider and resolve the Undertaking's effects on historic properties during the design and construction phases of the Undertaking. The stipulations below set forth measures for treatment of built historic properties, treatment of archeological resources, design review, and specify how the signatory parties and consulting parties will be involved in any review.

II. RESPONSIBILITIES OF THE SIGNATORIES

A. Signatory Parties

The FTA, MTA, MD SHPO, NPS, and NCPC are the signatory parties (herein "signatory parties") to this PA. The signatory parties shall participate in the coordination process as specified in subsequent stipulations of the PA.

B. Federal Transit Administration

The FTA will include the obligations set forth in this PA as part of its Record of Decision and a condition of FTA approval of any grant issued for design and construction of the Undertaking to ensure that these measures will be implemented as part of the compliance with the Section 106 process and the subsequent design, and construction of the Undertaking.

C. Maryland Transit Administration

The MTA shall implement the terms of this PA, where applicable, in conjunction with the ongoing design and construction of the Undertaking.

The MTA shall establish a Cultural Resources Management Team (CRMT) for the design and construction phases of the project to assist the MTA in implementing the provisions of this PA.

1. The CRMT shall be comprised of a team of personnel meeting the qualifications specified in Stipulation III.A and shall ensure that all cultural resources work carried out pursuant to this PA is done in accordance with the relevant documents in Stipulation III.B.
2. The CRMT will be on-site when there is a potential for historic properties (including both built historic properties and archeological resources) to be affected by the construction and will take responsibility to monitor all construction activities that may affect historic and archeological resources.
3. The CRMT will train appropriate members of the on-site contractor staff of the stipulations outlined in this PA and any documents that pertain to the protection of historic resources prior to the commencement of work and at regular intervals not to exceed six months. A requirement to cooperate with the CRMT will be included in all design and construction contracts related to the Undertaking. A copy of this training (presentation and handouts) will be provided to the consulting parties for review and comment prior to implementation.

D. National Park Service

The NPS shall review design plans for the Purple Line that intersect with the Baltimore-Washington Parkway.

E. National Capital Planning Commission

The NCPC shall review design plans for the Purple Line that intersect with historic properties under their authority.

III. PROFESSIONAL STANDARDS

A. Qualifications

The MTA shall ensure that all cultural resources work performed pursuant to this PA is carried out by or under the direct supervision of personnel meeting The Secretary of the Interior's Professional Qualifications Standards (48 FR 44716) (hereinafter cited as "qualifications") with experiences and background in History, Architectural History, Historic Architecture, and Archeology, as appropriate.

B. Standards and Guidelines

The MTA shall ensure that all cultural resources investigations and preservation work executed as part of this PA will be completed according to the following accepted professional standards and guidelines:

1. Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716; 1983 and successors);
2. Standards and Guidelines for Archeological Investigations in Maryland (Shaffer and Cole 1994);
3. Collections and Conservation Standards, Technical Update No. 1 of the Standards and Guidelines for Archeological Investigations in Maryland (Maryland Historical Trust 2005);
4. Standards and Guidelines for Architectural and Historical Investigations in Maryland (Maryland Historical Trust 2000);
5. General Guidelines for Compliance-Generated Determinations of Eligibility and Standards and Guidelines for Architectural and Historical Investigations in Maryland (Maryland Historical Trust, 2002);
6. Advisory Council on Historic Preservation – Section 106 Archeology Guidance (ACHP 2007);
    - Recommended Approach for Consultation on Recovery of Significant Information for Archeological Sites, ACHP 2007 (64 FR 27085-27087);
    - Advisory Council on Historic Preservation Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects (ACHP 2007); and
    - Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR Part 68).

C. Curation

All materials and records resulting from archeological investigations conducted for the project will be curated in accordance with 36 CFR 79 at the Maryland Archeological Conservation Laboratory (MAC Lab), unless clear title, Deed of Gift, or federal curation agreement for the collection cannot be obtained. MTA shall consult with the MD SHPO regarding the appropriate disposition of any materials or records not proposed for curation at the MAC Lab.

IV. BUILT HISTORIC PROPERTIES STIPULATIONS

The FTA has determined through the Section 106 process that the Undertaking will have adverse effects on three historic properties due to construction activities and/or the siting of project-related infrastructure. It is possible that additional, previously unidentified historic properties may be identified within the Undertaking's APE in the future or in the area of any new project elements (see Stipulation IV.A) and that these historic properties may be affected by the Undertaking. Accordingly, this PA sets forth the following measures that will be implemented for all built historic properties within the Undertaking's APE to not only resolve any adverse effects, but also to ensure avoidance of adverse effects through sensitive design and positive protections.

A. Identification of Additional Built Historic Properties and Assessment of Project Effects

If additional built historic properties not previously identified in the Section 106 process are identified in the Undertaking's APE during design or construction of the Undertaking, or if new project elements are added to the Undertaking, the MTA will consult with the MD SHPO to evaluate eligibility and effects, if needed, in accordance with the process outlined in Stipulation VIII for ancillary activities and design modifications.

B. Construction Protection Plan

To avoid Undertaking-related construction damage to any known or unknown built historic property as set forth in Stipulation IV.C, the MTA, in consultation with the FTA and the MD SHPO, will develop construction protection plans for built historic properties; these plans will include best practices and contractor requirements that will avoid, minimize, and mitigate adverse effects. Exhibit C provides a list of procedures that will be included in the Construction Protection Plans, which will be developed prior to construction of the project. MTA shall ensure that all historic properties where there is a potential to be affected by construction related activities will be included in a Construction Protection Plan and MTA shall implement such plans in conjunction with construction sequencing.

C. Avoidance and Resolution of Permanent Visual Adverse Effects

As part of the Section 106 process, the FTA and MTA identified 26 historic properties that are eligible for or listed in the National Register within the Undertaking's APE. The FTA and MTA have determined that the Undertaking will have no effect or no adverse effect on 23 of those historic properties, but the Undertaking has the potential to result in permanent visual adverse effects and changes to the historic setting of the following three historic properties: the Metropolitan Branch-B&O Railroad, Montgomery County; Talbot Avenue Bridge over the B&O Railroad, Montgomery County; and the Falkland Apartments, Montgomery County.

Throughout the design process, the FTA and MTA shall monitor the development of project plans to ensure the avoidance, as well as the mitigation, of permanent visual adverse affects to all historic properties within the Undertaking's APE. Context sensitive design specifications developed in accordance with Stipulation IV.D may be utilized to avoid and resolve adverse effects, in consultation with the MD SHPO, NPS, NCPC, and other consulting parties.

D. Guiding Principles of Design

The MTA shall ensure that the designs for new construction, in those areas where elements of the Undertaking will be visible to historic properties located within the APE, are sensitive to and compatible with the historic and architectural qualities of those nearby historic properties. The MTA shall develop designs that are responsive to the recommended approaches to new construction set forth in the *Secretary of the Interiors's Standards for the Treatment of Historic Properties* (36 CFR Part 68).

The MTA will consult with the MD SHPO, NPS, NCPC, and other relevant consulting parties on design specifications to address any permanent Undertaking elements that may affect the historic setting of a built historic property in the Undertaking's APE. Such elements may include, but are not limited to: ventilation facilities, portals, stations, traction power substations, central instrument houses, retaining walls and landscaping. In the review of the proposed designs, the signatory and consulting parties shall consider design components related to compatibility with the historic character of the adjacent historic properties, including but not limited to materials, scale, ornamentation, and massing. Review and comment on such submissions shall be governed by the process and timeframes set forth in Stipulation IX.

E. Design Review

The MTA shall submit pertinent sections of plans (including site plan, elevations, and specifications, where applicable) complete to 60% (semi-final review) and 90% (final review) to the MD SHPO, NPS, and NCPC, and provide opportunites for review and comment from appropriate consulting paties. The purpose of the review is to ensure that the proposed designs are compatible with the approaches to new construction recommended in the Secretary of the Interiors's Standards for the Treatment of Historic Properties (36 CFR Part 68), in order to avoid, minimize or mitigate any permanent adverse visual effects to historic properties. The MTA shall carefully consider the comments provided by the other signatory and consulting parties and incorporate suggested modifications, as appropriate. Review and comment on such submissions shall follow the process set forth in Stipulation IX. The MTA shall provide opportunities for public input in the design development process by soliciting comments through the established Neighborhood Work Groups and ongoing outreach efforts.

F. Historic American Buildings Survey/Historic American Engineering Record Documentation

1. MTA shall develop a recordation plan to document and photograph the Talbot Avenue Bridge and the Falkland Apartments. The draft recordation plan will be provided to the MD SHPO for review and comment per Stipulation IX.
2. As part of the recordation plan development, the MTA shall consult with National Park Service staff to determine the appropriate repository for this documentation. If NPS does not want to include the documentation in its holdings, MTA shall submit the documentation to the MD SHPO and any other appropriate repository that may be identified in the Interpretation Plan, see Stipulation VI.
3. All work submitted to the National Park Service will adhere to the guidelines set forth in "HABS/HAER Photographs: Specifications and Guidelines" (U.S. Department of the Interior, 2001); "HABS/HAER Standards" (U.S. Department of the Interior, 1990); "HABS Historical Reports" (U.S. Department of the Interior, October 2000); and "Historical American Engineering Record Guidelines for Historical Reports" (U.S. Department of the Interior, 2008, updated 2010).
4. All written, graphic and photographic documentation submitted to the MD SHPO must adhere to the "Standards and Guidelines for Architectural and Historical Investigations in Maryland" (Maryland Historical Trust, 2000) and must include the Maryland Inventory of Historic Properties (MIHP) number associated with the historic property and photographic documentation that complies with current MD SHPO guidelines.
5. The MTA shall ensure that all documentation is completed, submitted and accepted by HABS/HAER and the MD SHPO, as applicable, prior to construction commencing in the vicinity of the historic properties being recorded and/or prior to demolition of the affected historic property. Review and comment of all recordation products shall follow the process set forth in Stipulation IX.

G. Built Historic Properties Web Map Application

MTA shall develop a web map application and database of built historic properties that are located within the project's APE. The application shall enable cultural resources staff to administer, through a secure administrative interface/portal, historic property data and web content such as detailed historic information, geographic location, documentation, and photographs; and to present this information in a web map to signatories, consulting parties, stakeholders, and the public. The web application would be designed for display on the web

browser on a desktop computer and a second version will be implemented for display on mobile devices. MTA will initiate database development prior to construction commencement and maintain the application and content for the duration of this PA.

V. ARCHEOLOGICAL RESOURCES

Because additional areas of ground disturbance may occur outside of the current Limits of Disturbance (LOD), the FTA has determined through the Section 106 process that the Undertaking could have potential adverse effects on archeological historic properties. The FTA elected to complete identification, evaluation, and determination of effects on archeological resources outside the LOD (**Exhibit B**) in phases, pursuant to 36CFR 800.4(b)(2) and 36 CFR 800.5(a)(3), in accordance with the ongoing consultation process specified in this PA.

A report, Phase IB Archeological Survey of Light Rail Alignment Areas Associated with the Purple Line Project, Montgomery and Prince George's Counties, Maryland was prepared by the MTA for the Purple Line Preferred Alternative in support of the 2013 Final Environmental Impact Statement (FEIS). The report provided information on archeological resources within the LOD.

Accordingly, this PA sets forth the following measures that will be implemented to identify, evaluate, and resolve any adverse effects on archeological resources outside the Undertaking's LOD. The MTA shall ensure that all required cultural resources studies are implemented in accordance with the applicable performance standards in Stipulation III and with the following procedures.

A. Identification

The MTA shall complete and report survey efforts to identify resources potentially eligible for inclusion on the National Register that may be impacted by the Undertaking in archeologically sensitive areas not subject to prior archeological identifcation investigations. MTA shall ensure that the work is accomplished in accordance with the relevant procedures specified in Stipulation VIII and performance standards in Stipulation III.B.

B. Site Evaluations

The MTA will evaluate the National Register eligibility of any archeological site that may be impacted by the Undertaking, pursuant to Stipulation V.A above. The MTA shall complete the investigations in consultation with the MD SHPO and in accordance with 36 CFR 800.4(c) and shall assure that all work adheres to the relevant performance standards in Stipulation III.B of this PA. MTA shall provide the results of any such evaluation efforts to the MD SHPO, FTA, and relevant consulting parties for review and comment. If the MD SHPO does not provide comments within 30 calendar days of receipt, the MTA may assume acceptance of the results.

C. Treatment of National Register Eligible Archeological Sites

1. Consultation to Resolve Adverse Effects

   If the MTA and MD SHPO determine that any of the sites evaluated pursuant to Stipulation V.B are eligible for listing in the National Register, the MTA, in coordination with the FTA, shall develop a plan for its avoidance, protection, recovery, or destruction without recovery, and public education/interpretation in consultation with the MD SHPO and relevant consulting parties. The MTA shall submit a treatment plan to the MD SHPO for a 30-day review period. Unless the MD SHPO objects within 30 days after receipt of

the plan, the MTA shall implement it prior to the start of the project ground disturbance activities within or adjacent to the site area.

2. Data Recovery

Should data recovery investigations be selected as the treatment measure, the MTA shall ensure that a data recovery plan is developed in consultation with the MD SHPO, FTA and relevant consulting parties consistent with the performance standards outlined in Stipulation III.B. The plan shall incorporate the provisions discussed in Exhibit F and specify, at a minimum:

- The portions of the property where mitigations shall occur;
- Any portions of the property that will be destroyed without data recovery;
- The research questions to be addressed through data recovery with a description of the relevance and importance;
- The research and field methods to be used, with the explanation of their relevance to the research questions;
- The methods to be used in analysis, data management and dissemination of data including a schedule;
- The proposed disposition of recovered materials and records;
- Proposed methods for involving and informing the public;
- A proposed schedule for the submission of progress reports to the MTA and the MD SHPO; and
- Concepts for a public interpretive component.

The MD SHPO shall review and comment on such plan and will be governed by the process set forth in Stipulation IX. MTA will be responsible for the implementation of such a plan, as appropriate.

The MTA and MD SHPO will meet on-site to evaluate the success of the fieldwork phase of any data recovery program, near the end of the fieldwork effort. The MTA shall submit a management summary to the MD SHPO documenting the completion of fieldwork for 15-day review. Upon receipt of written concurrence from the MD SHPO, the MTA may proceed with the construction activities in the site areas concurrent with the completion of the remaining laboratory, analysis and reporting phases of the data recovery work.

D. Construction Protection Plan for Archeological Resources

1. To avoid Undertaking-related construction damage to any known archeological resources or archeologically sensitive areas, the MTA will develop a Draft Construction Protection Plan (CPP) for Archeological Properties (Exhibit E) located within 90 feet of construction, in consultation with the FTA and MD SHPO.

2. The MTA will refine the CPP prior to construction of the Undertaking and update it as necessary. The MTA will ensure that any archeological property that could be adversely affected by Undertaking construction will be included in a CPP, and the MTA will implement such plans, as appropriate, in conjunction with construction sequencing. The CPP for archeological resources incorporates all activities related to the protection of archeological resources included in the PA.

E. Unanticipated Archeological Discoveries Plan

1. The MTA, in coordination with the FTA, along with the MD SHPO, will implement the Unanticipated Discoveries Plan for non-human archeological resources and human remains, specified in Exhibit F, in the event that any unanticipated archeological resources and/or human remains are encountered during construction of the Undertaking.
2. The FTA and MTA, along with the MD SHPO, acknowledge that extraordinary costs will be incurred if construction were to be halted or delayed once underway. Accordingly, the parties will implement the approved Unanticipated Discoveries Plan expeditiously in circumstances requiring its use.

VI. PUBLIC INTERPRETATION PLAN

MTA shall execute historically themed interpretive work for stations for a consistent system-wide interpretive plan. The interpretive work may include panels, signage, historic images, and associated applications, and the related documentation may be included on the project website. MTA will consult with the signatory and consulting parties to determine the scope and content of interpretive efforts and to identify potential partnering opportunities with participating agencies or organizations. MTA will develop a brief interpretive plan after this consultation and will distribute the plan to consulting parties for review and comment prior to executing the final document. Review of the interpretive plan shall follow the process set forth in Stipulation IX. MTA will complete development of the interpretive plan and coordination with the signatory and consulting parties prior to the commencement of any construction activities. Timeframes for the completion of specific interpretive work will be outlined in the Interpretive Plan.

VII. PROTOCOL FOR WORK IN AREAS POTENTIALLY SENSITIVE FOR HUMAN REMAINS

MTA developed a detailed protocol for work in areas potentially sensitive for human remains, Exhibit F. Should any human remains be encountered during implementation of the PA, FTA, MTA and the MD SHPO shall follow the protcol specified in Exhibit H. Should the Undertaking uncover Native American human remains on federal property, FTA will comply with the requirements of the Native American Graves Repatriation Act (NAGPRA, 25 U.S.C. 3001).

VIII. DESIGN DEVELOPMENT, ALIGNMENT MODIFICATIONS AND ANCILLARY ACTIVITIES

The project may result in unforeseen effects on other historic properties and archeological sites due to changes made during design development, alignment modifications, or as a results of associated ancillary activities including, but not limited to, construction staging areas, stormwater management facilities, wetland mitigation areas, reforestation areas, environmental stewardship activities or other actions. Should such activities be added for which cultural resources studies or assessments have not been completed, the MTA shall ensure that consultation ensues with the MD SHPO and other relevant consulting parties as appropriate, and that all required cultural resources studies are implemented in accordance with the applicable performance standards in Stipulation III and with the following procedures:

A. Identification

The MTA professional cultural resources staff shall review any additions or changes to the project and implement identification investigations as necessary to identify any historic properties that may be impacted by the proposed activity or alignment modification. The

MTA shall provide all completed information to the MD SHPO, FTA, and relevant consulting parties under this PA for review and comment. If the MD SHPO does not provide comments within 30 calendar days of receipt, the MTA may assume the MD SHPO acceptance of the results.

B. Evaluation

The MTA shall evaluate all cultural resources identified in the areas inventoried under Stipulations IV.A, V.A and VIII.A in accordance with 36 CFR 800.4(c) to determine their eligibility for the National Register. The MTA shall provide the results of any such evaluation efforts to the MD SHPO, FTA, and relevant consulting parties for review and comment. If the MD SHPO does not provide comments within 30 calendar days of receipt, the MTA may assume the MD SHPO acceptance of the results.

C. Treatment

Should any property eligible for inclusion in the National Register be identified under Stipulations IV.B, V.B and VIII.B, the MTA shall make a reasonable and good faith effort to avoid adversely impacting the resources by realigning or modifying the Undertaking. If adverse effects are unavoidable, the MTA, FTA, the MD SHPO and relevant consulting parties shall consult in accordance with 36 CFR 800.6 to develop and implement appropriate treatment options. The MTA shall ensure that any resulting cultural resources work is accomplished in accordance with the relevant performance standards in Stipulation III.

IX. DOCUMENT AND DESIGN REVIEW

During the implementation of this PA, the MTA, in coordination with the FTA, shall provide the MD SHPO, NPS, NCPC, and other consulting parties with the opportunity to review and comment on appropriate documents, reports and design plans as specified in the stipulations throughout the PA. In general, review periods will encompass a timeframe not to exceed 30 calendar days from receipt of the item for review, unless otherwise specified in the PA.

The MD SHPO, NPS, and NCPC will provide comments to MTA regarding any plan or document submitted pursuant to this PA, as promptly as possible, but not to exceed 30 calendar days of the receipt of such revisions.

If the MD SHPO, NPS, and NCPC do not submit comments in writing within 30 calendar days of the receipt of any such submissions, MTA may assume MD SHPO acceptance of the submitted document.

If the MD SHPO, NPS, NCPC, or other consulting parties objects within 30 calendar days of the receipt of any submissions, then FTA, MTA, and the MD SHPO will consult expeditiously in an effort to resolve the objection.

If the FTA and MTA cannot resolve MD SHPO, NPS, NCPC, and/or other consulting parties objection, and if further consultation with the MD SHPO, NPS, and NCPC is deemed unproductive by any party, then the parties will adhere to the dispute resolution procedures detailed under Stipulation XI.

The FTA, MTA, MD SHPO, NPS, and NCPC acknowledge that the timeframes set forth in this stipulation will be the maximun allowable under normal circumstances. In exigent circumstances (such as when construction activities have been suspended or delayed pending resolution of the matter), each party agrees to expedite their respective document review and dispute resolution obligations.

X. ONGOING COORDINATION AND OVERSIGHT

A. Ongoing coordination

The MTA and the MD SHPO will regularly consult to review implementation of the terms of this PA. The MTA shall schedule formal coordination meetings and invite the FTA, MD SHPO, NPS, NCPC, and relevant consulting parties, as needed throughout the duration of the PA. At a minimum, the MTA shall hold an annual meeting with the signatory and consulting parties for the duration the PA, as long as the MTA is still actively performing work under the PA stipulations.

B. Annual Report

Commencing from the date that this PA is fully executed, and continuing until the Undertaking is completed or terminated, the MTA shall produce an annual report and submit it to the other signatory and consulting parties. The report will provide information concerning the status of implementing the various stipulations of this PA, identify any problems or unexpected issues encountered during the year, and address any changes the MTA recommends in the implementation of the PA. The MTA shall provide the report via e-mail, the project web site or other agreed-upon methods of distribution.

C. Annual Review of the Programmatic Agreement

The MTA and MD SHPO will review the effectiveness of this PA to determine whether to revise the PA during each annual reporting period. The MTA will recommend any PA revisions **that will be** amended in accordance with Stipulation XIII below **to the FTA, MD SHPO, NPS, and NCPC**.

D. Monitoring

The FTA and MD SHPO will monitor activities carried out pursuant to this PA. The MTA will cooperate with the signatory parties in carrying out their monitoring efforts.

XI. DISPUTE RESOLUTION

A. Resolution of Objection by the Signatories

Should the MD SHPO, or any of the signatories to this PA, object in writing within 30 days to any plans or actions proposed pursuant to this PA, the FTA shall consult with the objecting party to resolve the objection. If the FTA determines that such objection cannot be resolved, the FTA will within a 30-day time period:

1. Forward all documentation relevant to the dispute, including the FTA's proposed resolution, to the ACHP. Prior to reaching a final decision on the dispute, the FTA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories, and concurring parties, and provide them with a copy of this written response. The FTA will then proceed according to its final decision.
2. If the ACHP does not provide its advice regarding the dispute within the 30-day time period, FTA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the FTA shall prepare a written response that takes into

account any timely comments regarding the dispute from the signatories and concurring parties to the PA, and provide them and the ACHP with a copy of such written response.

3. The FTA's responsibility to carry out all other actions subject to the terms of this PA that are not the subject of the dispute remains unchanged.

B. Resolution of Objections

At any time during the implementation of the measures stipulated in this PA, should an objection pertaining to this agreement or the effect of the Undertaking on historic properties be raised by another consulting party, or a member of the public, the MTA shall notify the parties to this agreement and take the objection into account, in coordination with the FTA, consulting with the objector, and with any of the parties to this agreement, as needed, to resolve the objection.

XII. OTHER

For purposes of notices and consulting pursuant to this PA, the following addresses and contact information should be used for the following agencies:

MTA
John Newton
Maryland Transit Administration
6 St. Paul Street
Baltimore, MD 21202-1614

FTA
Daniel Koenig, Environmental Protection Specialist
Federal Transit Administration, DC Metro Office
1990 K Street NW, Suite 510
Washington, DC 20006

MD SHPO
J. Rodney Little
State Historic Preservation Officer
Maryland Historical Trust
100 Community Place
Crownsville, MD 21032-2023

NPS
David Hayes, Regional Planner & Transportation Liaison
National Park Service
1100 Ohio Drive SW
Washington, DC 20242

NCPC
Michael Weil, Urban Planner
National Capital Planning Commission
401 9th Street NW, Suite 500
Washington, DC 20004

If an emergency situation, that represents an immediate threat to public health, safety, life or property creating the potential to effect a historic property should occur during the duration of this PA, the regulations set forth in 36 CFR 800.12 shall be followed. MTA shall notify FTA and the MD SHPO of the condition which has created the situation and the measures to be taken to respond to the emergency or hazardous condition. FTA and the MD SHPO may submit comments to the MTA within seven days of the notification. If MTA determines that circumstances do not permit seven days for comment, MTA shall notify FTA and MD SHPO and invite any comments in the determined and stated time available. MTA shall consider these comments in developing a response to the treatment of historic properties in relation to the emergency situation.

XIII. AMENDMENTS

This PA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with ACHP.

XIV. TERMINATION

If any signatory of this PA determines that its terms will not or cannot be carried out, that party will immediately consult with the other parties to attempt to develop an amendment per Stipulation XIII. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the PA upon written notification to the other signatories. If the PA is terminated, MTA and FTA must comply with subpart B of 36 CFR 800 with regard to individual undertakings of the program covered by the PA, pursuant to 36 CFR 800.14(b)(2)(v), prior to work continuing on the Undertaking. MTA and FTA will notify the signatories as to the course of action it will pursue.

XV. DURATION

This PA shall be null and void if its terms are not carried out within ten (10) years from the date of execution, unless the signatory parties agree to amend it in accordance with Stipulation XIII. If the FTA and MTA have not fulfilled the terms of the PA prior to its expiration, the signatory parties shall consult to reconsider the terms of the PA and amend it according to Stipulation XIII or terminate it in accordance with Stipulation XIV.

Execution of the PA by the FTA, MTA, MD SHPO, NPS, and NCPC and implementation of its terms evidence that the FTA has afforded the signatories an opportunity to comment on the Undertaking and its effects on historic properties and that the FTA has taken into account the potential effects of the Undertaking on historic properties.

FEDERAL TRANSIT ADMINISTRATION

By: _____ Date: _____
Brigid Hynes-Cherin
Regional Administrator

MARYLAND TRANSIT ADMINISTRATION

By: _____ Date: _____
Henry M. Kay
Executive Director for Transit Development and Delivery

MARYLAND STATE HISTORIC PRESERVATION OFFICER

By: _____ Date: _____
J. Rodney Little
State Historic Preservation Officer

NATIONAL PARK SERVICE

By: _____ Date: _____
[name]
[title]

NATIONAL CAPITAL PLANNING COMMISSION

By: _____ Date: _____
[name]
[title]

List of Exhibits

Appendix I

Section 4(f) Evaluation Materials

Correspondence and other materials supporting the Draft Section 4(f) Evaluation are provided in this Appendix I.

U.S. Department
of Transportation
**Federal Transit
Administration**

REGION III
Delaware, District of
Columbia, Maryland,
Pennsylvania, Virginia,
West Virginia

1760 Market Street
Suite 500
Philadelphia, PA 19103-4124
215-656-7100
215-656-7260 (fax)

December 8, 2011

Mr. Tom McCarthy
Maryland Department of Natural Resources
Program Open Space
Southern Land Conservation
580 Taylor Avenue
Annapolis, MD 21401

Subject: Purple Line, Montgomery and Prince George's Counties
Section 4(f) Resources – Montgomery and Prince George's County Parks

Dear Mr. McCarthy:

The Federal Transit Administration (FTA), in cooperation with the Maryland Transit Administration (MTA), is preparing a Final Environmental Impact Statement (FEIS) for the Purple Line transit project located in Montgomery and Prince George's Counties, Maryland. The purpose of this letter is to request a meeting with the Maryland Department of Natural Resources to begin formal coordination regarding the Purple Line project and its potential effects on parks and properties within its jurisdiction.

The Purple Line would extend 16 miles, from Bethesda in Montgomery County to New Carrollton, in Prince George's County. The Purple Line would connect Metrorail's Red Line (Bethesda and Silver Spring stations), Green Line (College Park station), and Orange Line (New Carrollton station). This project would provide transit options to people along the corridor, support economic development, and help address the region's air quality issues.

The attached map shows the proposed alignment, as well as park resources in the vicinity of the proposed project. As currently designed, the proposed project could potentially affect numerous park resources along the proposed alignment that were purchased or developed in part with Program Open Space funding. They are as follows:

- Rock Creek Regional Park
- New Hampshire Estates Neighborhood Park
- Northwest Branch Stream Valley Park- including Adelphi Manor Community Recreation Center, Lane Manor Community Recreation and Aquatic Center, University Hills Neighborhood Park, and Northwest Branch Trail
- Paint Branch Stream Valley
- Anacostia River Stream Valley Park
- West Lanham Hills Neighborhood Recreation Center

As part of the coordination effort, we would like to request any relevant, available information on the identified parks - such as specific parcels that were purchased or developed using POS funds - that might be beneficial with regard to our research of these resources.

Please contact Tim Lidiak, FTA Environmental Planner (215-656-7084) or John Newton, MTA's Environmental Manager (410-767-3769) at your convenience to schedule the meeting.

We appreciate your assistance with this process.

Sincerely,

Michele Destra

Michele Destra, Director
Office of Planning & Program Development

Enclosure

cc: Mike Madden, MTA
John Newton, MTA
Leslie Roche, PMC
Steve Hawtof, GEC
Amanda Baxter, GEC

Purple Line GEC
Maryland-National Capital Park and Planning Commission - Montgomery County Parks and Recreation Department Formal Agency Coordination Meeting
Parkside Headquarters
9500 Brunett Avenue
Silver Spring, Maryland
Wednesday, November 21, 2012 at 1:00 PM

MEETING SUMMARY

ATTENDEES:
Mr. Jim Guinther, Purple Line GEC
Mr. Steve Hawtof, Purple Line GEC
Ms. Kristi Hewlett, Purple Line GEC
Mr. Charles Kines, M-NCPPC
Ms. Harriet Levine, Purple Line GEC
Mr. Doug Redmond, M-NCPPC

LIST OF HANDOUTS:
- Agenda

1. Overview of refinements made to the Preferred Alternative since the previous meeting
The Purple Line GEC Team provided a brief overview of the refinements made to the proposed alignment since the previous meeting. The Purple Line team proceeded to review each park, and discuss parks in terms of impact findings previously discussed. The Purple Line Team supplied agendas for use by each meeting attendee, plan sized maps illustrating anticipated impacts to each park, and photographs of Sligo Creek Stream Valley Park in the vicinity of the proposed project.

2. Elm Street Urban Park
As discussed in previous meetings, M-NCPPC is in the process of redesigning Elm Street Urban Park. The park will be completely redesigned in the future, though no timeline was provided. M-NCPPC is overseeing the design of the park. All of the renderings of the proposed reconstructed park have been provided to the Purple Line Team. The team has been working with M-NCPPC and Montgomery County in an effort to construct access to the proposed Capital Crescent Trail in an effort to minimize any potential impacts to the park. Construction access would be through the Interim CCT. Construction impacts to the park would be minimized to the maximum extent possible.

As currently designed, the Preferred Alternative would result in 0.02 acre of temporary impacts to Elm Street Urban Park. Impacts would be a result of the construction of the access from the park to the proposed CCT. The proposed trail connection would be eight feet wide, but depending on park plans, could be widened to ten feet. Impacts would be temporary and would improve access to the park from the trail. The trail connection would be aerial over the transitway, where it would cross to parallel the transitway to the north. The pedestrian bridge over the transitway would be fenced within a boxed truss over the track.

There were questions about the potential visual impacts of the proposed trail and transitway from Elm Street Urban Park. In the vicinity of the park, the proposed transitway would be constructed within the tunnel under the Air Rights Building. There would be walls constructed directly north of the park that would screen the view of the transitway from the park. The design of the walls would be consistent with what is proposed with the redevelopment of the Air Rights Building. The walls would end with a louver (a framed opening with movable horizontal slats for ventilation), directly west of the proposed trail connection from Elm Street Urban Park to the proposed Capital Crescent Trail. Five-foot wide sidewalks would be constructed through the tunnel in lieu of a trail so that patrons could access the Purple Line or Metro's Red Line. In addition, the sidewalk would serve as an alternate means of crossing Wisconsin Avenue.

A rock garden currently exists between Elm Street Urban Park and the Georgetown Branch Interim Trail. There were discussions about potentially including landscaping between the Air Rights Building and the park. The rock garden could potentially be landscaped up to the louver area. This will be further explored and will be discussed at future agency coordination meetings.

M-NCPPC concurred that as currently designed, the proposed project would result in *de minimis* impacts to Elm Street Urban Park. However, if the design of the trail connection changes and results in impacts to the existing playground or the removal of trees, this finding would need to be revisited.

3. Rock Creek Stream Valley Park

In the vicinity of Rock Creek Stream Valley Park, the proposed project would be aligned completely within Montgomery County right-of-way. Construction would occur from Lyttonsville area in an effort to expedite construction in the vicinity of the park. Rock Creek National Recreational Trail would be detoured temporarily during construction in an effort to protect trail patrons. Extensive tree clearing would occur in order to perform the construction of the trail and transitway. This would result in increased visibility of the trail and transitway. The Purple Line Team is currently evaluating various options to connect the proposed Capital Crescent Trail to Rock Creek Trail.

The design of the proposed connector trail from the proposed Capital Crescent Trail to existing Rock Creek Trail was discussed. The proposed trail connection would occur completely within Montgomery County right-of-way in an effort to minimize direct impacts to the park and natural resources in the vicinity of the proposed project. The engineering and construction of the trail was discussed and the team described why the proposed connection would work. Through the majority of the park, the proposed Capital Crescent Trail would be aligned to the south side of the proposed transitway. The trail would be constructed at a lower elevation than the transitway in an effort to preserve the viewshed within Rock Creek Stream Valley Park to the maximum extent possible. On the eastern side of the park, the trail would cross under the proposed transitway in a tunnel, where it would parallel the transitway to the north.

We revisited the previous discussion regarding potentially moving the Rock Creek Trail in an effort to reduce flooding and siltation issues that currently plague the trail. Moving the trail is not a feasible option because of the instability of slope to the south of the proposed transitway, the construction of the proposed trail and transitway and associated abutments, and the location of the Rock Creek floodplain. The M-NCPPC requested that the Purple Line Team evaluate potentially raising the trail, either by constructing a boardwalk or by some other means through the proposed project area. Elevating the trail would improve the functionality of the trail.

M-NCPPC questioned stormwater management measures within the park. Stormwater management facilities would not be constructed within the park, as this would result in an increase in impacts to park resources. As such, M-NCPPC concurred that as currently designed, since the proposed project would not have an adverse effect on the park or any park facilities, it would result in *de minimis* impacts to the park and trail.

4. Long Branch Stream Valley Park and Long Branch Local Park

Long Branch Stream Valley Park and Long Branch Local Park would be evaluated as two separate parks. However, since the alignment and related issues would include the same discussion for both parks, both are included below. At the May 16, 2012 formal agency coordination meeting, M-NCPPC indicated that the proposed project would result in *de minimis* impacts to both Long Branch Stream Valley Park and Long Branch Local Park. However, additional discussions with other M-NCPPC and Montgomery County staff after that meeting, it was determined that additional minimization measures would need to be evaluated before M-NCPPC would concur with *de minimis* impact determinations for either park. As part of mitigation, M-NCPPC indicated that replanting would be required within the parks to replace vegetation that would be removed as a result of the proposed project. In addition, they indicated that new sidewalks have been constructed along Garland Avenue, which is located directly west of the park. Access to those sidewalks would be maintained at all times during construction. They requested that construction be avoided during June and July, which are historically the busiest months for Long Branch Recreational Center.

The Preferred Alternative is aligned through the median of Piney Branch Road, which abuts Long Branch Stream Valley Park to the north. Right-of-way would be required for the widening of Piney Branch Road to accommodate the proposed Purple Line. The roadway widening would include two dedicated lanes for the transitway, one in each direction, an 11-foot wide vehicle lane and a 16-foot wide shared use lane for vehicle and bicycle use in each direction. Five-foot wide sidewalks would be constructed on both north and south sides of Piney Branch Road.

As currently designed, the Preferred Alternative would require the acquisition of approximately 0.11 acre of property and approximately 0.36 acre of temporary construction easements from Long Branch Stream Valley Park. In addition, the Preferred Alignment would require the acquisition of approximately 0.07 acre of property and approximately 0.24 acre of temporary construction easements from Long Branch Local Park. As part of the proposed project, the culvert that currently conveys Long Branch Stream beneath Piney Branch Road would be lengthened and a new parallel pipe would be constructed in an effort to better convey the stream and mitigate flooding that currently occurs frequently in this location. A majority of the proposed construction, including the extension of the culvert and construction of the new pipe, would occur from Piney Branch Road in an effort to minimize impacts to the park. Some tree removal would be required within the park along Piney Branch Road and the stream directly adjacent to the road for grading. However; some material storage and access through the existing parking lot may be required.

At the previous meeting, M-NCPPC indicated that there are a lot of problems within Long Branch Stream. The stream has a lot of erosion issues. In addition, flooding is frequent in the vicinity of Long Branch Stream Valley Park. M-NCPPC indicated that there are problems with non-native invasive tree species growing along the stream banks.

Five-foot wide sidewalks currently exist on either side of Piney Branch Road. The proposed project would include the construction of five-foot wide sidewalks to replace those that would be displaced as a result of the proposed project. Montgomery County would like to construct 10-foot wide sidewalks on either side of Piney Branch Road. M-NCPPC stated that the Sector Plan that is currently under development includes sidewalk widening to 10 feet along Piney Branch Road. The Purple Line Team indicated that while the current plans include the construction of

five-foot wide sidewalks on either side of Piney Branch Road, some measures could be taken to prepare the proposed project area for widened sidewalks in the future. Potential measures include raising the headwalls and wingwalls associated with the proposed culvert extension by 2 ½ feet so that sidewalk widening could be accommodated without impacting the extended culvert in the future.

Access to the Long Branch Community Center would be restricted. Access would be limited to right turns into and out of the community center. The reason for the restricted access is that traffic cannot cross the transitway at an unsignalized intersection. In addition, there is not enough room on Piney Branch Road to construct left turn lanes without substantially impacting buildings, which would be necessary to allow for left turns on Piney Branch Road. Therefore, patrons utilizing the community center from the west would need to make a u-turn at University Boulevard to access the community center. In addition, patrons wishing to travel eastbound from the community center would need to turn right onto Piney Branch Road and make a u-turn at Arliss Street to proceed eastbound on Piney Branch Road. Full access to the Long Branch Trail would be maintained at all times during construction. The proposed project would include better signalized pedestrian crossings along Piney Branch, which would be beneficial to park patrons.

M-NCPPC stated that no left turns on Piney Branch Road would be unacceptable according to the Long Branch Sector Plan, which is currently under development. Approximately 300 to 400 people use the community center every day, so there is a need to access it. In addition, M-NCPPC indicated their opinion was that since the restricted access to and from the community center would be a direct result of the proposed Purple Line, MTA is responsible for remediating any potential impacts to access. M-NCPPC indicated that they didn't feel that all measures were thoroughly exhausted to minimize impacts to access to the Long Branch Community Center. They requested additional minimization and mitigation measures be evaluated. Suggested measures include the following:

- Further widen Piney Branch Road so that left turn lanes could be included in each direction;
- Potentially realign the entrance to the Community Center with Barron Street;
- Potentially relocate the Long Branch Community Center from its current location to the west, east of the intersection of Garland Avenue and Walden Road;
- Potentially construct an additional access road from Garland Avenue near the Long Branch Library along an existing pedestrian path. A recently reconstructed pedestrian bridge over Long Branch would need to be reconstructed to accommodate vehicular traffic; and

The construction of an additional Long Branch Community Center access road from University Boulevard to Langley Drive has been evaluated in the past by M-NCPPC and Montgomery County. However, that option was dismissed, as the access road would be through an existing residential area and would result in a significant increase in traffic within the neighborhood and affecting safety.

M-NCPPC requested that the Purple Line Team attempt to minimize tree loss within Long Branch Stream Valley Park, as the proposed limits of disturbance, as currently designed, appear to be a bit more generous than is necessary. The Team will further refine the temporary impacts, limits-of-disturbance, and tree removal within Long Branch Stream Valley Park.

The measures listed above will be further evaluated and discussed at the next meeting with M-NCPPC.

5. Sligo Creek Stream Valley Park

For documentation purposes, this park includes Sligo Creek Stream Valley Park, Sligo Cabin Neighborhood Park, and Sligo Creek National Recreational Trail. The Purple Line Team verified that this would be acceptable to M-NCPPC. The park is 543 acres in size, consists of seven different units, and encompasses the Sligo Creek floodplain. The park was purchased and developed using Capper-Cramton Act funding.

The proposed project is aligned through the median of Wayne Avenue in the vicinity of Sligo Creek Stream Valley Park. In addition, the proposed Green Trail would be constructed from Silver Spring to Sligo Creek Parkway in this area, abutting Wayne Avenue to the north. Anticipated impacts to Sligo Creek Stream Valley Park were discussed with M-NCPPC. As currently designed, the proposed project would result in 0.25 acre of permanent impacts, as well as 1.48 acre of temporary impacts. In addition, a 0.03 acre sliver of land currently owned by Montgomery County that abuts Wayne Avenue to the south would be conveyed to M-NCPPC for use as park. Not only will the bridge on Wayne Avenue need to be reconstructed to accommodate the transit way, it would be moved slightly to the west to accommodate the realignment of Sligo Creek. Flooding is an issue within the proposed project area at this location. Realigning the existing stream would be beneficial to the park and the surrounding area, as it would alleviate these flooding issues. Full access to the park and facilities would be maintained at all times during construction. No park facilities would be affected by the proposed project.

Tree loss is proposed in the vicinity of the proposed project as a result of roadway widening, bridge reconstruction, and stream realignment. Mapping was presented at the meeting to illustrate proposed tree removal. Tree removal was determined as a combined result of aerial photography, engineering, and site reconnaissance to determine where trees currently exist that would need to be removed. It was determined during the meeting that WSSC is completing a lot of work within Sligo Creek. M-NCPPC will attempt to provide mapping of the stream upgrades.

The proposed access road located to the south of Wayne Avenue is currently a utility easement. This area was also used as an access road for WSSC to complete work in January 2012. Tree removal to the south of Wayne Avenue could potentially be further minimized. To the north of Wayne Avenue, parking within the park would be reconfigured and replaced as a result of the proposed project. There were concerns about potential impacts to Sligo Creek Parkway as a result of the roadway tie-ins. This had already been considered by the team, and the proposed tie-ins are relatively short.

M-NCPPC will have an internal meeting to discuss the proposed project and anticipated impacts. There will be further discussions between M-NCPPC and the Purple Line Team to discuss a potential *de minimis* impact finding.

6. New Hampshire Estates Neighborhood Park

In the vicinity of New Hampshire Estates Neighborhood Park, from Piney Branch Road, the proposed transitway would turn southbound onto University Boulevard, where it would be aligned through the middle of the roadway. The Piney Branch station is proposed for construction directly after the Piney Branch Road-University Boulevard intersection. The transitway and station construction would require roadway widening of University Boulevard in this location. The proposed alignment was shifted slightly to the east in an effort to minimize residential displacements.

As currently designed, the proposed project would result in 0.32 acre of permanent impacts, as well as 0.35 acre of temporary impacts. The existing parking lot would need to be removed, as roadway widening and sidewalk construction would impact half of the existing parking area. In addition, the construction of the proposed transitway would allow only right turns in and out of the park.

The proposed project would require the displacement of an existing grocery store and gas station, located directly north of the park. In addition, the Takoma/Langley Crossroads Sector Plan is currently being developed for the proposed project area. M-NCPPC has expressed an interest in the identified displacement area directly to the north of the park for potential future parking. In addition, there have been discussions about potentially construction a regulation size soccer field at the park. M-NCPPC indicated that the sector plan that is currently under development indicates that a loop road would be constructed through the park to provide access to private property to the north of the park. M-NCPPC stated that the park would be redeveloped, regardless of the proposed project. The park will be reclassified from a neighborhood park to community use/urban recreation park. Due to so many unknowns with regard to potential impacts and mitigation, a finding for this park is pending.

7. Next Meeting

M-NCPPC indicated that they would concur with the Federal Transit Administration finding that Elm Street Urban Park and Rock Creek Stream Valley Park would be subject to *de minimis* impact findings. As such, after the conclusion of the meeting, the Purple Line Team would continue with the required *de minimis* coordination process. Depending on refinements to the LOD, Long Branch Stream Valley Park could potentially be subject to de minimis impacts as well. Internal meetings between M-NCPPC will occur in December where they will further discuss the proposed project and anticipated impacts. Additional coordination would be required regarding anticipated impacts to Long Branch Local Park, Long Branch Stream Valley Park, Sligo Creek Stream Valley Park, and New Hampshire Estates Neighborhood Park. In addition, coordination for mitigation and minimization will be ongoing between the Purple Line Team and M-NCPPC.

ACTION ITEM SUMMARY

Task #	Action Item	Due Date	Status
1.	Evaluate possibly landscaping the existing "rock garden" between Elm Street Urban Park and the Air Rights Building		
2.	Evaluate potentially raising Rock Creek Trail in an effort to decrease flooding impacts and siltation. Look into potentially constructing a boardwalk.		
3.	Refine the LOD within Long Branch Stream Valley Park to determine if tree clearing can be minimized or if the LOD can be decreased		
4.	Long Branch Local Park- investigate potential left turns on Piney Branch Road		
5.	Potentially move Long Branch Community Center		
6.	Potentially construct a new access road into Long Branch Community Center		
7.	New Hampshire Estates Neighborhood Park- look into what they are planning to do with the parcels at corner of University Blvd and Piney Branch Road		
8.	Are there plans to close off access to the corner parcels from Piney Branch/University? If so, sector plan has potential loop road constructed through the park		
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SIGN IN SHEET

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Steve Hawtof	Purple Line	443-348-2017	shawtof@gfnet.com

Purple Line GEC
Maryland-National Capital Park and Planning Commission - Montgomery County Parks and Recreation Department Formal Agency Coordination Meeting
Parkside Headquarters
9500 Brunett Avenue
Silver Spring, Maryland
Wednesday, January 25, 2012 at 1:30 PM

MEETING SUMMARY

ATTENDEES:
Mr. Jim Guinther, Purple Line GEC
Mr. Steve Hawtof, Purple Line GEC
Ms. Kristi Hewlett, Purple Line GEC
Mr. Charles Kines, M-NCPPC
Ms. Harriet Levine, Purple Line GEC
Mr. Doug Redmond, M-NCPPC

LIST OF HANDOUTS:
- Agenda

1. Introduction
The meeting was kicked off with introductions. Ms. Harriet Levine provided a brief background of the proposed project. Since the meeting attendees were familiar with the proposed Purple Line alignment, there was no need to discuss it further. Section 4(f) and its purpose was defined for the group.

A park-by-park discussion was held, where each park that would be affected by the proposed project was described with regard to existing conditions and access. In addition, anticipated impacts to each park were discussed, as well as potential impact findings.

A map of the proposed alignment, including the locations of each park along or in close proximity to the proposed alignment, was presented to the group. It was determined that there would be no impact to the East-West Highway Neighborhood Conservation Area, as the proposed Purple Line would be constructed on the opposite side of the street from this area.

2. Elm Street Urban Park
As discussed in previous meetings, M-NCPPC is in the process of redesigning Elm Street Urban Park. The park will be completely redesigned in the future, though no timeline was provided. M-NCPPC is overseeing the design of the park. All of the renderings of the proposed reconstructed park have been provided to the Purple Line Team. The team has been working with M-NCPPC and Montgomery County in an effort to construct access to the proposed Capital Crescent Trail in an effort to minimize any potential impacts to the park. Construction access would be through the Interim CCT. Construction impacts to the park would be minimized to the maximum extent possible.

As currently designed, the Preferred Alternative would result in 0.02 acre of temporary impacts to Elm Street Urban Park. Impacts would be a result of the construction of the access from the park to the proposed CCT. The proposed trail connection would be eight feet wide, but depending on park plans, could be widened to ten feet. Impacts would be temporary and would improve access to the park from the trail. The trail connection would be aerial over the transitway, where it would cross to parallel the transitway to the north. The pedestrian bridge over the transitway would be fenced within a boxed truss over the track.

There were questions about the potential visual impacts of the proposed trail and transitway from Elm Street Urban Park. In the vicinity of the park, the proposed transitway would be constructed within the tunnel under the Air Rights Building. There would be walls constructed directly north of the park that would screen the view of the transitway from the park. The design of the walls would be consistent with what is proposed with the redevelopment of the Air Rights Building. The walls would end with a louver (a framed opening with movable horizontal slats for ventilation), directly west of the proposed trail connection from Elm Street Urban Park to the proposed Capital Crescent Trail. Five-foot wide sidewalks would be constructed through the tunnel in lieu of a trail so that patrons could access the Purple Line or Metro's Red Line. In addition, the sidewalk would serve as an alternate means of crossing Wisconsin Avenue.

A rock garden currently exists between Elm Street Urban Park and the Georgetown Branch Interim Trail. There were discussions about potentially including landscaping between the Air Rights Building and the park. The rock garden could potentially be landscaped up to the louver area. This will be further explored and will be discussed at future agency coordination meetings.

M-NCPPC concurred that as currently designed, the proposed project would result in *de minimis* impacts to Elm Street Urban Park. However, if the design of the trail connection changes and results in impacts to the existing playground or the removal of trees, this finding would need to be revisited.

3. Rock Creek Stream Valley Park

In the vicinity of Rock Creek Stream Valley Park, the proposed project would be aligned completely within Montgomery County right-of-way. Construction would occur from Lyttonsville area in an effort to expedite construction in the vicinity of the park. Rock Creek National Recreational Trail would be detoured temporarily during construction in an effort to protect trail patrons. Extensive tree clearing would occur during construction for the construction of the trail and transitway, as well as construction equipment. This would result in increased visibility of the trail and transitway. The Purple Line Team is currently evaluating various options to connect the proposed Capital Crescent Trail to Rock Creek Trail.

The design of the proposed connector trail from the proposed Capital Crescent Trail to existing Rock Creek Trail was discussed. The proposed trail connection would occur completely within Montgomery County right-of-way in an effort to minimize direct impacts to the park and natural resources in the vicinity of the proposed project. The engineering and construction of the trail was discussed and the team described why the proposed connection would work. Through the majority of the park, the proposed Capital Crescent Trail would be aligned to the south side of the proposed transitway. The trail would be constructed at a lower elevation than the transitway in an effort to preserve the viewshed within Rock Creek Stream Valley Park to the maximum extent possible. On the eastern side of the park, the trail would cross under the proposed transitway in a tunnel, where it would parallel the transitway to the north.

We revisited the previous discussion regarding potentially moving the Rock Creek Trail in an effort to reduce flooding and siltation issues that currently plague the trail. Moving the trail is not a feasible option because of the instability of slope to the south of the proposed transitway, the construction of the proposed trail and transitway and associated abutments, and the location of the Rock Creek floodplain. They requested that the Purple Line Team evaluate potentially raising the trail, either by constructing a boardwalk or by some other means through the proposed project area. Elevating the trail would improve the functionality of the trail.

M-NCPPC questioned stormwater management measures within the park. Stormwater management facilities would not be constructed within the park, as this would result in an increase in impacts to park resources. As such, M-NCPPC concurred that as currently designed, since the proposed project would not have an adverse effect on the park or any park facilities, it would result in *de minimis* impacts to the park and trail.

4. Long Branch Stream Valley Park and Long Branch Local Park

Long Branch Stream Valley Park and Long Branch Local Park would be evaluated as two separate parks. However, since the alignment and related issues would include the same discussion for both parks, both are included below. At the May 16, 2012 formal agency coordination meeting, M-NCPPC indicated that the proposed project would result in *de minimis* impacts to both Long Branch Stream Valley Park and Long Branch Local Park. However, additional discussions with other M-NCPPC and Montgomery County staff after that meeting, it was determined that additional minimization measures would need to be evaluated before M-NCPPC would concur with *de minimis* impact determinations for either park. As part of mitigation, M-NCPPC indicated that replanting would be required within the parks to replace vegetation that would be removed as a result of the proposed project. In addition, they indicated that new sidewalks have been constructed along Garland Avenue, which is located directly west of the park. Access to those sidewalks would be maintained at all times during construction. They requested that construction be avoided during June and July, which are historically the busiest months for Long Branch Recreational Center.

The Preferred Alternative is aligned through the median of Piney Branch Road, which abuts Long Branch Stream Valley Park to the north. Right-of-way would be required for the widening of Piney Branch Road to accommodate the proposed Purple Line. The roadway widening would include two dedicated lanes for the transitway, one in each direction, an 11-foot wide vehicle lane and a 16-foot wide shared use lane for vehicle and bicycle use in each direction. Five-foot wide sidewalks would be constructed on both north and south sides of Piney Branch Road.

As currently designed, the Preferred Alternative would require the acquisition of approximately 0.11 acre of property and approximately 0.36 acre of temporary construction easements from Long Branch Stream Valley Park. In addition, the Preferred Alignment would require the acquisition of approximately 0.07 acre of property and approximately 0.24 acre of temporary construction easements from Long Branch Local Park. As part of the proposed project, the culvert that currently conveys Long Branch Stream beneath Piney Branch Road would be lengthened and a new parallel pipe would be constructed in an effort to better convey the stream and mitigate flooding that currently occurs frequently in this location. A majority of the proposed construction, including the extension of the culvert and construction of the new pipe, would occur from Piney Branch Road in an effort to minimize impacts to the park. Some tree removal would be required within the park along Piney Branch Road and the stream directly adjacent to the road for grading. However; some material storage and access through the existing parking lot may be required.

At the previous meeting, M-NCPPC indicated that there are a lot of problems within Long Branch Stream. The stream has a lot of erosion issues. In addition, flooding is frequent in the vicinity of Long Branch Stream Valley

Park. M-NCPPC indicated that there are problems with non-native invasive tree species growing along the stream banks.

Five-foot wide sidewalks currently exist on either side of Piney Branch Road. The proposed project would include the construction of five-foot wide sidewalks to replace those that would be displaced as a result of the proposed project. Montgomery County would like to construct 10-foot wide sidewalks on either side of Piney Branch Road. M-NCPPC stated that the Sector Plan that is currently under development includes sidewalk widening to 10 feet along Piney Branch Road. The Purple Line Team indicated that while the current plans include the construction of five-foot wide sidewalks on either side of Piney Branch Road, some measures could be taken to prepare the proposed project area for widened sidewalks in the future. Potential measures include raising the headwalls and wingwalls associated with the proposed culvert extension by 2 ½ feet so that sidewalk widening could be accommodated without impacting the extended culvert in the future.

Access to the Long Branch Community Center would be restricted. Access would be limited to right turns into and out of the community center. The reason for the restricted access is that traffic cannot cross the transitway at an unsignalized intersection. In addition, there is not enough room on Piney Branch Road to construct left turn lanes without substantially impacting buildings, which would be necessary to allow for left turns on Piney Branch Road. Therefore, patrons utilizing the community center from the west would need to make a u-turn at University Boulevard to access the community center. In addition, patrons wishing to travel eastbound from the community center would need to turn right onto Piney Branch Road and make a u-turn at Arliss Street to proceed eastbound on Piney Branch Road. Full access to the Long Branch Trail would be maintained at all times during construction. The proposed project would include better signalized pedestrian crossings along Piney Branch, which would be beneficial to park patrons.

M-NCPPC stated that no left turns on Piney Branch Road would be unacceptable according to the Long Branch Sector Plan, which is currently under development. Approximately 300 to 400 people use the community center every day, so there is a need to access it. In addition, M-NCPPC indicated their opinion was that since the restricted access to and from the community center would be a direct result of the proposed Purple Line, MTA is responsible remediating any potential impacts to access. M-NCPPC indicated that they didn't feel that all measures were thoroughly exhausted to minimize impacts to access to the Long Branch Community Center. They requested additional minimization and mitigation measures be evaluated. Suggested measures include the following:

- Further widen Piney Branch Road so that left turn lanes could be included in each direction;
- Potentially realign the entrance to the Community Center with Barron Street;
- Potentially relocate the Long Branch Community Center from its current location to the west, east of the intersection of Garland Avenue and Walden Road;
- Potentially construct an additional access road from Garland Avenue near the Long Branch Library along an existing pedestrian path. A recently reconstructed pedestrian bridge over Long Branch would need to be reconstructed to accommodate vehicular traffic; and

The construction of an additional Long Branch Community Center access road from University Boulevard to Langley Drive has been evaluated in the past by M-NCPPC and Montgomery County. However, that option was dismissed, as the access road would be through an existing residential area and would result in a significant increase in traffic within the neighborhood and affecting safety.

M-NCPPC requested that the Purple Line Team attempt to minimize tree loss within Long Branch Stream Valley Park, as the proposed limits of disturbance, as currently designed, appear to be a bit more generous than is necessary. The Team will further refine the temporary impacts, limits-of-disturbance, and tree removal within Long Branch Stream Valley Park.

The measures listed above will be further evaluated and discussed at the next meeting with M-NCPPC.

5. Sligo Creek Stream Valley Park

For documentation purposes, this park includes Sligo Creek Stream Valley Park, Sligo Cabin Neighborhood Park, and Sligo Creek National Recreational Trail. The Purple Line Team verified that this would be acceptable to M-NCPPC. The park is 543 acres in size, consists of seven different units, and encompasses the Sligo Creek floodplain. The park was purchased and developed using Capper-Cramton Act funding.

The proposed project is aligned through the median of Wayne Avenue in the vicinity of Sligo Creek Stream Valley Park. In addition, the proposed Green Trail would be constructed from Silver Spring to Sligo Creek Parkway in this area, abutting Wayne Avenue to the north. Anticipated impacts to Sligo Creek Stream Valley Park were discussed with M-NCPPC. As currently designed, the proposed project would result in 0.25 acre of permanent impacts, as well as 1.48 acre of temporary impacts. In addition, a 0.03 acre sliver of land currently owned by Montgomery County that abuts Wayne Avenue to the south would be conveyed to M-NCPPC for use as park. Not only with the bridge on Wayne Avenue need to be reconstructed to accommodate the transit way, it would be moved slightly to the west to accommodate the realignment of Sligo Creek. Flooding is an issue within the proposed project area at this location. Realigning the existing stream would be beneficial to the park and the surrounding area, as it would alleviate these flooding issues. Full access to the park and facilities would be maintained at all times during construction. No park facilities would be affected by the proposed project.

Tree loss is proposed in the vicinity of the proposed project as a result of roadway widening, bridge reconstruction, and stream realignment. Mapping was presented at the meeting to illustrate proposed tree removal. Tree removal was determined as a combined result of aerial photography, engineering, and site reconnaissance to determine where trees currently exist that would need to be removed. It was determined during the meeting that WSSC is completing a lot of work within Sligo Creek. M-NCPPC will attempt to provide mapping of the stream upgrades.

The proposed access road located to the south of Wayne Avenue is currently a utility easement. This area was also used as an access road for WSSC to complete work in January 2012. Tree removal to the south of Wayne Avenue could potentially be further minimized. To the north of Wayne Avenue, parking within the park would be reconfigured and replaced as a result of the proposed project. There were concerns about potential impacts to Sligo Creek Parkway as a result of the roadway tie-ins. This had already been considered by the team, and the proposed tie-ins are relatively short.

M-NCPPC will have an internal meeting to discuss the proposed project and anticipated impacts. There will be further discussions between M-NCPPC and the Purple Line Team to discuss a potential *de minimis* impact finding.

6. New Hampshire Estates Neighborhood Park

In the vicinity of New Hampshire Estates Neighborhood Park, from Piney Branch Road, the proposed transitway would turn southbound onto University Boulevard, where it would be aligned through the middle of the roadway. The Piney Branch station is proposed for construction directly after the Piney Branch Road-University Boulevard

intersection. The transitway and station construction would require roadway widening of University Boulevard in this location. The proposed alignment was shifted slightly to the east in an effort to minimize residential displacements.

As currently designed, the proposed project would result in 0.32 acre of permanent impacts, as well as 0.35 acre of temporary impacts. The existing parking lot would need to be removed, as roadway widening and sidewalk construction would impact half of the existing parking area. In addition, the construction of the proposed transitway would allow only right turns in and out of the park.

The proposed project would require the displacement of an existing grocery store and gas station, located directly north of the park. In addition, the Takoma/Langley Crossroads Sector Plan is currently being developed for the proposed project area. M-NCPPC has expressed an interest in the identified displacement area directly to the north of the park for potential future parking. In addition, there have been discussions about potentially construction a regulation size soccer field at the park. M-NCPPC indicated that the sector plan that is currently under development indicates that a loop road would be constructed through the park to provide access to private property to the north of the park. M-NCPPC stated that the park would be redeveloped, regardless of the proposed project. The park will be reclassified from a neighborhood park to community use/urban recreation park. Due to so many unknowns with regard to potential impacts and mitigation, a finding for this park is pending.

7. Next Meeting

M-NCPPC indicated that they would concur with the Federal Transit Administration finding that Elm Street Urban Park and Rock Creek Stream Valley Park would be subject to *de minimis* impact findings. As such, after the conclusion of the meeting, the Purple Line Team would continue with the required *de minimis* coordination process. Depending on refinements to the LOD, Long Branch Stream Valley Park could potentially be subject to de minimis impacts as well. Internal meetings between M-NCPPC will occur in December where they will further discuss the proposed project and anticipated impacts. Additional coordination would be required regarding anticipated impacts to Long Branch Local Park, Long Branch Stream Valley Park, Sligo Creek Stream Valley Park, and New Hampshire Estates Neighborhood Park. In addition, coordination for mitigation and minimization will be ongoing between the Purple Line Team and M-NCPPC.

ACTION ITEM SUMMARY

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5.	Potentially move Long Branch Community Center		
6.	Potentially construct a new access road into Long Branch Community Center		
7.	New Hampshire Estates Neighborhood Park- look into what they are planning to do with the parcels at corner of University Blvd and Piney Branch Road		
8.	Are there plans to close off access to the corner parcels from Piney Branch/University? If so, sector plan has potential loop road constructed through the park		
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SIGN IN SHEET

Name	Company	Phone Number	E-mail Address
Kristi Hewlett	Purple Line	410-230-6654	kristi.hewlett@jacobs.com
Jim Guinther	Purple Line	443-224-1583	jguinther@wrallp.com
Harriet Levine	Purple Line	410-230-6630	harriet.levine@jacobs.com
Chuck Kines	M-NCPPC Montgomery County Parks	301-495-2184	Charles.Kines@montgomeryparks.org
Doug Redmond	M-NCPPC Montgomery County Parks	301-384-2417	Doug.Redmond@montgomeryparks.org
Steve Hawtof	Purple Line	443-348-2017	shawtof@gfnet.com

Purple Line GEC
Maryland-National Capital Park and Planning Commission - Montgomery County Parks and Recreation Department Formal Agency Coordination Meeting
Parkside Headquarters
9500 Brunett Avenue
Silver Spring, Maryland
Friday, February 1, at 3:00 PM

MEETING SUMMARY

ATTENDEES:
Mr. Tom Autry, M-NCPPC Montgomery County Department of Planning
Mr. Stephen Chandlee, M-NCPPC Department of Parks
Mr. Jim Guinther, Purple Line GEC
Mr. Steve Hawtof, Purple Line GEC
Ms. Jayne Hench, M-NCPPC Department of Parks
Mr. John Hench, M-NCPPC Department of Parks
Ms. Kristi Hewlett, Purple Line GEC
Mr. Charles Kines, M-NCPPC Department of Parks
Ms. Harriet Levine, Purple Line GEC
Mr. Michael Madden, Maryland Transit Administration
Ms. Mitra Pedoeem, M-NCPPC Department of Parks
Mr. Doug Redmond, M-NCPPC Department of Parks
Ms. Melissa Williams, M-NCPPC Montgomery County Department of Planning

LIST OF HANDOUTS:
- Powerpoint Presentation

The meeting opened with introductions. A brief overview of the agenda, which included a discussion of de minimis, de minimis and temporary occupancy determinations to date, and a discussion of outstanding park impact determinations, was provided to the group.

1. Discussion of Section 4(f) *de minimis* impact findings and the *de minimis* process

The Team described for the group what a Section 4(f) de minimis impact finding is, as well as the process for determining de minimis impacts. A finding of *de minimis* impact can be made only if the official with jurisdiction over that resource concurs that the project "will not adversely affect the activities, features, and attributes" that make the property eligible for protection under Section 4(f). The finding is based on the transportation use of the Section 4(f) resource, together with any impact, avoidance, minimization, or enhancement measures incorporated into the project. A use of a resource was described as the permanent impact to a Section 4(f) resource by a transportation project. Examples were provided as to what, exactly, would constitute a use. The public needs to be afforded an opportunity to review and comment on the effects of the proposed project on protected activities, features, and attributes of the Section 4(f) resource. A *de minimi*s impact finding does not affect the significance of the resource, minimization or mitigation plans. It was also discussed that a *de minimis* impact finding is "as mitigated." This means that the anticipated impacts, along with any mitigation measures that are agreed upon by

both parties would be included in the *de minimis* letter. The terms of reaching a *de minimis* impact finding would be outlined in the letter.

A brief overview of *de minimis* and temporary occupancy determinations to date was provided for the meeting attendees.

2. Elm Street Urban Park

As discussed in previous meetings and a follow up email from M-NCPPC pm January 3, 2012, as currently designed, the Preferred Alternative would result in 0.02 acre of temporary impacts to Elm Street Urban Park. Impacts would be a result of the construction of the access from the park to the proposed CCT. The proposed trail connection would be eight feet wide, but depending on park plans, could be widened to ten feet. Impacts would be temporary and would improve access to the park from the trail. The trail connection would be aerial over the transitway, where it would cross to parallel the transitway to the north. The pedestrian bridge over the transitway would be fenced within a boxed truss over the track.

There were questions about the potential visual impacts of the proposed trail and transitway from Elm Street Urban Park. In the vicinity of the park, the proposed transitway would be constructed within the tunnel under the Air Rights Building. There would be walls constructed directly north of the park that would screen the view of the transitway from the park. The design of the walls would be consistent with what is proposed with the redevelopment of the Air Rights Building.

M-NCPPC concurred that as currently designed, impacts to Elm Street Urban Park as a result of the proposed project would require a temporary occupancy determination. However, if the design of the trail connection changes and results in impacts to the existing playground or the removal of trees, this finding would need to be revisited. The meeting attendees agreed that the proposed project would result in temporary occupancy at Elm Street Urban Park.

3. Rock Creek Stream Valley Park

In the vicinity of Rock Creek Stream Valley Park, the limit of disturbance for the proposed project would be completely within Montgomery County right-of-way. Construction would occur from Lyttonsville area in an effort to expedite construction in the vicinity of the park. Rock Creek National Recreational Trail would be detoured temporarily during construction in an effort to protect trail patrons. Extensive tree clearing would occur in order to perform the construction of the trail and transitway. This would result in increased visibility of the trail and transitway. The Purple Line Team is currently evaluating various options to connect the proposed Capital Crescent Trail to Rock Creek Trail.

At previous meetings, attendees requested that the team evaluate potentially moving the Rock Creek Trail in an effort to reduce flooding and siltation issues that currently plague the trail. As discussed earlier, moving the trail is not a feasible option because of the instability of slope to the south of the proposed transitway, the construction of the proposed trail and transitway and associated abutments, and the location of the Rock Creek floodplain. The team evaluated raising the trail within Montgomery County right-of-way. It was determined that the trail could be raised on an elevated wooden boardwalk through the right-of-way, which would elevate the trail out of the one year floodplain, which is the reason for all of the sedimentation issues the trail the trail is subject to directly adjacent to the creek. Raising the trail on an elevated boardwalk would be necessary so that the flow of water would not be impeded. The trail would be designed to M-NCPPC standards. Coordination with M-NCPPC will be ongoing regarding the design of the trail. M-NCPPC concurred that as currently designed, since the proposed project would not have an adverse effect on the park or any park facilities, it would result in *de minimis* impacts to

the park and trail. The meeting attendees agreed that as currently designed, the proposed project would result in *de minimis* impacts to Rock Creek Stream Valley Park and Rock Creek National Recreational Trail.

4. Long Branch Stream Valley Park

As currently designed, the Preferred Alternative is aligned through the median of Piney Branch Road, which abuts Long Branch Stream Valley Park to the north. Right-of-way would be required for the widening of Piney Branch Road to accommodate the proposed Purple Line. The Preferred Alternative would require the acquisition of approximately 0.11 acre of property and approximately 0.36 acre of temporary construction easements from the park. The roadway widening would include two dedicated lanes for the transitway, one in each direction, an 11-foot wide vehicle lane and a 16-foot wide shared use lane for vehicle and bicycle use in each direction. Five-foot wide sidewalks would be constructed on both north and south sides of Piney Branch Road.

As part of the proposed project, the culvert that currently conveys Long Branch Stream beneath Piney Branch Road would be lengthened and a new parallel pipe would be constructed in an effort to better convey the stream and mitigate flooding that currently occurs frequently in this location. A majority of the proposed construction, including the extension of the culvert and construction of the new pipe, would occur from Piney Branch Road in an effort to minimize impacts to the park. Some tree removal would be required within the park along Piney Branch Road and the stream directly adjacent to the road for grading.

At previous formal agency coordination meetings and a follow-up email sent from M-NCPPC on January 3, 2013, M-NCPPC indicated that the proposed project would result in *de minimis* impacts to Long Branch Stream Valley Park. The meeting attendees agreed that as currently designed, the proposed project would result in de minimis impacts to Long Branch Stream Valley Park.

5. Sligo Creek Stream Valley Park

For documentation purposes, this park includes Sligo Creek Stream Valley Park, Sligo Cabin Neighborhood Park, and Sligo Creek National Recreational Trail. The Purple Line Team verified that this would be acceptable to M-NCPPC. The park is 543 acres in size, consists of seven different units, and encompasses the Sligo Creek floodplain. The park was purchased and developed using Capper-Cramton Act funding.

As currently designed, the proposed project is aligned through the median of Wayne Avenue through Sligo Creek Stream Valley Park. At the request of the Montgomery County Department of Transportation, the proposed construction of the Green Trail would be completed from Silver Spring to Sligo Creek Parkway in this area, abutting Wayne Avenue to the north. Anticipated impacts to Sligo Creek Stream Valley Park were discussed with M-NCPPC. As currently designed, the proposed project would result in 0.25 acre of permanent impacts, as well as 1.48 acre of temporary impacts. Of this total, 0.09 acre of permanent impacts would be a result of completing the construction of the Green Trail. In addition, a 0.03 acre sliver of land currently owned by Montgomery County that abuts Wayne Avenue to the south would be conveyed to M-NCPPC for use as park. Not only will the bridge on Wayne Avenue need to be reconstructed to accommodate the transit way, it would be moved slightly to the west to accommodate the realignment of Sligo Creek. Flooding is an issue within the proposed project area at this location. Realigning the existing stream would be beneficial to the park and the surrounding area, as it would alleviate these flooding issues. Full access to the park and facilities would be maintained at all times during construction. No park facilities would be affected by the proposed project.

The proposed project could require the reconstruction of an existing storm drain to handle additional runoff. The storm drain is located to the north of Wayne Avenue within Sligo Creek Stream Valley Park and is aligned under an

existing track that is use by Silver Spring International Middle School. If culvert under track is replaced, it would be done during the summer time when track is not used as heavily. The track would be restored to pre-existing or better conditions upon completion of the storm drain replacement.

Tree loss is proposed in the vicinity of the proposed project as a result of roadway widening, bridge reconstruction, and stream realignment. Mapping was presented at the meeting to illustrate proposed tree removal. Tree removal was determined as a combined result of aerial photography, engineering, and site reconnaissance to determine where trees currently exist that would need to be removed. A total of 29 trees would need to be removed, including 13 to the north of Wayne Avenue, 13 south of Wayne Avenue and west of Sligo Creek, and three to the south of Wayne Avenue and east of the creek. Any significant and/or champion trees identified within the proposed project area would be preserved. Trees to be preserved would be marked with protective fencing to avoid impacts or removal during construction

The proposed access road located to the south of Wayne Avenue is currently a utility easement. This area was also used as an access road for WSSC to complete work in January 2012. Utilizing this utility easement as an access road during construction would minimize the amount of tree removal required to complete bridge construction. Tree removal to the south of Wayne Avenue could potentially be further minimized. To the north of Wayne Avenue, parking within the park would be reconfigured and replaced as a result of the proposed project. There were concerns about potential impacts to Sligo Creek Parkway as a result of the roadway tie-ins. This had already been considered by the team, and the proposed tie-ins are relatively short.

Several mitigation measures were proposed at the meeting, including the following:

- Tree planting where appropriate within park to mitigate for tree removal
- Convey 0.03 acre of land to the south of Wayne Avenue currently used for transportation to M-NCPPC for use as park
- Replacement of guardrails, signs, and other existing structures on Wayne Avenue and Sligo Creek Parkway with new structures, where appropriate. New structures would match existing elements throughout the park.
- Replanting and restoration would occur within cleared areas to the maximum extent practicable.

Upon completion of the discussion of Sligo Creek Stream Valley Park, the meeting attendees agreed that, as mitigated, the proposed project would result in a *de minimis* impact finding.

6. Long Branch Local Park

The Preferred Alternative is aligned through the median of Piney Branch Road, which abuts Long Branch Local Park to the south. Right-of-way would be required for the widening of Piney Branch Road to accommodate the proposed Purple Line. The roadway widening would include two dedicated lanes for the transitway, one in each direction, an 11-foot wide vehicle lane and a 16-foot wide shared use lane for vehicle and bicycle use in each direction. Five-foot wide sidewalks would be reconstructed on both north and south sides of Piney Branch Road to replace sidewalks impacted by the proposed project.

As currently designed, the Preferred Alternative would require the acquisition of approximately 0.02 acre of property and approximately 0.27 acre of temporary construction easements from Long Branch Local Park. As part of the proposed project, the culvert that currently conveys Long Branch Stream beneath Piney Branch Road would be lengthened and a new parallel pipe would be constructed in an effort to better convey the stream and mitigate flooding that currently occurs frequently in this location. A majority of the proposed construction, including the extension of the culvert and construction of the new pipe, would occur from Piney Branch Road in an effort to

minimize impacts to the park. Some tree removal would be required within the park along Piney Branch Road and the stream directly adjacent to the road for grading. However; some material storage and access through the existing parking lot may be required.

M-NCPPC indicated that there are a lot of problems within Long Branch Stream. The stream has a lot of erosion issues. In addition, flooding is frequent in the vicinity of Long Branch Stream Valley Park. M-NCPPC indicated that there are problems with non-native invasive tree species growing along the stream banks. As part of mitigation, M-NCPPC indicated that they would like the proposed project to include invasive species removal, along with replanting within the parks to replace vegetation that would be removed as a result of the proposed project. In addition, they indicated that new sidewalks have been constructed along Garland Avenue, which is located directly west of the park. Access to those sidewalks would be maintained at all times during construction. They requested that construction be avoided during June and July, which are historically the busiest months for Long Branch Recreational Center.

Five-foot wide sidewalks currently exist on either side of Piney Branch Road. The proposed project would include the construction of five-foot wide sidewalks to replace those that would be displaced as a result of the proposed project. The Long Branch Sector Plan includes sidewalk widening to 15 feet along either side of Piney Branch Road. While the current plans include the construction of five-foot wide sidewalks on either side of Piney Branch Road, some measures could be taken to prepare the proposed project area for widened sidewalks in the future, including raising the headwalls and wingwalls associated with the proposed culvert extension by 2 ½ feet so that sidewalk widening could be accommodated without impacting the extended culvert in the future.

Access to the Long Branch Community Center would be modified. Access would be limited to right turns into and out of the community center. The reason for the modified access is that traffic cannot cross the transitway at an unsignalized intersection. In addition, there is not enough room on Piney Branch Road to construct left turn lanes without substantially impacting buildings, which would be necessary to allow for left turns on Piney Branch Road. Therefore, patrons utilizing the community center from the west would need to make a u-turn at University Boulevard to access the community center. In addition, patrons wishing to travel eastbound from the community center would need to turn right onto Piney Branch Road and make a u-turn at Arliss Street to proceed eastbound on Piney Branch Road. Full access to the Long Branch Trail would be maintained at all times during construction. The proposed project would include better signalized pedestrian crossings along Piney Branch, which would be beneficial to park patrons.

M-NCPPC stated that no left turns on Piney Branch Road would be unacceptable according to the Long Branch Sector Plan, which is currently under development. Approximately 300 to 400 people use the community center every day, so there is a need to access it. In addition, M-NCPPC indicated their opinion was that since the restricted access to and from the community center would be a direct result of the proposed Purple Line, MTA is responsible for remediating any potential impacts to access. M-NCPPC indicated that they didn't feel that all measures were thoroughly exhausted to minimize impacts to access to the Long Branch Community Center. They requested additional minimization and mitigation measures be evaluated. Suggested measures include the following:

- Further widen Piney Branch Road so that left turn lanes could be included in each direction;
- Realign the entrance to the Community Center with Barron Street;
- Assist with performing a benefit-cost analysis to relocate the Long Branch Community Center from its current location to the west, east of the intersection of Garland Avenue and Walden Road; and

- Construct an additional access road from Garland Avenue near the Long Branch Library along an existing pedestrian path. A recently reconstructed pedestrian bridge over Long Branch would need to be reconstructed to accommodate vehicular traffic.

The construction of an additional Long Branch Community Center access road from University Boulevard to Langley Drive has been evaluated in the past by M-NCPPC and Montgomery County. However, that option was dismissed, as the access road would be through an existing residential area and would result in a significant increase in traffic within the neighborhood and affecting safety.

Including left turns in each direction would require an extensive amount of additional right-of-way and would result in residential and business displacements along Piney Branch Road. Several different alternatives will be evaluated in an attempt to maintain full access to the Long Branch Community Center.

7. New Hampshire Estates Neighborhood Park

In the vicinity of New Hampshire Estates Neighborhood Park, from Piney Branch Road, the proposed transitway would turn southbound onto University Boulevard, where it would be aligned through the middle of the roadway. The Piney Branch station is proposed for construction directly after the Piney Branch Road-University Boulevard intersection. The transitway and station construction would require roadway widening of University Boulevard in this location. The proposed alignment was shifted slightly to the east in an effort to minimize residential displacements. The proposed project would also include the upgrade of an existing stormwater culvert on the southeast side of the park.

As currently designed, the proposed project would result in 0.32 acre of permanent impacts, as well as 0.35 acre of temporary impacts. The existing parking lot would need to be removed, as roadway widening and sidewalk construction would impact half of the existing parking area. In addition, the project would require the removal of existing park amenities, including sitting areas and aesthetic features (landscaped structures, artwork, and decorative bricks). The construction of the proposed transitway would allow only right turns in and out of the park.

Potential impacts to New Hampshire Estates Neighborhood Park have been minimized to the maximum extent possible. The project would implement closed drainage systems. In addition, the space between the expanded roadway curb and reconstructed sidewalk would be eliminated.

The Long Branch Mobility Plan indicates that Montgomery County intends to extend Gilbert Street to the east, across University Boulevard, to Piney Branch Road. The extension of Gilbert Street would be through the park. M-NCPPC stated that the park would be redeveloped, regardless of the proposed project. The park will be reclassified from a neighborhood park to community use/urban recreation park.

The proposed project would require the displacement of an existing grocery store and gas station, located directly north of the park. M-NCPPC has expressed an interest in the identified displacement area for potential future parking and park expansion. During construction, this area would be used as a staging area for construction in the Long Branch area. There is more interest in a parcel of land to the south of the park that currently houses the "Central American Solidarity Association of Maryland" (CASA). The parcel is owned by Montgomery County. The purchase of the parcel would enable the expansion of the park to the south. Since Montgomery County plans to construct Gilbert Street through the park, the expansion of the park to the south as opposed to the north would minimize park segmentation. In addition, there have been discussions about potentially construction a regulation size soccer field at the park.

8. Next Meeting

M-NCPPC indicated that they would concur with the Federal Transit Administration finding that Elm Street Urban Park would require temporary occupancy. In addition, M-NCPPC concurred that Rock Creek Stream Valley Park, Sligo Creek Stream Valley Park, Long Branch Stream Valley Park, and New Hampshire Estates Neighborhood Park, as mitigated, would be subject to *de minimis* impact findings. As such, after the conclusion of the meeting, the Purple Line Team would continue with the required *de minimis* coordination process. A meeting with M-NCPPC Directorate will occur in February 2013 to finalize concurrence on the parks that would result in de minimis impact findings, as well as to continue discussions regarding Long Branch Local Park and anticipated access impacts. In addition, coordination for mitigation and minimization will be ongoing between the Purple Line Team and M-NCPPC.

ACTION ITEM SUMMARY

Task #	Action Item	Due Date	Status
1.	Prepare for Purple Line Coordination meeting with M-NCPPC Directorate, to be held in late February 2013		
2.	Further evaluate alternatives that would further minimize access impacts to Long Branch Community Center.		
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			

SIGN IN SHEET

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Purple Line GEC
Maryland-National Capital Park and Planning Commission - Montgomery County Parks and Recreation Department Formal Agency Coordination Meeting
Parkside Headquarters
9500 Brunett Avenue
Silver Spring, Maryland
Tuesday, February 26, at 3:00 PM

MEETING SUMMARY

ATTENDEES:

Mr. David Anspacher, M-NCPPC, Montgomery County Department of Planning
Mr. Tom Autry, M-NCPPC Montgomery County Department of Planning
Ms. Mary Bradford, M-NCPPC Department of Parks
Mr. Stephen Chandlee, M-NCPPC Department of Parks
Mr. Tony Devaul, M-NCPPC, Park Police
Mr. Jim Guinther, Purple Line GEC
Mr. Steve Hawtof, Purple Line GEC
Ms. Kristi Hewlett, Purple Line GEC
Mr. Jamie Kendrick, Maryland Transit Administration
Mr. Charles Kines, M-NCPPC Department of Parks
Ms. Linda Komes, M-NCPPC PDD
Mr. Michael Madden, Maryland Transit Administration
Mr. John Nissel, M-NCPPC Department of Parks
Mr. Doug Redmond, M-NCPPC Department of Parks
Mr. Mike Riley, M-NCPPC, Department of Parks
Mr. Bill Tyler, M-NCPPC Southern Region Parks
Mr. Michael Weil, National Capital Planning Commission
Ms. Melissa Williams, M-NCPPC Montgomery County Department of Planning

LIST OF HANDOUTS:

- Powerpoint Presentation
- Park fact sheets
- Agenda
- Small portion of Montgomery County Planning Board Meeting Minutes from February 2013

The meeting opened with introductions. A brief overview of the agenda, which included an overview of the Purple line, review of interagency coordination to date, discussion of de minimis, de minimis and temporary occupancy determinations to date, and a discussion of outstanding park impact determinations, was presented to the group.

1. Overview of the Proposed Purple Line

Mr. Michael Madden from the Maryland Transit Administration (MTA) provided an overview of the proposed project, including the alignment, current status, and the project schedule moving forward. He discussed the alignment from west to east, including an overview of the stations. The project entered the Preliminary

Engineering (PE) Phase and Final Environmental Impact Statement (FEIS) in October 2011. The FEIS and technical reports are currently under development and are scheduled to be completed in Spring 2013. The PE plans are on schedule to be completed this summer. While the PE plans and FEIS are moving toward completion, coordination with regulatory and resource agencies will be ongoing for the duration of the project.

An overview of the schedule was also provided. Neighborhood work group meetings are ongoing throughout the life of the proposed project. Open houses and the publication and review of the FEIS will occur in Spring 2013. A Record of Decision will be issued in Summer 2013, as will the completion of PE Plans and the start of right-of-way acquisition. Final design will begin in Fall 2013. Construction will begin in 2015 and the Purple Line will be open for service in 2020.

2. Purple Line Agency Coordination to Date

Ms. Kristi Hewlett and Mr. Chuck Kines provided an overview of agency coordination to date. The Purple Line Team met with Maryland-National Capital Park and Planning Commission (M-NCPPC), Montgomery County Department of Parks on several occasions throughout the last year. Prior to this meeting, the Purple Line Team met with M-NCPPC at the Parkside Headquarters on January 25, 2012, May 16, 2012, November 21, 2012, and February 1, 2013. Informal communications between the Purple Line Team and M-NCPPC have been ongoing throughout the FEIS process. Coordination with other Montgomery County agencies, such as M-NCPPC Montgomery County Department of Planning and Montgomery County Department of Transportation, has been ongoing as well. Montgomery County also provided a review of conceptual plans for the proposed project.

3. Discussion of Section 4(f) *de minimis* impact findings and the *de minimis* process

Ms. Kristi Hewlett described for the group Section 4(f) of the Department of Transportation Act of 1966, Section 4(f) de minimis impact finding is, and the process for determining de minimis impacts.

Section 4(f) refers to the original section within the U.S. Department of Transportation Act of 1966, which protects publicly owned public parks and recreational lands, wildlife and waterfowl refuges, and historic sites. Section 4(f) applies to projects that receive funding from or require approval by an agency of the U.S. Department of Transportation. Section 4(f) is implemented by the Federal Highway Administration and Federal Transit Administration through the regulation 23 CFR 774.

Before approving a project that uses Section 4(f) property, must either (1) determine that the impacts are *de minimis*, or (2) undertake a Section 4(f) Evaluation. If the Section 4(f) Evaluation identifies a feasible and prudent alternative that completely avoids Section 4(f) properties, it must be selected. If there is no feasible and prudent alternative that avoids all Section 4(f) properties, FHWA has some discretion in selecting the alternative that causes the least overall harm (see discussion below). FHWA must also find that all possible planning to minimize harm to the Section 4(f) property has occurred.

A finding of *de minimis* impact can be made only if the official with jurisdiction over that resource concurs that the project "will not adversely affect the activities, features, and attributes" that make the property eligible for protection under Section 4(f). The finding is based on the transportation use of the Section 4(f) resource, together with any impact, avoidance, minimization, or enhancement measures incorporated into the project. A use of a resource was described as the permanent impact to a Section 4(f) resource by a transportation project. Examples were provided as to what, exactly, would constitute a use. The public needs to be afforded an opportunity to review and comment on the effects of the proposed project on protected activities, features, and attributes of the Section 4(f) resource. A *de minimi*s impact finding does not affect the significance of the resource, minimization or mitigation plans. It was also discussed that a *de minimis* impact finding is "as mitigated." This means that the

anticipated impacts, along with any mitigation measures that are agreed upon by both parties would be included in the *de minimis* letter. The terms of reaching a *de minimis* impact finding would be outlined in the letter.

The *de minimis* process was outlined for the meeting attendees. The lead Federal agency responsible for the project (FTA) would send a letter to the agency with jurisdiction over the park (M-NCPPC) for their concurrence that the proposed project would have a *de minimis* impact on the identified resource. Upon receipt of concurrence from M-NCPPC, the public involvement process for *de minimis* impacts would commence. The proposed project, as well as anticipated impacts to the park, would be advertised. Project would be advertised for public comment. FTA would prefer to advertise in local newspapers, but advertisement could include posting signs within the park. Typically includes signage that provides an overview of de minimis and anticipated impacts to the park. The public involvement period for de minimis impacts would be for 30 days. Any questions and comments received during the public comment period regarding the anticipated impacts to the park would be addressed after the comment period ends. A *de minimis* impact finding would be issued for each park when the Final Environmental Impact Statement is complete.

A brief overview of *de minimis* and temporary occupancy determinations to date was provided for the meeting attendees.

4. Elm Street Urban Park

As discussed in previous meetings and a follow up email from M-NCPPC pm January 3, 2012, as currently designed, the Preferred Alternative would result in 0.02 acre of temporary impacts to Elm Street Urban Park. Impacts would be a result of the construction of the access from the park to the proposed CCT. The proposed trail connection would be eight feet wide, but depending on park plans, could be widened to ten feet. Impacts would be temporary and would improve access to the park from the trail. The trail connection would be aerial over the transitway, where it would cross to parallel the transitway to the north. The pedestrian bridge over the transitway would be fenced within a boxed truss over the track.

There were questions about the potential visual impacts of the proposed trail and transitway from Elm Street Urban Park. In the vicinity of the park, the proposed transitway would be constructed within the tunnel under the Air Rights Building. There would be walls constructed directly north of the park that would screen the view of the transitway from the park. The design of the walls would be consistent with what is proposed with the redevelopment of the Air Rights Building.

There is currently a rock garden that exists between the Air Rights Building and the park. The rock garden is considered an amenity that was installed by the owners of the Air Rights Building as mitigation for the height of the building.

In previous meetings, M-NCPPC concurred that as currently designed, impacts to Elm Street Urban Park as a result of the proposed project would require a temporary occupancy determination. However, they stated that it was their opinion that there would be *de minimis* impacts to the park. There are concerns about the proposed building that would be constructed at the end of the tunnel to house the tunnel emergency ventilation fans and associated power supply. Meeting attendees expressed concerns about when the fans would be tested and any potential impacts that it would have on the park. The testing would be conducted during off-peak times approximately once a month. There were also concerns raised about visual impacts that would result from the construction of the tunnel, as well as the transitway where it would exit the tunnel. It was reiterated for the meeting attendees that the proposed transitway would be at a lower elevation than the park and would not be visible from the park. In addition, the proposed tunnel would be constructed consistent with the Air Rights Building.

If the design of the trail connection changes and results in impacts to the existing playground or the removal of trees, this finding would need to be revisited.

5. Rock Creek Stream Valley Park

In the vicinity of Rock Creek Stream Valley Park, the limit of disturbance for the proposed project would be completely within Montgomery County right-of-way. Construction would occur from Lyttonsville area in an effort to expedite construction in the vicinity of the park. Rock Creek National Recreational Trail would be detoured temporarily during construction in an effort to protect trail patrons. Extensive tree clearing would occur in order to perform the construction of the trail and transitway. This would result in increased visibility of the trail and transitway. The Purple Line Team is currently evaluating various options to connect the proposed Capital Crescent Trail to Rock Creek Trail.

At previous meetings, attendees requested that the team evaluate potentially moving the Rock Creek Trail in an effort to reduce flooding and siltation issues that currently plague the trail. As discussed earlier, moving the trail is not a feasible option because of the instability of slope to the south of the proposed transitway, the construction of the proposed trail and transitway and associated abutments, and the location of the Rock Creek floodplain. The team evaluated raising the trail within Montgomery County right-of-way. It was determined that the trail could be raised on an elevated wooden boardwalk through the right-of-way, which would elevate the trail out of the one year floodplain, which is the reason for all of the sedimentation issues the trail the trail is subject to directly adjacent to the creek. Raising the trail on an elevated boardwalk would be necessary so that the flow of water would not be impeded. The trail would be designed to M-NCPPC standards. Coordination with M-NCPPC will be ongoing regarding the design of the trail. M-NCPPC concurred that as currently designed, since the proposed project would not have an adverse effect on the park or any park facilities, it would result in *de minimis* impacts to the park and trail. The meeting attendees agreed that as currently designed, the proposed project would result in *de minimis* impacts to Rock Creek Stream Valley Park and Rock Creek National Recreational Trail.

6. Sligo Creek Stream Valley Park

As currently designed, the proposed project is aligned through the median of Wayne Avenue through Sligo Creek Stream Valley Park. At the request of the Montgomery County Department of Transportation, the proposed construction of the Green Trail would be completed from Silver Spring to Sligo Creek Parkway in this area, abutting Wayne Avenue to the north. Anticipated impacts to Sligo Creek Stream Valley Park were discussed with M-NCPPC. As currently designed, the proposed project would result in 0.25 acre of permanent impacts, as well as 1.48 acre of temporary impacts. Of this total, 0.09 acre of permanent impacts would be a result of completing the construction of the Green Trail. In addition, a 0.03 acre sliver of land currently owned by Montgomery County that abuts Wayne Avenue to the south would be conveyed to M-NCPPC for use as park. Not only will the bridge on Wayne Avenue need to be reconstructed to accommodate the transit way, it would be moved slightly to the west to accommodate the realignment of Sligo Creek. Flooding is an issue within the proposed project area at this location. Full access to the park and facilities would be maintained at all times during construction. No park facilities would be affected by the proposed project.

The proposed project would require the reconstruction of an existing storm drain to handle additional runoff. The storm drain is located to the north of Wayne Avenue within Sligo Creek Stream Valley Park and is aligned under an existing track that is use by Silver Spring International Middle School. If culvert under track is replaced, it would be done during the summer time when track is not used as heavily. The track would be restored to pre-existing or better conditions upon completion of the storm drain replacement.

Tree loss is proposed in the vicinity of the proposed project as a result of roadway widening, bridge reconstruction, and stream realignment. Mapping was presented at the meeting to illustrate proposed tree removal. Tree removal was determined as a combined result of aerial photography, engineering, and site reconnaissance to determine where trees currently exist that would need to be removed. A total of 29 trees would need to be removed, including 13 to the north of Wayne Avenue, 13 south of Wayne Avenue and west of Sligo Creek, and three to the south of Wayne Avenue and east of the creek. Any significant and/or champion trees identified within the proposed project area would be preserved. Trees to be preserved would be marked with protective fencing to avoid impacts or removal during construction

The proposed access road located to the south of Wayne Avenue is currently a utility easement. This area was also used as an access road for WSSC to complete work in January 2012. Utilizing this utility easement as an access road during construction would minimize the amount of tree removal required to complete bridge construction. Tree removal to the south of Wayne Avenue could potentially be further minimized. To the north of Wayne Avenue, parking within the park would be reconfigured and replaced as a result of the proposed project. There were concerns about potential impacts to Sligo Creek Parkway as a result of the roadway tie-ins. This had already been considered by the team, and the proposed tie-ins are relatively short.

Several mitigation measures were proposed at the meeting, including the following:

- Tree planting where appropriate within park to mitigate for tree removal
- Convey 0.03 acre of land to the south of Wayne Avenue currently used for transportation to M-NCPPC for use as park
- Replacement of guardrails, signs, and other existing structures on Wayne Avenue and Sligo Creek Parkway with new structures, where appropriate. New structures would match existing elements throughout the park.
- Replanting and restoration would occur within cleared areas to the maximum extent practicable.

Upon completion of the discussion of Sligo Creek Stream Valley Park, the meeting attendees agreed that, as mitigated, the proposed project would result in a *de minimis* impact finding.

7. Long Branch Stream Valley Park

As currently designed, the Preferred Alternative is aligned through the median of Piney Branch Road, which abuts Long Branch Stream Valley Park to the north. Right-of-way would be required for the widening of Piney Branch Road to accommodate the proposed Purple Line. The Preferred Alternative would require the acquisition of approximately 0.11 acre of property and approximately 0.36 acre of temporary construction easements from the park. The roadway widening would include two dedicated lanes for the transitway, one in each direction, an 11-foot wide vehicle lane and a 16-foot wide shared use lane for vehicle and bicycle use in each direction. Five-foot wide sidewalks would be constructed on both north and south sides of Piney Branch Road.

As part of the proposed project, the culvert that currently conveys Long Branch Stream beneath Piney Branch Road would be lengthened and a new parallel pipe would be constructed in an effort to better convey the stream and mitigate flooding that currently occurs frequently in this location. A majority of the proposed construction, including the extension of the culvert and construction of the new pipe, would occur from Piney Branch Road in an effort to minimize impacts to the park. Some tree removal would be required within the park along Piney Branch Road and the stream directly adjacent to the road for grading.

At previous formal agency coordination meetings and a follow-up email sent from M-NCPPC on January 3, 2013, M-NCPPC indicated that the proposed project would result in *de minimis* impacts to Long Branch Stream Valley Park. The meeting attendees agreed that as currently designed, the proposed project would result in de minimis impacts to Long Branch Stream Valley Park.

8. New Hampshire Estates Neighborhood Park

In the vicinity of New Hampshire Estates Neighborhood Park, from Piney Branch Road, the proposed transitway would turn southbound onto University Boulevard, where it would be aligned through the middle of the roadway. The Piney Branch station is proposed for construction directly after the Piney Branch Road-University Boulevard intersection. The transitway and station construction would require roadway widening of University Boulevard in this location. The proposed alignment was shifted slightly to the east in an effort to minimize residential displacements. The proposed project would also include the upgrade of an existing stormwater culvert on the southeast side of the park.

As currently designed, the proposed project would result in 0.32 acre of permanent impacts, as well as 0.35 acre of temporary impacts. The existing parking lot would need to be removed, as roadway widening and sidewalk construction would impact half of the existing parking area. In addition, the project would require the removal of existing park amenities, including sitting areas and aesthetic features (landscaped structures, artwork, and decorative bricks). The construction of the proposed transitway would allow only right turns in and out of the park.

Potential impacts to New Hampshire Estates Neighborhood Park have been minimized to the maximum extent possible. The project would implement closed drainage systems. In addition, the space between the expanded roadway curb and reconstructed sidewalk would be eliminated.

The Long Branch Mobility Plan indicates that Montgomery County intends to extend Gilbert Street to the east, across University Boulevard, to Piney Branch Road. The extension of Gilbert Street would be through the park. The proposed project would require the displacement of an existing grocery store and gas station, located directly north of the park. M-NCPPC has expressed an interest in the identified displacement area for potential future parking and park expansion. During construction, this area would be used as a staging area for construction in the Long Branch area. There have also been discussions regarding potentially expanding the park to the south onto property owned by Montgomery County (CASA). The property under consideration is currently occupied. Expanding to the south would enable the park to expand and experience less segmentation than if it were expanded to the north. In addition, there have been discussions about potentially construction a regulation size soccer field at the park. M-NCPPC stated that the park would be redeveloped, regardless of the proposed project. The park will be reclassified from a neighborhood park to community use/urban recreation park. M-NCPPC indicated that they would like financial assistance from the MTA in redeveloping the park.

At the meeting, M-NCPPC concurred that, as mitigated, the proposed project would result in *de minimis* impacts to New Hampshire Estates Neighborhood Park.

9. Long Branch Local Park

The Preferred Alternative is aligned through the median of Piney Branch Road, which abuts Long Branch Local Park to the south. Right-of-way would be required for the widening of Piney Branch Road to accommodate the proposed Purple Line. The roadway widening would include two dedicated lanes for the transitway, one in each direction, an 11-foot wide vehicle lane and a 16-foot wide shared use lane for vehicle and bicycle use in each

direction. Five-foot wide sidewalks would be reconstructed on both north and south sides of Piney Branch Road to replace sidewalks impacted by the proposed project.

As currently designed, the Preferred Alternative would require the acquisition of approximately 0.02 acre of property and approximately 0.28 acre of temporary construction easements from Long Branch Local Park. As part of the proposed project, the culvert that currently conveys Long Branch Stream beneath Piney Branch Road would be lengthened and a new parallel pipe would be constructed in an effort to better convey the stream and mitigate flooding that currently occurs frequently in this location. A majority of the proposed construction, including the extension of the culvert and construction of the new parallel pipe, would occur from Piney Branch Road in an effort to minimize impacts to the park. Some tree removal would be required within the park along Piney Branch Road and the stream directly adjacent to the road for grading. However; some material storage and access through the existing parking lot may be required.

M-NCPPC indicated that there are a lot of problems within Long Branch Stream. The stream has a lot of erosion issues. In addition, flooding is frequent in the vicinity of Long Branch Stream Valley Park. M-NCPPC indicated that there are problems with non-native invasive tree species growing along the stream banks. As part of mitigation, M-NCPPC indicated that they would like the proposed project to include invasive species removal, along with replanting within the parks to replace vegetation that would be removed as a result of the proposed project. In addition, they indicated that new sidewalks have been constructed along Garland Avenue, which is located directly west of the park. Access to those sidewalks would be maintained at all times during construction. They requested that construction be avoided during June and July, which are historically the busiest months for Long Branch Recreational Center.

Five-foot wide sidewalks currently exist on either side of Piney Branch Road. The proposed project would include the construction of five-foot wide sidewalks to replace those that would be displaced as a result of the proposed project. The Long Branch Sector Plan includes sidewalk widening to 15 feet along either side of Piney Branch Road. While the current plans include the construction of five-foot wide sidewalks on either side of Piney Branch Road, some measures could be taken to prepare the proposed project area for widened sidewalks in the future, including raising the headwalls and wingwalls associated with the proposed culvert extension by 2 ½ feet so that sidewalk widening could be accommodated without impacting the extended culvert in the future.

Access to the Long Branch Community Center would be modified. Access would be limited to right turns into and out of the community center. The reason for the modified access is that traffic cannot cross the transitway at an unsignalized intersection. In addition, there is not enough room on Piney Branch Road to construct left turn lanes without substantially impacting buildings, which would be necessary to allow for left turns on Piney Branch Road. Therefore, patrons utilizing the community center from the west would need to make a u-turn at University Boulevard to access the community center. In addition, patrons wishing to travel eastbound from the community center would need to turn right onto Piney Branch Road and make a u-turn at Arliss Street to proceed eastbound on Piney Branch Road. Full access to the Long Branch Trail would be maintained at all times during construction. The proposed project would include better signalized pedestrian crossings along Piney Branch, which would be beneficial to park patrons.

M-NCPPC stated that no left turns on Piney Branch Road would be unacceptable according to the Long Branch Sector Plan, which is currently under development. Approximately 300 to 400 people use the community center every day, so there is a need to access it. In addition, M-NCPPC indicated their opinion was that since the restricted access to and from the community center would be a direct result of the proposed Purple Line, MTA is responsible for remediating any potential impacts to access. M-NCPPC indicated that they didn't feel that all measures were thoroughly exhausted to minimize impacts to access to the Long Branch Community Center. They

requested additional minimization and mitigation measures be evaluated. Suggested measures include the following:

- Further widen Piney Branch Road so that left turn lanes could be included in each direction;
- Realign the entrance to the Community Center with Barron Street;
- Assist with performing a benefit-cost analysis to relocate the Long Branch Community Center from its current location to the west, east of the intersection of Garland Avenue and Walden Road; and
- Construct an additional access road from Garland Avenue near the Long Branch Library along an existing pedestrian path. A recently reconstructed pedestrian bridge over Long Branch would need to be reconstructed to accommodate vehicular traffic.

The construction of an additional Long Branch Community Center access road from University Boulevard to Langley Drive has been evaluated in the past by M-NCPPC and Montgomery County. However, that option was dismissed, as the access road would be through an existing residential area and would result in a significant increase in traffic within the neighborhood and affecting safety. Including left turns in each direction would require an extensive amount of additional right-of-way and would result in residential and business displacements along Piney Branch Road.

Given the small amount of permanent impacts to the park, the fact that the proposed project would not adversely affect the activities, features, or attributes that qualify the park for protection under the provisions of Section 4(f), and the proposed mitigation and minimization measures that have been discussed between the M-NCPPC and MTA to minimize impacts to the park, the MTA feels that the impacts to Long Branch Local Park would meet the criteria for a *de minimis* impact determination. However, the M-NCPPC indicated that eliminating left turns into and out of the center would result in significant impacts to the operations of the community center. There were also concerns expressed as to the increase in traffic on Piney Branch Road that would result from the need to complete u-turns. They felt that in addition to the inconvenience that eliminating left turns would cause, the modification to the traffic patterns on Piney Branch Road could result in potential safety issues. They stated that if MTA was not willing to assist with funding the relocation of the community center, the proposed project would result in a Section 4(f) use at Long Branch Local Park that could not be minimized or mitigated to the *de minimis* level. As such, since the M-NCPPC is not willing to concur with a *de minimis* impact determination at Long Branch Local Park, a full Section 4(f) evaluation will be completed.

10. Next Meeting

M-NCPPC indicated that they would concur with the Federal Transit Administration finding that Elm Street Urban Park would require temporary occupancy. In addition, M-NCPPC indicated that they would concur that Rock Creek Stream Valley Park, Sligo Creek Stream Valley Park, Long Branch Stream Valley Park, and New Hampshire Estates Neighborhood Park, as mitigated, would be subject to *de minimis* impact findings. As such, after the conclusion of the meeting, the Purple Line Team would continue with the required *de minimis* coordination process. Future meetings between the M-NCPPC and Purple Line Team will focus on continued coordination for park-specific mitigation and minimization measures.

ACTION ITEM SUMMARY

Task #	Action Item	Due Date	Status
1.	Prepare coordination for *de minimis* impact determinations		
2.	Further evaluate alternatives that would further minimize access impacts to Long Branch Community Center.		
3.	Continue coordination regarding park-specific mitigation and minimization measures.		
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SIGN IN SHEET

Name	Company	Phone Number	E-mail Address
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Michael Weil	National Capital Planning Commission	202-482-7253	Michael.weil@ncpc.gov
Melissa Williams	M-NCPPC, Montgomery County Planning	301-495-4642	Melissa.williams@montgomeryplanning.org

Purple Line GEC
Maryland-National Capital Park and Planning Commission - Montgomery County Parks and Recreation Department Formal Agency Coordination Meeting
Parkside Headquarters
9500 Brunett Avenue
Silver Spring, Maryland
Wednesday, May 16, 2012 at 10:30 AM

MEETING SUMMARY

ATTENDEES:
Mr. Jim Guinther, Purple Line GEC
Mr. Steve Hawtof, Purple Line GEC
Ms. Kristi Hewlett, Purple Line GEC
Mr. Charles Kines, M-NCPPC
Ms. Harriet Levine, Purple Line GEC
Mr. Doug Redmond, M-NCPPC
Mr. Michael Weil, NCPC

LIST OF HANDOUTS:
- Agenda

1. Overview of refinements made to the Preferred Alternative since the previous meeting

The Purple Line GEC Team provided a brief overview of the refinements made to the proposed alignment since the previous meeting. The Purple Line team proceeded to review each park, from west to east.

2. Elm Street Urban Park

As discussed in previous meetings, M-NCPPC is in the process of redesigning Elm Street Urban Park. The park will be completely redesigned in the future, though no timeline was provided. M-NCPPC is overseeing the design of the park. All of the renderings of the proposed reconstructed park have been provided to the Purple Line Team. The team has been working with M-NCPPC and Montgomery County in an effort to construct access to the proposed Capital Crescent Trail in an effort to minimize any potential impacts to the park.

Instead of running the proposed CCT underground, it would end at Elm St. Urban Park. At this point, the Montgomery County Department of Transportation is in the process of planning a surface trail that would continue the trail from the connection to Elm Street Urban Park, along Waverly Avenue, and to Bethesda Avenue. Since the surface trail would be a Montgomery County project, additional impacts are not expected as a result of the proposed Purple Line Preferred Alternative.

A discussion of the existing conditions of the park was held. There are currently several trees along the northern boundary of the park, between the park and the Interim Capital Crescent Trail. The trees are located to the west of the existing and planned connection from the park to the trail. The trees are not high quality. From a planning

and engineering perspective, the existing columns located under the Air Rights Building are a bigger constraint than the trees and park and would dictate where the trail connection would be located.

As currently designed, the Preferred Alternative would result in 0.02 acre of temporary impacts to Elm Street Urban Park. Impacts would be a result of the construction of the access from the park to the proposed CCT. The proposed trail connection would be eight feet wide, but depending on park plans, could be widened to ten feet. Impacts would be temporary and would improve access to the park from the trail.

Construction access would be through the Interim CCT. Construction impacts to the park would be minimized to the maximum extent possible.

M-NCPPC concurred that as currently designed, the proposed project would result in *de minimis* impacts to Elm Street Urban Park. However, if the design of the trail connection changes and results in impacts to the existing playground or the removal of trees, this finding would need to be revisited.

3. Rock Creek Stream Valley Park

In the vicinity of Rock Creek Stream Valley Park, the proposed project would be aligned completely within Montgomery County right-of-way. Construction would occur from Lyttonsville area in an effort to expedite construction in the vicinity of the park. Rock Creek National Recreational Trail would be detoured temporarily during construction in an effort to protect trail patrons. Extensive tree clearing would occur during construction for the construction of the trail and transitway, as well as construction equipment. This would result in increased visibility of the trail and transitway. The Purple Line Team is currently evaluating various options to connect the proposed Capital Crescent Trail to Rock Creek Trail.

At the meeting, M-NCPPC indicated that there are currently flooding and siltation issues to the Rock Creek Trail in the vicinity of the proposed project area. They requested that the Purple Line Team evaluate moving the trail away from the creek in this area in an attempt to alleviate these issues. In addition, they requested that the trail be raised to further reduce potential flooding.

M-NCPPC concurred that as currently designed, since the proposed project would not have an adverse effect on the park or any park facilities, it would result in *de minimis* impacts to the park and trail.

4. Sligo Creek Stream Valley Park

For documentation purposes, this park includes Sligo Creek Stream Valley Park, Sligo Cabin Neighborhood Park, and Sligo Creek National Recreational Trail. The Purple Line Team verified that this would be acceptable to M-NCPPC. The park is 543 acres in size, consists of seven different units, and encompasses the Sligo Creek floodplain. The park was purchased and developed using Capper-Crampton Act funding.

The proposed project is aligned through the median of Wayne Avenue in the vicinity of Sligo Creek Stream Valley Park. In addition, the proposed Green Trail would be constructed from Silver Spring to Sligo Creek Parkway in this area, abutting Wayne Avenue to the north. Anticipated impacts to Sligo Creek Stream Valley Park were discussed with M-NCPPC. Not only with the bridge on Wayne Avenue need to be reconstructed to accommodate the transit way, it would be moved slightly to the west to accommodate the realignment of Sligo Creek. Flooding is an issue within the proposed project area at this location. Realigning the existing stream would be beneficial to the park and the surrounding area, as it would alleviate these flooding issues.

Full access to the park and facilities would be maintained at all times during construction. No park facilities would be affected by the proposed project. Tree loss is proposed in the vicinity of the proposed project as a result of roadway widening, bridge reconstruction, and stream realignment. It was determined during the meeting that WSSC is completing a lot of work within Sligo Creek. M-NCPPC will attempt to provide mapping of the stream upgrades.

Before a finding at this park can be determined, refinements with regard to access roads and tree loss are required. When the design of the proposed alignment is further refined in the vicinity of Sligo Creek Stream Valley Park, additional coordination with M-NCPPC will occur.

5. Long Branch Stream Valley Park and Long Branch Local Park

Long Branch Stream Valley Park and Long Branch Local Park would be evaluated as two separate parks. However, since the alignment and related issues would include the same discussion for both parks, both are included below.

The Preferred Alternative is aligned through the median of Piney Branch Road, which abuts Long Branch Stream Valley Park to the north. Right-of-way would be required for the widening of Piney Branch Road to accommodate the proposed Purple Line. The roadway widening would include two dedicated lanes for the transitway, one in each direction, an 11-foot wide vehicle lane and a 16-foot wide shared use lane for vehicle and bicycle use in each direction. Five-foot wide sidewalks would be constructed on both north and south sides of Piney Branch Road.

As currently designed, the Preferred Alternative would require the acquisition of approximately 0.05 acre of property and approximately 0.42 acre of temporary construction easements from Long Branch Stream Valley Park. In addition, the Preferred Alignment would require the acquisition of approximately 0.025 acre of property and approximately 0.29 acre of temporary construction easements from Long Branch Local Park. As part of the proposed project, the culvert that currently conveys Long Branch Stream beneath Piney Branch Road would be lengthened and a new parallel pipe would be constructed in an effort to better convey the stream and mitigate flooding that currently occurs frequently in this location. A majority of the proposed construction, including the extension of the culvert and construction of the new pipe, would occur from Piney Branch Road in an effort to minimize impacts to the park. Some tree removal would be required within the park along Piney Branch Road and the stream directly adjacent to the road for grading. However; some material storage and access through the existing parking lot may be required.

Access to the Long Branch Community Center would be restricted. Access would be limited to right turns into and out of the community center. The reason for the restricted access is that traffic cannot cross the transitway at an unsignalized intersection. Therefore, patrons utilizing the community center from the west would need to make a u-turn at University Boulevard to access the community center. In addition, patrons wishing to travel eastbound from the community center would need to turn right onto Piney Branch Road and make a u-turn at Arliss Street to proceed eastbound on Piney Branch Road.

Full access to the Long Branch Trail would be maintained at all times during construction. The proposed project would include better signalized pedestrian crossings along Piney Branch, which would be beneficial to park patrons.

M-NCPPC indicated that there are a lot of problems within Long Branch Stream. The stream has a lot of erosion issues. In addition, flooding is frequent in the vicinity of Long Branch Stream Valley Park. M-NCPPC indicated that there are problems with non-native invasive tree species growing along the stream banks.

M-NCPPC concurred that the proposed project would result in *de minimis* impacts to both Long Branch Stream Valley Park and Long Branch Local Park. However, as part of mitigation, they indicated that replanting would be required in this area. In addition, they indicated that new sidewalks have been constructed along Garland Avenue, which is located directly west of the park. Access to those sidewalks would be maintained at all times during construction. They requested that construction be avoided during June and July, which are historically the busiest months for Long Branch Recreational Center.

6. New Hampshire Estates Neighborhood Park

In the vicinity of New Hampshire Estates Neighborhood Park, from Piney Branch Road, the proposed transitway would turn southbound onto University Boulevard, where it would be aligned through the middle of the roadway. The Piney Branch station is proposed for construction directly after the Piney Branch Road-University Boulevard intersection. The transitway and station construction would require significant roadway widening of University Boulevard in this location. The proposed alignment was shifted slightly to the east in an effort to minimize residential displacements.

As currently designed, the proposed project would result in permanent impacts, as well as significant temporary impacts. The existing parking lot would need to be removed, as roadway widening and sidewalk construction would impact half of the existing parking area. In addition, the construction of the proposed transitway would allow only right turns in and out of the park.

The proposed project would require the displacement of an existing grocery store, located directly north of the park. In addition, the Takoma/Langley Crossroads Sector Plan is currently being developed for the proposed project area. M-NCPPC is interested in the identified displacement area directly to the north of the park for potential future parking. In addition, there have been discussions about potentially construction a regulation size soccer field at the park, which Montgomery County is currently lacking. Due to so many unknowns with regard to potential impacts and mitigation, a finding for this park is pending. M-NCPPC indicated that they may need to rethink the design of the park as the design is further refined, as the layout could potentially be significantly different than current conditions.

7. Next Meeting

M-NCPPC indicated that they would concur with the Federal Transit Administration finding that Elm Street Urban Park, Rock Creek Stream Valley Park, Long Branch Local Park, and Long Branch Stream Valley Park would all be subject to *de minimis* impact findings. As such, after the conclusion of the meeting, the Purple Line Team would continue with the required *de minimis* coordination process.

Additional coordination would be required regarding anticipated impacts to Sligo Creek Stream Valley Park and New Hampshire Estates Neighborhood Park. In addition, coordination for mitigation and minimization will be ongoing between the Purple Line Team and M-NCPPC.

ACTION ITEM SUMMARY

Task #	Action Item	Due Date	Status
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Name	Company	Phone Number	E-mail Address

Purple Line GEC
Maryland-National Capital Park and Planning Commission - Montgomery County Parks and Recreation Department Formal Agency Coordination Meeting
Parkside Headquarters
9500 Brunett Avenue
Silver Spring, Maryland
Wednesday, November 21, 2012 at 1:00 PM

MEETING SUMMARY

ATTENDEES:
Mr. Jim Guinther, Purple Line GEC
Mr. Steve Hawtof, Purple Line GEC
Ms. Kristi Hewlett, Purple Line GEC
Mr. Charles Kines, M-NCPPC
Ms. Harriet Levine, Purple Line GEC
Mr. Doug Redmond, M-NCPPC

LIST OF HANDOUTS:
- Agenda

1. Overview of refinements made to the Preferred Alternative since the previous meeting
The Purple Line GEC Team provided a brief overview of the refinements made to the proposed alignment since the previous meeting. The Purple Line team proceeded to review each park, and discuss parks in terms of impact findings previously discussed. The Purple Line Team supplied agendas for use by each meeting attendee, plan sized maps illustrating anticipated impacts to each park, and photographs of Sligo Creek Stream Valley Park in the vicinity of the proposed project.

2. Elm Street Urban Park
As discussed in previous meetings, M-NCPPC is in the process of redesigning Elm Street Urban Park. The park will be completely redesigned in the future, though no timeline was provided. M-NCPPC is overseeing the design of the park. All of the renderings of the proposed reconstructed park have been provided to the Purple Line Team. The team has been working with M-NCPPC and Montgomery County in an effort to construct access to the proposed Capital Crescent Trail in an effort to minimize any potential impacts to the park. Construction access would be through the Interim CCT. Construction impacts to the park would be minimized to the maximum extent possible.

As currently designed, the Preferred Alternative would result in 0.02 acre of temporary impacts to Elm Street Urban Park. Impacts would be a result of the construction of the access from the park to the proposed CCT. The proposed trail connection would be eight feet wide, but depending on park plans, could be widened to ten feet. Impacts would be temporary and would improve access to the park from the trail. The trail connection would be aerial over the transitway, where it would cross to parallel the transitway to the north. The pedestrian bridge over the transitway would be fenced within a boxed truss over the track.

There were questions about the potential visual impacts of the proposed trail and transitway from Elm Street Urban Park. In the vicinity of the park, the proposed transitway would be constructed within the tunnel under the Air Rights Building. There would be walls constructed directly north of the park that would screen the view of the transitway from the park. The design of the walls would be consistent with what is proposed with the redevelopment of the Air Rights Building. The walls would end with a louver (a framed opening with movable horizontal slats for ventilation), directly west of the proposed trail connection from Elm Street Urban Park to the proposed Capital Crescent Trail. Five-foot wide sidewalks would be constructed through the tunnel in lieu of a trail so that patrons could access the Purple Line or Metro's Red Line. In addition, the sidewalk would serve as an alternate means of crossing Wisconsin Avenue.

A rock garden currently exists between Elm Street Urban Park and the Georgetown Branch Interim Trail. There were discussions about potentially including landscaping between the Air Rights Building and the park. The rock garden could potentially be landscaped up to the louver area. This will be further explored and will be discussed at future agency coordination meetings.

M-NCPPC concurred that as currently designed, the proposed project would result in *de minimis* impacts to Elm Street Urban Park. However, if the design of the trail connection changes and results in impacts to the existing playground or the removal of trees, this finding would need to be revisited.

3. Rock Creek Stream Valley Park

In the vicinity of Rock Creek Stream Valley Park, the proposed project would be aligned completely within Montgomery County right-of-way. Construction would occur from Lyttonsville area in an effort to expedite construction in the vicinity of the park. Rock Creek National Recreational Trail would be detoured temporarily during construction in an effort to protect trail patrons. Extensive tree clearing would occur in order to perform the construction of the trail and transitway. This would result in increased visibility of the trail and transitway. The Purple Line Team is currently evaluating various options to connect the proposed Capital Crescent Trail to Rock Creek Trail.

The design of the proposed connector trail from the proposed Capital Crescent Trail to existing Rock Creek Trail was discussed. The proposed trail connection would occur completely within Montgomery County right-of-way in an effort to minimize direct impacts to the park and natural resources in the vicinity of the proposed project. The engineering and construction of the trail was discussed and the team described why the proposed connection would work. Through the majority of the park, the proposed Capital Crescent Trail would be aligned to the south side of the proposed transitway. The trail would be constructed at a lower elevation than the transitway in an effort to preserve the viewshed within Rock Creek Stream Valley Park to the maximum extent possible. On the eastern side of the park, the trail would cross under the proposed transitway in a tunnel, where it would parallel the transitway to the north.

We revisited the previous discussion regarding potentially moving the Rock Creek Trail in an effort to reduce flooding and siltation issues that currently plague the trail. Moving the trail is not a feasible option because of the instability of slope to the south of the proposed transitway, the construction of the proposed trail and transitway and associated abutments, and the location of the Rock Creek floodplain. The M-NCPPC requested that the Purple Line Team evaluate potentially raising the trail, either by constructing a boardwalk or by some other means through the proposed project area. Elevating the trail would improve the functionality of the trail.

M-NCPPC questioned stormwater management measures within the park. Stormwater management facilities would not be constructed within the park, as this would result in an increase in impacts to park resources. As such, M-NCPPC concurred that as currently designed, since the proposed project would not have an adverse effect on the park or any park facilities, it would result in *de minimis* impacts to the park and trail.

4. Long Branch Stream Valley Park and Long Branch Local Park

Long Branch Stream Valley Park and Long Branch Local Park would be evaluated as two separate parks. However, since the alignment and related issues would include the same discussion for both parks, both are included below. At the May 16, 2012 formal agency coordination meeting, M-NCPPC indicated that the proposed project would result in *de minimis* impacts to both Long Branch Stream Valley Park and Long Branch Local Park. However, additional discussions with other M-NCPPC and Montgomery County staff after that meeting, it was determined that additional minimization measures would need to be evaluated before M-NCPPC would concur with *de minimis* impact determinations for either park. As part of mitigation, M-NCPPC indicated that replanting would be required within the parks to replace vegetation that would be removed as a result of the proposed project. In addition, they indicated that new sidewalks have been constructed along Garland Avenue, which is located directly west of the park. Access to those sidewalks would be maintained at all times during construction. They requested that construction be avoided during June and July, which are historically the busiest months for Long Branch Recreational Center.

The Preferred Alternative is aligned through the median of Piney Branch Road, which abuts Long Branch Stream Valley Park to the north. Right-of-way would be required for the widening of Piney Branch Road to accommodate the proposed Purple Line. The roadway widening would include two dedicated lanes for the transitway, one in each direction, an 11-foot wide vehicle lane and a 16-foot wide shared use lane for vehicle and bicycle use in each direction. Five-foot wide sidewalks would be constructed on both north and south sides of Piney Branch Road.

As currently designed, the Preferred Alternative would require the acquisition of approximately 0.11 acre of property and approximately 0.36 acre of temporary construction easements from Long Branch Stream Valley Park. In addition, the Preferred Alignment would require the acquisition of approximately 0.07 acre of property and approximately 0.24 acre of temporary construction easements from Long Branch Local Park. As part of the proposed project, the culvert that currently conveys Long Branch Stream beneath Piney Branch Road would be lengthened and a new parallel pipe would be constructed in an effort to better convey the stream and mitigate flooding that currently occurs frequently in this location. A majority of the proposed construction, including the extension of the culvert and construction of the new pipe, would occur from Piney Branch Road in an effort to minimize impacts to the park. Some tree removal would be required within the park along Piney Branch Road and the stream directly adjacent to the road for grading. However; some material storage and access through the existing parking lot may be required.

At the previous meeting, M-NCPPC indicated that there are a lot of problems within Long Branch Stream. The stream has a lot of erosion issues. In addition, flooding is frequent in the vicinity of Long Branch Stream Valley Park. M-NCPPC indicated that there are problems with non-native invasive tree species growing along the stream banks.

Five-foot wide sidewalks currently exist on either side of Piney Branch Road. The proposed project would include the construction of five-foot wide sidewalks to replace those that would be displaced as a result of the proposed project. Montgomery County would like to construct 10-foot wide sidewalks on either side of Piney Branch Road. M-NCPPC stated that the Sector Plan that is currently under development includes sidewalk widening to 10 feet along Piney Branch Road. The Purple Line Team indicated that while the current plans include the construction of

five-foot wide sidewalks on either side of Piney Branch Road, some measures could be taken to prepare the proposed project area for widened sidewalks in the future. Potential measures include raising the headwalls and wingwalls associated with the proposed culvert extension by 2 ½ feet so that sidewalk widening could be accommodated without impacting the extended culvert in the future.

Access to the Long Branch Community Center would be restricted. Access would be limited to right turns into and out of the community center. The reason for the restricted access is that traffic cannot cross the transitway at an unsignalized intersection. In addition, there is not enough room on Piney Branch Road to construct left turn lanes without substantially impacting buildings, which would be necessary to allow for left turns on Piney Branch Road. Therefore, patrons utilizing the community center from the west would need to make a u-turn at University Boulevard to access the community center. In addition, patrons wishing to travel eastbound from the community center would need to turn right onto Piney Branch Road and make a u-turn at Arliss Street to proceed eastbound on Piney Branch Road. Full access to the Long Branch Trail would be maintained at all times during construction. The proposed project would include better signalized pedestrian crossings along Piney Branch, which would be beneficial to park patrons.

M-NCPPC stated that no left turns on Piney Branch Road would be unacceptable according to the Long Branch Sector Plan, which is currently under development. Approximately 300 to 400 people use the community center every day, so there is a need to access it. In addition, M-NCPPC indicated their opinion was that since the restricted access to and from the community center would be a direct result of the proposed Purple Line, MTA is responsible for remediating any potential impacts to access. M-NCPPC indicated that they didn't feel that all measures were thoroughly exhausted to minimize impacts to access to the Long Branch Community Center. They requested additional minimization and mitigation measures be evaluated. Suggested measures include the following:

- Further widen Piney Branch Road so that left turn lanes could be included in each direction;
- Potentially realign the entrance to the Community Center with Barron Street;
- Potentially relocate the Long Branch Community Center from its current location to the west, east of the intersection of Garland Avenue and Walden Road;
- Potentially construct an additional access road from Garland Avenue near the Long Branch Library along an existing pedestrian path. A recently reconstructed pedestrian bridge over Long Branch would need to be reconstructed to accommodate vehicular traffic; and

The construction of an additional Long Branch Community Center access road from University Boulevard to Langley Drive has been evaluated in the past by M-NCPPC and Montgomery County. However, that option was dismissed, as the access road would be through an existing residential area and would result in a significant increase in traffic within the neighborhood and affecting safety.

M-NCPPC requested that the Purple Line Team attempt to minimize tree loss within Long Branch Stream Valley Park, as the proposed limits of disturbance, as currently designed, appear to be a bit more generous than is necessary. The Team will further refine the temporary impacts, limits-of-disturbance, and tree removal within Long Branch Stream Valley Park.

The measures listed above will be further evaluated and discussed at the next meeting with M-NCPPC.

5. Sligo Creek Stream Valley Park

For documentation purposes, this park includes Sligo Creek Stream Valley Park, Sligo Cabin Neighborhood Park, and Sligo Creek National Recreational Trail. The Purple Line Team verified that this would be acceptable to M-NCPPC. The park is 543 acres in size, consists of seven different units, and encompasses the Sligo Creek floodplain. The park was purchased and developed using Capper-Cramton Act funding.

The proposed project is aligned through the median of Wayne Avenue in the vicinity of Sligo Creek Stream Valley Park. In addition, the proposed Green Trail would be constructed from Silver Spring to Sligo Creek Parkway in this area, abutting Wayne Avenue to the north. Anticipated impacts to Sligo Creek Stream Valley Park were discussed with M-NCPPC. As currently designed, the proposed project would result in 0.25 acre of permanent impacts, as well as 1.48 acre of temporary impacts. In addition, a 0.03 acre sliver of land currently owned by Montgomery County that abuts Wayne Avenue to the south would be conveyed to M-NCPPC for use as park. Not only will the bridge on Wayne Avenue need to be reconstructed to accommodate the transit way, it would be moved slightly to the west to accommodate the realignment of Sligo Creek. Flooding is an issue within the proposed project area at this location. Realigning the existing stream would be beneficial to the park and the surrounding area, as it would alleviate these flooding issues. Full access to the park and facilities would be maintained at all times during construction. No park facilities would be affected by the proposed project.

Tree loss is proposed in the vicinity of the proposed project as a result of roadway widening, bridge reconstruction, and stream realignment. Mapping was presented at the meeting to illustrate proposed tree removal. Tree removal was determined as a combined result of aerial photography, engineering, and site reconnaissance to determine where trees currently exist that would need to be removed. It was determined during the meeting that WSSC is completing a lot of work within Sligo Creek. M-NCPPC will attempt to provide mapping of the stream upgrades.

The proposed access road located to the south of Wayne Avenue is currently a utility easement. This area was also used as an access road for WSSC to complete work in January 2012. Tree removal to the south of Wayne Avenue could potentially be further minimized. To the north of Wayne Avenue, parking within the park would be reconfigured and replaced as a result of the proposed project. There were concerns about potential impacts to Sligo Creek Parkway as a result of the roadway tie-ins. This had already been considered by the team, and the proposed tie-ins are relatively short.

M-NCPPC will have an internal meeting to discuss the proposed project and anticipated impacts. There will be further discussions between M-NCPPC and the Purple Line Team to discuss a potential *de minimis* impact finding.

6. New Hampshire Estates Neighborhood Park

In the vicinity of New Hampshire Estates Neighborhood Park, from Piney Branch Road, the proposed transitway would turn southbound onto University Boulevard, where it would be aligned through the middle of the roadway. The Piney Branch station is proposed for construction directly after the Piney Branch Road-University Boulevard intersection. The transitway and station construction would require roadway widening of University Boulevard in this location. The proposed alignment was shifted slightly to the east in an effort to minimize residential displacements.

As currently designed, the proposed project would result in 0.32 acre of permanent impacts, as well as 0.35 acre of temporary impacts. The existing parking lot would need to be removed, as roadway widening and sidewalk construction would impact half of the existing parking area. In addition, the construction of the proposed transitway would allow only right turns in and out of the park.

The proposed project would require the displacement of an existing grocery store and gas station, located directly north of the park. In addition, the Takoma/Langley Crossroads Sector Plan is currently being developed for the proposed project area. M-NCPPC has expressed an interest in the identified displacement area directly to the north of the park for potential future parking. In addition, there have been discussions about potentially construction a regulation size soccer field at the park. M-NCPPC indicated that the sector plan that is currently under development indicates that a loop road would be constructed through the park to provide access to private property to the north of the park. M-NCPPC stated that the park would be redeveloped, regardless of the proposed project. The park will be reclassified from a neighborhood park to community use/urban recreation park. Due to so many unknowns with regard to potential impacts and mitigation, a finding for this park is pending.

7. Next Meeting

M-NCPPC indicated that they would concur with the Federal Transit Administration finding that Elm Street Urban Park and Rock Creek Stream Valley Park would be subject to *de minimis* impact findings. As such, after the conclusion of the meeting, the Purple Line Team would continue with the required *de minimis* coordination process. Depending on refinements to the LOD, Long Branch Stream Valley Park could potentially be subject to de minimis impacts as well. Internal meetings between M-NCPPC will occur in December where they will further discuss the proposed project and anticipated impacts. Additional coordination would be required regarding anticipated impacts to Long Branch Local Park, Long Branch Stream Valley Park, Sligo Creek Stream Valley Park, and New Hampshire Estates Neighborhood Park. In addition, coordination for mitigation and minimization will be ongoing between the Purple Line Team and M-NCPPC.

ACTION ITEM SUMMARY

Task #	Action Item	Due Date	Status
1.	Evaluate possibly landscaping the existing "rock garden" between Elm Street Urban Park and the Air Rights Building		
2.	Evaluate potentially raising Rock Creek Trail in an effort to decrease flooding impacts and siltation. Look into potentially constructing a boardwalk.		
3.	Refine the LOD within Long Branch Stream Valley Park to determine if tree clearing can be minimized or if the LOD can be decreased		
4.	Long Branch Local Park- investigate potential left turns on Piney Branch Road		
5.	Potentially move Long Branch Community Center		
6.	Potentially construct a new access road into Long Branch Community Center		
7.	New Hampshire Estates Neighborhood Park- look into what they are planning to do with the parcels at corner of University Blvd and Piney Branch Road		
8.	Are there plans to close off access to the corner parcels from Piney Branch/University? If so, sector plan has potential loop road constructed through the park		
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SIGN IN SHEET

Name	Company	Phone Number	E-mail Address
Kristi Hewlett	Purple Line	410-230-6654	kristi.hewlett@jacobs.com
Jim Guinther	Purple Line	443-224-1583	jguinther@wrallp.com
Harriet Levine	Purple Line	410-230-6630	harriet.levine@jacobs.com
Chuck Kines	M-NCPPC Montgomery County Parks	301-495-2184	Charles.Kines@montgomeryparks.org
Doug Redmond	M-NCPPC Montgomery County Parks	301-384-2417	Doug.Redmond@montgomeryparks.org
Steve Hawtof	Purple Line	443-348-2017	shawtof@gfnet.com

U.S. Department
of Transportation
**Federal Transit
Administration**

REGION III
Delaware, District of
Columbia, Maryland,
Pennsylvania, Virginia,
West Virginia

1760 Market Street
Suite 500
Philadelphia, PA 19103-4124
215-656-7100
215-656-7260 (fax)

December 8, 2011

Charles S. Kines, AICP
Planner-Coordinator / Park Planning & Stewardship Division
Maryland-National Capital Park and Planning Commission
Montgomery County Department of Parks
9500 Brunett Avenue
Silver Spring, MD 20901

Subject: Purple Line, Montgomery and Prince George's Counties
Section 4(f) Resources – Montgomery County Parks

Dear Mr. Kines:

The Federal Transit Administration (FTA), in cooperation with the Maryland Transit Administration (MTA), is preparing a Final Environmental Impact Statement (FEIS) for the Purple Line transit project located in Montgomery and Prince George's Counties, Maryland. The purpose of this letter is to request a meeting with the Maryland-National Capital Park and Planning Commission to begin formal coordination regarding the Purple Line project and its potential effects on the parks and properties within its jurisdiction.

The Purple Line would extend 16 miles, from Bethesda in Montgomery County to New Carrollton, in Prince George's County. The Purple Line would connect Metrorail's Red Line (Bethesda and Silver Spring stations), Green Line (College Park station), and Orange Line (New Carrollton station). This project would provide transit options to people along the corridor, support economic development, and help address the region's air quality issues.

The attached map shows the Purple Line alignment, as well as park resources in the vicinity of the proposed project. As currently designed, the proposed project could potentially affect numerous resources along the proposed alignment. They are as follows:

- Elm Street Urban Park
- Leland Neighborhood Park
- Rock Creek Regional Park and Rock Creek Trail
- Metro Urban Park
- Sligo Creek Park- including Sligo Cabin Neighborhood Park, Sligo Creek Stream Valley Park, Units 1 and 2, and Sligo Creek National Recreational Trail
- Long Branch Stream Valley Park- including Long Branch Arliss Neighborhood Park, Long Branch Local Park, Long Branch Stream Valley Park, and Long Branch Trail
- New Hampshire Estates Neighborhood Park

- Paint Branch Stream Valley Park and Paint Branch Trail
- Proposed Green Trail

As part of the coordination effort, we would like to request any relevant, available information on the identified parks, such as park and trail master plans, and funding information that might be beneficial with regard to our research of these resources.

Please contact Tim Lidiak, FTA Environmental Planner (215-656-7084) or John Newton, MTA's Environmental Manager (410-767-3769) at your convenience to schedule the meeting.

We appreciate your assistance with this process.

Sincerely,

Michele Destra

Michele Destra, Director
Office of Planning & Program Development

Enclosure

cc: Mike Madden, MTA
John Newton, MTA
Leslie Roche, PMC
Steve Hawtof, GEC
Amanda Baxter, GEC

Purple Line GEC
Maryland-National Capital Park and Planning Commission - Montgomery County Parks and Recreation Department
1109 Spring Street, 8th Floor
Silver Spring, Maryland
Wednesday, July 13, 2011 at 1:30 PM

MEETING SUMMARY

ATTENDEES:
Mr. David Anspacher, M-NCPPC Planning
Mr. Tom Autry, M-NCPPC
Ms. Brooke Farquhar, M-NCPPC Parks
Mr. Rob Gibbs, M-NCPPC-PPSD
Mr. Steve Hawtof, Purple Line Team
Ms. Kristi Hewlett, Purple Line Team
Mr. Charles Kines, M-NCPPC
Ms. Linda Komes, M-NCPPC PPD
Mr. Darien Mauley, M-NCPPC Park Police
Ms. Monica Meade, Purple Line Team
Ms. Mitra Pedoeem, M-NCPPC PPD
Mr. Stephen Reid, M-NCPPC PDD
Mr. Brian Riffel, Purple Line Team
Mr. Bob Turnbull, M-NCPPC PPSD
Mr. Brian Woodward, M-NCPPC Southern Parks

LIST OF HANDOUTS:
- Agenda

On Wednesday, July 13, 2011 at 1:30 PM, members of the Purple Line Team met with several representatives of the Maryland-National Capital Park and Planning Commission (M-NCPPC) from Montgomery County.

The meeting opened with introductions. Meeting attendees included Kristi Hewlett (Purple Line), Brooke Farquhar (M-NCPPC), David Anspacher (M-NCPPC Planning), Brian Riffel (Purple Line), Monica Meade (Purple Line), Stephen Reid (M-NCPPC PPD), Bob Turnbull (M-NCPPC/PPSD), Darien Mauley (M-NCPPC Park Police), Rob Gibbs (M-NCPPC/PPSD), Steve Hawtof (Purple Line), Tom Autry (M-NCPPC), Chuck Kines (M-NCPPC/Parks), Linda Komes (M-NCPPC/PPD0, Brian Woodward (M-NCPPC Southern Parks), and Mitra Pedoeem (M-NCPPC/PDD). Chuck Kines facilitated the meeting. He started out by asking what the current status is of the proposed project. Monica Meade gave a brief overview of where we currently stand. She indicated that we are hoping to officially enter the Preliminary Engineering phase of the project by the end of August or beginning of September. Steve Hawtof elaborated on the status of the project. Mr. Hawtof indicated that we have started working on the Final Environmental Impact Statement (FEIS) and are working with the design team to identify critical areas from an environmental standpoint.

Mr. Kines stated that there was a meeting with the Purple Line Team on July 12, 2011 where members of the Purple Line Team asked for guidance on trail access issues. He stated that the Purple Line Team is working on a white paper for the Capital Crescent Trail that will identify the major issues where guidance from Montgomery County is necessary. The Purple Line Team will be writing the white papers and will provide them to Montgomery County for review and comment. The white papers will be presented to the Planning Board in a meeting on September 22. Issues to be identified in the white papers include the following:

- The construction of the portion of the Capital Crescent Trail through the Bethesda Tunnel
- Fire and rescue
- Lighting throughout the length of the Capital Crescent Trail
- Safety and Security
- Surveillance
- Emergency Communication (call boxes)
- The surface materials that will be used to construct the trail
- Whether the MTA would provide fencing that would separate both private and park properties from the Purple Line
- Landscaping- from a community standpoint, landscaping along the trail and park properties is very important.

Safety and security is a fairly significant issue with regard to the Capital Crescent Trail. Two County and one park police officer met to try to determine who would be responsible for patrolling the Capital Crescent Trail and how patrols will be allocated among the agencies. Park police indicated that the existing Capital Crescent Trail is unique in that it is the only trail that is open and patrolled continuously. At this early stage, they are discussing potentially patrolling the trail by segway. If that is the chosen method of patrol, numerous additional factors would come into play, including staffing, call boxes, locations for charging and storing the segways, and lighting for the entire trail. The attendees were reminded that the cost of the trail and features is a County responsibility.

At this point, the discussion turned to Elm Street Urban Park and the proposed connection from the Capital Crescent Trail to the park. M-NCPPC plans to completely reconstruct the park. The Purple Line plans have always included a trail connection to Elm Street Urban Park. The design team is working with M-NCPPC to take their park plans into account when planning the trail.

Brian Riffel provided an overview of the proposed plans for the Purple Line beginning at Bethesda and ending in the vicinity of the park. He included a discussion of where the plans currently stand, including where the Purple Line would enter the station, location of the station, the location of elevators to the Red Line, and other applicable plans. The Capital Crescent Trail would be elevated over the Purple Line in the Bethesda area.

Mr. Riffel discussed potentially constructing the connection from the trail to the park in the location of the existing connection, which is located on the eastern side of the park. Given the final proposed elevation of the Capital Crescent Trail as compared to Elm Street Urban Park, a connection from the trail to the park would be a fairly steep five-percent grade. However, if the connection is moved to the western side of the park, the elevation of the park is slightly higher and closer to the elevation of the Capital Crescent Trail. A western connection would

require a two-percent grade. It was agreed that the location of the connector trail should be moved to the west and made to fit between the existing building columns.

Linda Komes (M-NCPPC) questioned what the proposed width of the connector trail would be. Mr. Riffel stated that as currently designed, the connector would be 12 feet wide, which is the standard width of the Capital Crescent Trail in this area. However, the width of the connector trail could be reduced to eight or 10 feet. It was noted that the trail in the park is eight feet wide. The width of the trail connection does not need to be decided at this time. Mr. Riffel stated that most of the connector trails along this portion of the project area would be 10 feet wide. It was suggested that if the Elm Street Park connector is the "official" route of the trail for any length of time, such as during tunnel construction or if the trail is constructed within the tunnel at a later date, the trail might need to be wider to handle the expected trail use.

The discussion turned to existing plans for building owners to potentially redevelop their properties. The discussion was limited strictly to the APEX and Air Rights Buildings. If the owners redevelop their respective properties, the western terminus of the Capital Crescent Trail could be affected. The trail could end at Elm Street Urban Park if the proposed development of the buildings is concurrent with the construction of the Purple Line.

More questions were raised regarding potentially having two separate plans for the connector trail. Another idea was raised to potentially reorient the trail. As currently designed, the trail leads straight into the park. One of the ideas that was to reorient the trail so that instead of leading straight into the park, trail users would be aimed toward Bethesda, which is where many of the trail users work. This would eliminate the 90-degree turn for trail users, which would be better for cyclists. However, it was suggested that we may want to keep the turn in an effort to slow the trail uses. Mr. Riffel explained that as we work toward final design, we have the flexibility to connect to the Park trail in different ways and will coordinate the final orientation of the trail as the project moves forward, as either option would be acceptable with regard to the Purple Line. Linda Komes indicated that the best case scenario with regard to the schedule of reconstructing Elm Street Urban Park is 2013.

The discussion moved on to Rock Creek Regional Park and the proposed connection from Capital Crescent Trail to Rock Creek Trail. Mr. Riffel provided an overview of the various trail connections that the design team created in an effort to reduce impacts to natural resources. A more direct connection from the Capital Crescent Trail to Rock Creek Trail is proposed to make the transition between trails easier. Directly east of the Jones Mill Road underpass, a trail switchback is proposed from the Capital Crescent Trail to Jones Mill Road. Regardless of which trail connection option is selected, the connection from the trail to Jones Mill Road would be constructed. During the DEIS, a trail connection from Capital Crescent Trail to Rock Creek Trail was proposed. The original connection would have been a switchback type connection that would connect from the south side of the Capital Crescent Trail and move toward the east, turn back on itself and connect to the Rock Creek Trail. Due to design changes resulting from changes to the proposed location of the Lyttonsville Yard and Shop and the relocation of the trail to the north side of the transitway, the connector trail has been moved to the north side of the trail

Five separate connector trail options were shown at the meeting with a fact sheet that gave an overview of each option. Since the connector trails are at the preliminary conceptual stages, impacts are not yet known.

Option 1 is the Susanna Lane Existing Connection. The p length of this trail would be approximately 1,868 feet. The trail is currently signed from Jones Mill Road, on to Susanna Lane to a connector trail into the park. Some, but not all, of Susannah Lane has sidewalks. Approximately 1,000 feet of additional paved trail and sidewalk would be provided along Susannah Lane until it reached the existing trail connection to the Park. At this point, an existing footpath would be improved through Rock Creek Regional Park to connect to Rock Creek Trail. Since the trail would utilize an existing connection through a residential community, there would be no new park impacts. Impacts to natural resources would be minimal. It is not clear the extent of the improvements that the Purple Line would provide.

Option 2 is the Rock Creek Switch Back. This option is a variation of the switch back evaluated previously. It would be located to the north of the proposed Purple Line and is discussed above. The total length of this option is approximately 797 feet. Mr. Riffel explained that the Purple Line would be at a lower elevation and the trail even lower than the tracks, which would mean a shorter trail connection and fewer switchbacks to meet ADA compliance. The top of the existing railroad berm is not wide enough to accommodate both tracks and the trail. In addition, a single track through this area would not sufficiently meet operational demands.

Option 3 is the Susanna Lane New Connection. The length of this connection is approximately 1,153 feet. This connection would require users to access the western switchback, where it would connect to existing sidewalks on Susanna Lane. On Susanna Lane, there is a narrow, open, linear parcel of land that is currently owned by Montgomery County. A new trail would be constructed from Susanna Lane through Rock Creek Regional Park, where it would require a bridge to cross Rock Creek, and connect to Rock Creek Trail. This option would require a completely new connection through previously undeveloped parkland.

Option 4 is the Brookville Road Connection. The length of this connection is approximately 1,762 feet. This trail would connect to the Capital Crescent Trail directly east of the entrance to the existing County Bus Facility and Maintenance Yard. This option would require a completely new connection through previously undeveloped parkland. The elevation drop in this portion of the park is fairly significant. Therefore, a steep trail grade with numerous landings, as well as retaining walls, would be required in order to meet ADA compliance within Rock Creek Regional Park. Additional parkland impacts and possibly right-of-way would be required in order to meet this trail connection.

Option 5 is the Grubb Road Connection. The length of this connection is approximately 1,634 feet. This is generally the location of a signed trail connection today, with the construction of a new pedestrian bridge over the transitway to connect the trail, now on the north side. It uses existing roadways through a residential community to connect to Rock Creek Trail. This connection would begin to the east of Rock Creek Regional Park, south of the existing County Bus Facility and Maintenance Yard. A short switchback would be necessary from the trail to the south, toward the Grubb Road-Terrace Drive intersection. The trail would follow Terrace Drive to Freyman Drive, where a new portion of trail would be constructed on existing County right-of-way. The County currently has an agreement with a local synagogue to allow users to cross a parking lot to get to Rock Creek Park. The trail would then connect to the Rock Creek Trail south of the Purple Line. There are currently signs in this area directing trail users toward the trail in the vicinity of this connection.

Ms. Pedoeem questioned why additional options were developed for analysis if two trail connections already exist. Ms. Meade stated that since the beginning of the planning stages of the Purple Line, a new connection between the trails has been included. However, an additional option may be an easier, new, more direct connection that what is currently used. Mr. Kines questioned what the anticipated impacts associated with the Option 2 would be. Until the limit of disturbance is clearly established, the amount of impacts cannot be determined for any of the options. Mr. Kines indicated that until the anticipated impacts are determined, we need to continue to evaluate Option 2.

Ms. Pedoeem questioned the removal of the trestle bridge that currently carries the Capital Crescent Trail over Rock Creek and the Rock Creek Trail. Ms. Pedoeem thought the existing bridge would accommodate the proposed Purple Line and Capital Crescent Trail without the need to remove the bridge or widen the existing trail area. In addition, she also thought that the elevation of the Purple Line would remain unchanged. It was confirmed by Mr. Kines that the existing bridge was built as a temporary pedestrian bridge and could not handle the weight of a light rail train. Ms. Pedoeem asked if the Purple Line Team considered keeping the existing trestle bridge and footprint so that anticipated impacts do not increase. Ms. Meade indicated that the existing right-of-way in this area is 225 feet wide. As currently proposed, the Purple Line would be double tracked through this area. Mr. Kines stated that the single track vs. double track issue was discussed with the Planning Board. Mr. Riffel illustrated the existing width vs. what is required to accommodate both tracks and the trail. The question was raised again about the width of the connector trails. Along the Capital Crescent Trails, all of the connector trails would be 10 to 12 feet wide.

Some additional options were raised by M-NCPPC staff and discussed briefly during the meeting. Mr. Anspacher indicated that there are two existing connections from the Capital Crescent Trail to Rock Creek Trail. Mr. Anspacher stated that if those connections exist and are ADA compliant, why not construct stairs between the trails as a more direct connection. Another option that was raised was to construct the connector trail under the Capital Crescent Trail, over Rock Creek.

Stephen Reid requested that the Purple Line Team look at a direct connection from the switchback at Jones Mill Road, closely paralleling the trail, inside the County right-of-way.

The County rejected the new Susannah Lane option and the Brookville Road connections as too impactive because they would fragment the park and result in additional impacts to the park. In addition, the Brookville Road connection was considered too steep and unattractive. Susanna Road is duplicative of the existing Susannah Road connection.

Mr. Riffel indicated that details for Option 2 should be more advanced by the end of August. In addition, the design team would determine whether a straight connection or switchback would result in less impacts. It was also mentioned that the County may not have the funding to construct the connection when the time comes, so that is something that needs to be considered when selecting the connection.

Another consideration is to evaluate an interim vs. a long term connection. Mr. Kines requested that we not drop Option 2, as there would be high demand and a high potential number of users that would utilize that connection.

Mr. Kines said he does not have a problem deferring the construction of a direct switchback connection to a later time if the Purple Line Team can build the project so as not to preclude future construction of the switchback. This would also help the County by removing the cost of the connection from the initial construction of the trail. Mr. Kines was not particularly concerned about the impacts of tree removal from the side of the berm for the switchback because it is likely that much, if not all, of the vegetation would be removed during the trail and transitway construction.

M-NCPPC as a whole indicated that the options that would further fragment the parks should be dropped from further consideration. As such, Options 3 and 4 have been dropped from further consideration. The design team will try to decrease impacts associated with Option 2 as the grading and limit of disturbance is developed. In addition, Options 1 and 5 will be further evaluated.

There were a few other issues that were discussed at the meeting. Mapping had previously indicated that a parcel of park property was located at the proposed Lyttonsville Yard and Shop. M-NCPPC indicated that they own an acre of property there, but it is currently used for parking and not considered parklands.

Kristi Hewlett and Mr. Hawtof indicated that there appears to be a small, local park along the western portion of the Purple Line alignment, located at the intersection of Sleaford Road and Kentbury Drive. It is a small, common area that is maintained by East Bethesda residents. It is identified as Sleaford Park. Ms. Meade indicated that it is county right-of-way, a paper road on both sides of the Georgetown Branch right-of-way. It is not a public park and local residents maintain it.

M-NCPPC owns a parcel of property at the Silver Spring Transit Center, previously identified as the Metro Urban Park. The Purple Line is elevated to the third or fourth floor of the Transit Center. Therefore, the Purple Line would have no impact on that parcel of land.

A floodplain study is currently being conducted for Sligo Creek. The results of this study are pending.

Ms. Pedoeem questioned how the Purple Line would impact the proposed Green Trail, which would be aligned to the north of Wayne Avenue near Sligo Creek Stream Valley Park. Ms. Meade stated that the Purple Line Team had worked with the County on the plans for the Green Trail. It was agreed that since this area, located outside of the Silver Spring Central Business District, the proposed trail could be an eight-foot wide shared use trail/sidewalk. The Purple Line plans show this wide trail/sidewalk on the north side of Wayne Avenue. It was also mentioned athat a white paper exists for the Green Trail. Ms. Pedoeem also asked what speed the light rail will travel. The light rail cars will travel at the posted speed, along with automobile traffic.

In conclusion, we discussed the next steps. The design team will further evaluate Rock Creek Trail, including a limit of disturbance as well as renderings. The Purple Line Team will evaluate how the project could be designed to allow later connection of the connection. Options 1(existing Susannah Lane) and 5 (existing Freyman Drive) will be retained as well. In addition, Mr. Reid's idea will be evaluated.

Ms. Pedoeem questioned the aesthetics of the bridge. Mr. Hawtof indicated that the Purple Line Team would be working with the National Capital Planning Commission, M-NCPPC, and architects to evaluate bridge designs from a visual perspective.

The meeting was adjourned at 3:30 PM.

ACTION ITEM SUMMARY

Task #	Action Item	Due Date	Status
1.	Further evaluate Rock Creek Trail Option 2, including LOD and renderings		
2.	Evaluate how trail connection can be delayed		
3.	Further evaluate Rock Creek Trail Options 1 and 5		
4.	Evaluate a potential connection from Jones Mill Road to Rock Creek Trail		
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SIGN IN SHEET

Name	Company	Phone Number	E-mail Address
David Anspacher	M-NCPPC Planning		
Tom Autry	M-NCPPC		
Brooke Farquhar	M-NCPPC Parks		
Rob Gibbs	M-NCPPC-PPSD		
Steve Hawtof	Purple Line Team		
Kristi Hewlett	Purple Line Team		
Charles Kines	M-NCPPC		
Linda Komes	M-NCPPC PPD		
Darien Mauley	M-NCPPC Park Police		
Monica Meade	Purple Line Team		
Mitra Pedoeem	M-NCPPC PPD		
Stephen Reid	M-NCPPC PDD		
Brian Riffel	Purple Line Team		
Bob Turnbull	M-NCPPC PPSD		
Brian Woodward	M-NCPPC Southern Parks		

Prince George's County M-NCPPC/Purple Line Formal Agency Coordination Kickoff Meeting

Friday, January 6, 2012

12:00 - 2:00 PM

M-NCPPC Prince George's County Headquarters

6600 Kenilworth Avenue, Riverdale MD

Meeting Minutes

On Friday, January 6, 2012, various members from the Purple Line Team, Prince George's County Maryland-National Capital Park and Planning Commission (M-NCPPC), and Prince George's County Department of Public Works and Transportation (DPW&T) met to discuss the proposed Purple Line and anticipated impacts to various parks and recreational resources along the proposed corridor. The following were in attendance:

Name	Organization	Email address
Harriet Levine	Purple Line Team	Harriet.Levine@jacobs.com
Kristi Hewlett	Purple Line Team	Kristi.Hewlett@jacobs.com
Chuck Montrie	M-NCPPC	chuck.montrie@pgparks.com
Eileen Nivera	M-NCPPC	eileen.nivera@pgparks.com
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The meeting was kicked off with introductions. Ms. Harriet Levine provided a brief background of the proposed project, as well as a description of the proposed route. Section 4(f) and its purpose was defined for the group. Mr. Lou Farber questioned what, exactly, would constitute a Section 4(f) failure. It was explained that Section 4(f) requires that feasible and prudent alternatives are developed to avoid any potential impacts to these resources. If an alternative is selected that results in detrimental impacts to Section 4(f) resources even though an alternative with less impacts exists, the requirements of Section 4(f) would not be met.

A park-by-park discussion was held, where each park that would be affected by the proposed project was described with regard to existing conditions and access. In addition, anticipated impacts to each park were discussed, as well as potential impact findings.

Northwest Branch Stream Valley Park is located is located along the North Branch of the Anacostia River, north and south of University Boulevard, between Riggs Road and Adelphi Road. This stream valley park also includes Lane Manor Community Recreation and Aquatic Center, Adelphi Manor Community Recreation Center, and University Hills Neighborhood Park in the vicinity of the proposed project area. Northwest Branch Stream Valley Park and all of the related facilities are owned and maintained by M-NCPPC.

The proposed project would require right-of-way both north and south of University Boulevard. Northwest Branch Trail could be temporarily relocated during construction, but would remain fully open and accessible. All access points to the park would remain open.

University Hills Neighborhood Park, which is part of the Northwest Branch Stream Valley Park, includes a duck pond. Sediment and water quality issues currently exist within the duck pond as a result of runoff. M-NCPPC indicated that they would be interested in upgrading the duck pond to correct the water quality issues. This could provide a mitigation opportunity for the property requirements.

The construction of the proposed Purple Line would require the reconstruction of the bridge over the Northwest Branch of the Anacostia River in order to safely and adequately support the project. Construction of the bridge would occur within the 100-year floodplain. Questions arose with regard to impacts to compensatory storage that could potentially result from filling in a portion of the floodplain. A longer bridge would be constructed if necessary to mitigate for impacts to compensatory storage.

Given the fact that none of the existing recreational facilities would be affected by the proposed project, the minimal amount of right-of-way along an existing roadway that would be needed, and potential mitigation measures, M-NCPPC and the Purple Line Team agreed that a *de minimis* impact finding would be sought for potential impacts to Northwest Branch Stream Valley Park. In addition, it was determined that all of the smaller community parks within the Northwest Branch Stream Valley Park that would be affect, as well as the Northwest Branch Trail, would be evaluated as one resource.

A short discussion of Paint Branch Stream Valley Park occurred. Existing mapping indicates that M-NCPPC does not own the property that abuts Paint Branch Parkway. Therefore, the proposed project would not impact Paint Branch Stream Valley Park.

The proposed alignment through Anacostia River Stream Valley Park remains in flux. Directly south of River Road, east of Haig Drive, and west of the existing stormwater management pond, M-NCPPC plans to eventually construct a recreational facility, possibly a futsal court. There are discussions about possibly utilizing this same location as a staging area during the construction

of the proposed project. Any potential recreation area that would be constructed in that location would be constructed after the completion of the Purple Line.

During the construction of the proposed project, the existing footpath that leads from Kenilworth Avenue along the south side and under River Road would be closed. The path would be replaced when construction is complete. In addition, during the construction of the River Road bridge over the Northeast Branch of the Anacostia River, the existing Northeast Branch Trail would be detoured. The trail would be detoured along Haig Drive, across River Road, north into an existing parking lot, where the trail would reconnect to the existing Northeast Branch Trail. The parking lot is owned by the University of Maryland. The intersection of Haig Drive and River Road would be signalized. The signal would be installed prior to the trail detour.

There are several potential measures that can be taken to mitigate for impacts to Anacostia River Stream Valley Park. A stormwater management pond currently exists to the south of River Road, west of the Northeast Branch of the Anacostia River, and north and east of Haig Drive. This stormwater management pond could potentially be expanded in an effort to further treat runoff and improve water quality. M-NCPPC indicated that they would like to potentially see recreational amenities added around this pond. Amenities mentioned could include the construction of a trail around the pond and benches. Amenities could be added to improve the visual aesthetics of the pond. It is currently undetermined whether the pond would be acquired and maintained by MTA or if it would remain M-NCPPC property and be kept as a park facility.

There was some discussion as to the potential impact finding for this park. M-NCPPC indicated that they would like to pursue a *de minimis* impact finding, but would need to see more details on the proposed stormwater management pond before they could make that decision. In addition, it was determined that all of the smaller community parks, as well as the Northeast Branch Trail, would be evaluated with one impact finding.

The proposed Glenridge Yard and Shop has been discussed with M-NCPPC previously. There was some internal debate within M-NCPPC as to whether the existing Northern Area Maintenance Office was considered a Section 4(f) resource. Since the facility is not a public park that is open to the public, although it is an important facility to M-NCPPC with regard to park maintenance, the facility itself is not considered a Section 4(f) resource.

The proposed loop alignment would result in impacts to the neighboring Glenridge Elementary School. It would require right-of-way from existing recreational facilities associated with the school. In addition, it would result in the closure of an existing soccer field. The linear alignment would avoid impacts to the school entirely. Both the loop and linear alignment would require extensive grading to lower the elevation of the yard and shop so that the elevation of the facility would be consistent with Veterans Parkway. Options for both the loop and linear alignments were developed with and without the construction of a significant retaining wall.

Only the recreational facilities at the school are considered Section 4(f) resources, not the entire school. The general consensus among the M-NCPPC staff was that the existing school fields need to be preserved, as they are a significant resource.

M-NCPPC stated that the construction of a retaining wall would not be a benefit to Glenridge Community Park. They stated that it would be more beneficial to the park to grade and reforest the slope.

Hazard category- Can I get some input here? Can't recall exactly what we discussed.

M-NCPPC indicated that they would like to negotiate mitigation plans for impacts to Glenridge Community Park. They will continue to evaluate the two yard and shop options and get back to the Purple Line Team with their preferred alignment.

Purple Line GEC
Maryland-National Capital Park and Planning Commission – Prince George's County Recreation and Parks
Formal Agency Coordination Meeting
M-NCPPC Prince George's County Headquarters
6600 Kenilworth Avenue
Riverdale, Maryland
Friday, March 15, 2013 at 1:30 PM

MEETING SUMMARY

ATTENDEES:
Mr. Ronnie Gathers, M-NCPPC- Prince George's County Department of Recreation and Parks
Ms. Kristi Hewlett, Purple Line Team
Ms. Harriet Levine, Purple Line Team
Ms. Eileen Nivera, M-NCPPC - Prince George's County Department of Recreation and Parks
Mr. Michael Weil, National Capital Planning Commission

LIST OF HANDOUTS:
- Park fact sheets
- Agenda

The meeting opened with brief introductions, followed by an overview of the previous park impact findings and anticipated impacts to each park. Park Fact Sheets, which included a discussion of anticipated impacts, were provided to each of the meeting attendees.

1. Northwest Branch Stream Valley Park
We discussed anticipated impacts along University Boulevard to Northwest Branch Stream Valley Park. Permanent impacts would be 0.80 acres and would be along both the north and south side of University Boulevard between West Park Drive and Temple Street. This is a slight increase from what was previously presented (0.57 acres). Land would be required for the widening of University Boulevard and associated sidewalk construction.

Temporary impacts would be 3.45 acres, both north and south of University Boulevard. This is a slight increase from what was previously presented (3.42 acres).

Both north and south of University Boulevard, between West Park Drive and Temple Street, the existing drainage ditches directly adjacent to University Boulevard would be relocated to convey discharge toward Northwest Branch Stream. A retaining wall would be constructed near the eastern end of an existing drainage ditch located directly east of West Park Drive in an effort to maintain the ditch and avoid the disturbance of the embankment that supports the existing pond, located to the north of the proposed wall. Northwest Branch Stream would be temporarily impacted approximately 125 feet upstream to 125 feet downstream of University Boulevard to accommodate any stream diversion measures that would be necessary for the construction of the new bridge

The limit of disturbance was expanded to the north of University Boulevard to maintain positive drainage to Northwest Branch Stream from an existing drainage swale that currently conveys stormwater from University

Boulevard to the stream. These efforts would improve water quality of Northwest Branch Stream. Areas that would be impacted as a result of stormwater management upgrades would be returned to M-NCPPC when construction is complete.

A temporary detour of Northwest Branch Trail from the eastern to western side of West Park Drive would be required during construction. Full access to the trail would be maintained during construction. Full access to the park and all facilities would be maintained at all times during construction.

The median between West Park Drive and Adelphi Road would be closed permanently, eliminating left turn movements. Westbound vehicles traveling on University Boulevard would have to make a u-turn at West Park Drive to access the existing playground within NWBSVP, east of Lane Manor Community Recreation and Aquatic Center. Eastbound vehicles would have to make a u-turn at Adelphi Road to access the archery range located to the north of University Boulevard and west of Temple Street.

There were a few questions that arose during the meeting. NCPC requested information on the type of bridge that would be constructed over the Northwest Branch of the Anacostia River. As currently designed, the structure would be a three span, steel plate girder bridge. The Purple Line Team is currently reviewing the structure with SHA and concrete options are being evaluated. The hydraulics of the stream cross section would control the bridge design opening.

M-NCPPC asked what the dimensions of the proposed retaining wall to the north of University Boulevard and east of West Park Drive would be. The wall would be approximately 160 feet long and 14 feet tall. They also asked what the distances of impact would be along University Boulevard (i.e., how far the sidewalk would be moved back from their existing locations).

NCPC requested that the Purple Line Team keep them informed regarding public involvement so that they can coordinate their efforts. NCPC indicated that they would post a link on their website regarding public involvement while the public involvement process is underway. M-NCPPC requested information regarding the distances of anticipated impacts within the park, including the length and width of barriers and retaining walls. They also requested information on who would maintain the swales and ditches upon completion of the proposed project. They would be maintained by either MTA or SHA.

There were discussions regarding proposed stream restoration efforts within the Northwest Branch of the Anacostia River, located within Northwest Branch Stream Valley Park. Dr. Mow-Soung Cheng with the Prince George's County Department of Environmental Programs has contacted NCPC and M-NCPPC regarding the proposed restoration. No information with regard to the extent of status of the stream restoration project was available.

M-NCPPC agreed that impacts to Northwest Branch Stream Valley Park would still be considered *de minimis*. We informed them that a letter would be sent to them in the near future for their concurrence.

2. Anacostia River Stream Valley Park

As currently designed, 1.2 acres of land would be permanently used. Permanent impacts would result from the construction of the transitway parallel to and directly south of River Road through proposed project area. Permanent impacts have not changed from what was previously discussed.

The proposed project would result in 2.76 acres of temporary use of park in this area. The change in temporary impacts is almost negligible from what was previously presented (2.77 acres). Temporary right-of-way impacts would result from the implementation of the staging area on a currently undeveloped parcel at southeast quadrant of University Research Court/Haig Drive-River Road Intersection. This staging area is needed to construct the proposed transitway bridge adjacent to River Road. Upon completion of construction, this parcel of land would be completely cleared and graded for use as a futsal court to be constructed by M-NCPPC at a later date. Additional temporary impacts would result from grading, vegetation removal, and the reconstruction of the trail that parallels River Road.

UMD recently completed the construction of a traffic circle at the intersection of River Road and University Research Court/Haig Drive. As discussed with the University, the construction of the proposed Purple Line would require the removal of the traffic circle and the introduction of a signalized intersection. It is possible that the construction of the traffic circle would require some existing park land and any excess property outside of the Purple Line right-of-way would be conveyed back to the park once the circle was removed.

Full access to park would be maintained during construction. Northeast Branch Trail would be temporarily detoured during construction to Haig Drive. The Northeast Branch Trail would be detoured to follow Haig Drive, where it would cross River Road at grade onto University Research Court and through University of Maryland property accessing an existing trail connection on the north side of River Road to reconnect to the existing trail. The aforementioned traffic circle would be removed and the intersection would be signalized prior to the construction of the proposed transitway and associated trail detour in an effort to ensure the safety of trail users. No permanent impacts to existing park facilities are anticipated during construction. No change in access to the park would occur in this area during construction.

At the previous meeting, M-NCPPC requested the distance between the existing River Road Bridge and the proposed transitway bridge, where they cross over Northeast Branch Trail. There were concerns that if there was not sufficient distance between the two bridges, there could potentially be an impact to ambient lighting on the trail under the bridges. After the previous meeting it was determined that as currently designed, the distance between the existing and proposed bridges would be between 15 and 18 feet, as the proposed transitway bridge and the River Road bridge are not completely parallel.

At the meeting, M-NCPPC requested the dimensions of the retaining wall proposed to the south of River Road, adjacent to the existing stormwater management pond. The wall would be approximately 290 feet long and would vary in height. The maximum height of the wall would be approximately 15 feet adjacent to the bridge abutment for the Anacostia River bridge crossing.

The proposed project would permanently use 1.20 acres (total park acreage is 794), which is 0.15% of the overall park. The trail would be temporarily relocated during construction in an effort to remove the potential for pedestrian safety issues. Otherwise, no temporary or permanent impacts are expected to the existing park facilities. Full access would be maintained to the park at all times during and after the completion of construction. The proposed project would not adversely affect the activities, features, or attributes of the park. As currently designed, the proposed impacts to the park would meet the criteria for a *de minimis* impact finding, provided that M-NCPPC concurs. The M-NCPPC previously determined that the proposed project would result in a *de minimis* impact finding. They concurred that this anticipated finding still stands.

3. West Lanham Hills Neighborhood Recreation Center

As was discussed in the previous meeting with M-NCPPC, the proposed project would require 0.13 acres of temporary right-of-way from the park to reconstruct an existing stormdrain that drains into Beaverdam Creek. Full access to the park would be maintained during and after construction and none of the existing park facilities would be affected during the construction of the proposed project. As a result, the proposed project would be subject to a temporary occupancy determination. As part of our agency coordination, it was relayed that we expect the concurrence letter for the temporary occupancy determination to be sent to M-NCPPC in the near future.

4. Glenridge Community Park

The Team presented the changes to the proposed yard and shop configuration since the previous meeting. As discussed with M-NCPPC, the Modified Linear Alignment was identified as the Preferred Alternative. Some retaining walls were added to the proposed alignment in an effort to reduce potential impacts to parks, streams, and woodland buffer located along the proposed boundaries of the facility. In an effort to further reduce impacts to parks and natural resources, a parking structure is proposed. Right of way impacts to the park would be both temporary and permanent. As currently designed, the proposed project would temporarily impact 0.37 acre and permanently impact 5.32 acres of land within Glenridge Community Park. In addition, 2.04 acres of land currently used as Northern Area Maintenance Office would be converted to parkland. The anticipated permanent and temporary impacts would both decrease from what was previously presented (7.24 acres and 0.56 acre, respectively). However, the amount of anticipated reclaimed parkland would also decrease from 2.67 acres to 2.04 acres.

There were discussions about the relocation of the exiting Northern Area Maintenance Office. M-NCPPC indicated that they were somewhat reluctant to seriously search for a new facility before funding for the construction of the Purple Line is either secured or clearer. Therefore, very little has been done to search for a potential new location. M-NCPPC stated that they would like assistance from the Purple Line Team in locating potential locations. The Purple Line Team will start researching excess state-owned land. M-NCPPC indicated that if funding for the Purple Line is secured and construction is started prior to the identification of a new permanent site for the Northern Area Maintenance Office, they acknowledged the need to potentially move to a temporary facility until a new one is identified. The Purple Line Team stated that we will include a search of existing state facilities that M-NCPPC could share, if necessary.

M-NCPPC asked what the height of the proposed retaining walls would be around the proposed Glenridge Maintenance Facility. As currently designed, the maximum height of the retaining walls would be approximately 20 feet.

No temporary or permanent impacts to the existing park facilities are anticipated as a result of the proposed project. Full access would be maintained to the park at all times during and after the completion of construction. While the proposed project would not adversely affect the activities, features, or attributes of the park, M-NCPPC could not commit to a *de minimis* impact finding.

5. Potential Mitigation Measures

We initiated a discussion of potential mitigation measures for park impacts. The total acreage of impacts to parks owned and maintained by M-NCPPC Prince George's County Department of Recreation and Parks would be 7.32 acres of permanent impacts and 6.71 acres of temporary impacts county-wide. The proposed replacement parkland within Glenridge Community Park (2.04 acres) would bring the total number of anticipated impacts to parklands within Prince George's County down to 5.28 acres.

Potential mitigation measures previously discussed with M-NCPPC included upgrading athletic fields within Glenridge Elementary School and potentially fixing the existing drainage issues; grading the proposed staging area at the southeast quadrant of Haig Drive-River Road intersection for use as a futsal court; the construction of pedestrian bridges, including one from neighborhoods to the fields with Anacostia River Stream Valley Park and one over the Anacostia River to Northeast Branch Trail, south of River Road; and add park amenities around the existing stormwater management pond directly south of River Road, including benches and possibly a trail. We asked for their input on potential replacement parkland, providing improvements to existing parks as mitigation, and potential areas that could be used as parkland, but adding conservation easements in an effort to mitigate potential tree loss. M-NCPPC also indicated that they would like to improve/upgrade an existing playground located within Adelphi Manor (Northwest Branch Stream Valley Park) in close proximity to the proposed project area.

6. Next Meeting

The next steps include obtaining concurrence from M-NCPPC with de minimis impacts and continued discussions regarding potential mitigation measures and the relocation of the Northern Area Maintenance Office..

ACTION ITEM SUMMARY

Task #	Action Item	Due Date	Status
1.	Prepare for Purple Line Coordination meeting with M-NCPPC Directorate, to be held in late February 2013		
2.	Further evaluate alternatives that would further minimize access impacts to Long Branch Community Center.		
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			

SIGN IN SHEET

Name	Company	Phone Number	E-mail Address
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Eileen Nivera	M-NCPPC, Prince George's Department of Recreation and Parks	301-699-2522	eileen.nivera@pgparks.com
Michael Weil	National Capital Planning Commission	202-482-7253	michael.weil@ncpc.gov

Purple Line GEC
Maryland-National Capital Park and Planning Commission – Prince George's County Recreation and Parks
Formal Agency Coordination Meeting
M-NCPPC Prince George's County Headquarters
6600 Kenilworth Avenue
Riverdale, Maryland
Thursday, June 7, 2012 at 1:00 PM

MEETING SUMMARY

ATTENDEES:
Mr. Jim Guinther, Purple Line Team
Ms. Kristi Hewlett, Purple Line Team
Mr. Dan Koenig, FTA (Call in)
Ms. Harriet Levine, Purple Line Team
Mr. Steve Lowe, M-NCPPC
Mr. Chuck Montrie, M-NCPPC
Ms. Eileen Nivera, M-NCPPC
Mr. Calvin Savoy, M-NCPPC

LIST OF HANDOUTS:
- Agenda
- Graphics showing proposed alignment through each proposed park area

1. Overview of refinements made to the Preferred Alternative since the previous meeting
The Purple Line Team provided a brief overview of the refinements made to the proposed alignment since the previous meeting. For the benefit of those present and calling in, it was explained that the meeting was a continuation of an earlier coordination meeting, held on January 6, 2012 to discuss the necessary level of documentation required for each park and their impacts. It was reiterated that a *de minimis* impact finding is a procedural issue and would have no effect on the mitigation efforts for any park impacts. The Purple Line Team proceeded to review each park, from west to east.

2. Northwest Branch Stream Valley Park
The Preferred Alternative is aligned through the median of University Boulevard, which runs through Northwest Branch Stream Valley Park. Right-of-way would be required for roadway widening to accommodate the proposed Purple Line along University Boulevard. Through Northwest Branch Stream Valley Park, two interior lanes would be dedicated to the proposed transitway. There would be two additional lanes in each direction, including one 11-foot wide vehicle lane and a 16-foot wide bicycle compatible outside lane. Six-foot wide sidewalks would be constructed on each side of University Boulevard.

As currently designed, the Preferred Alternative would require the acquisition of approximately 0.66 acre of property from Northwest Branch Stream Valley Park, directly north and south of University Boulevard. In addition, approximately 3.21 acres of temporary construction easements would be required. Anticipated temporary

construction easements would increase slightly as a result of additional stream work within the Northwest Branch of the Anacostia River, which runs through the park.

A majority of the proposed temporary construction easements would be required as a result of stormwater management upgrades and grading. Both north and south of University Boulevard, between West Park Drive and Temple Street, the existing drainage ditches directly adjacent to University Boulevard would be relocated to convey discharge toward Northwest Branch Stream. Existing ditches would be reworked in an effort to improve water quality to the stream. A retaining wall would be constructed near the eastern end of an existing drainage ditch located directly east of West Park Drive in an effort to maintain the ditch and avoid the disturbance of the embankment that supports the existing pond, located to the north of the proposed wall. Northwest Branch Stream would be temporarily impacted approximately 125 feet upstream to 125 feet downstream of University Boulevard to accommodate any stream diversion measures that would be necessary for the construction of the new bridge. In addition, the limit of disturbance was expanded to the north of University Boulevard to maintain positive drainage to Northwest Branch Stream from an existing drainage swale that currently conveys stormwater from University Boulevard to the stream. These efforts would improve water quality of Northwest Branch Stream. Areas that would be impacted as a result of stormwater management upgrades would be returned to M-NCPPC when construction is complete.

The Northwest Branch Trail would be temporarily detoured from the eastern side to the western side of West Park Drive during construction. Full access to the trail would be maintained during construction. The Preferred Alternative would not temporarily or permanently use any other facilities associated with Northwest Branch Stream Valley Park. Full access to the park, all sidewalks, and bicycle lanes would be maintained during construction. However, the median between West Park Drive and Adelphi Road would be closed permanently, eliminating left turn movements. Vehicles traveling west on University Boulevard would have to make a u-turn at West Park Drive to access the existing playground within Northwest Branch Stream Valley Park, east of Lane Manor Community Recreation and Aquatic Center. Eastbound vehicles would have to make a u-turn at Adelphi Road to access the archery range located to the north of University Boulevard and west of Temple Street.

The median between West Park Drive and Adelphi Road would be closed permanently, eliminating left turn movements. WB vehicles traveling on University Boulevard would have to make a u-turn at West Park Drive to access the existing playground within the park, east of Lane Manor Community Recreation and Aquatic Center. Eastbound vehicles would have to make a u-turn at Adelphi Road to access the archery range located to the north of University Boulevard and west of Temple Street.

The construction of the bridge would be completed in multiple stages in an effort to avoid road closures. Once the widening of University Boulevard is complete and travel lanes and sidewalks are established, all construction activities would occur within the median. M-NCPPC indicated that a popular Hispanic festival is held in September that utilizes all areas for parking.

M-NCPPC indicated that the proposed project in the vicinity of Northwest Branch Stream Valley Park would result in no use or disruption of existing park facilities. In addition, it would not result in additional burden to maintenance crews. M-NCPPC is in favor of a wider limit of disturbance in this area for water quality improvements. The Purple Line Team indicated that hydraulic improvements would be made in this area that would decrease the potential for flooding that would also improve many of the existing issues within the stream. Improvements would be made to increase water quality within the right-of-way while increasing the quantity of water conveyed by existing ditches. Along University Boulevard, wider, flat-bottom swales would be created. Impacts to trees would be minimized. A majority of the bridge construction would occur from the roadway in an

effort to further minimize anticipated impacts to the park. As a result, M-NCPPC concurred that as currently designed, they would support a *de minimis* impact finding for this park.

3. Paint Branch Stream Valley Park

Paint Branch Stream Valley Park is located in close proximity to the Preferred Alternative. As currently designed, the proposed transitway would run on dedicated tracks to the west of Paint Branch Parkway, away from the park. As a result, no impacts to Paint Branch Stream Valley Park are anticipated.

4. Anacostia River Stream Valley Park

In the vicinity of Anacostia River Stream Valley Park, the Preferred Alternative abuts River Road to the south on a separate, dedicated structure, then turns southbound onto Kenilworth Avenue. The University of Maryland is planning to construct a traffic circle at the intersection of River Road and University Research Court/Haig Road. As discussed with the University, the construction of the proposed Purple Line would require the removal of the traffic circle and the re-introduction of a signalized intersection. It is possible that the construction of the traffic circle will require some existing park land and any excess property outside of the Purple Line right-of-way would be conveyed back to the park once the circle was removed. The Preferred Alternative also includes the reconstruction of a trail that parallels River Road to the south, before turning north under River Road near the Northeast Branch of the Anacostia River to access M-NCPPC property to the north of River Road.

As currently designed, the Preferred Alternative would require the temporary use of 2.9 acres of Anacostia River Stream Valley Park in this area. Temporary right-of-way impacts would result from the implementation of the staging area on currently undeveloped parcel at southeast quadrant of Haig Drive-River Road Intersection. This staging area is needed to construct the new Purple Line bridge adjacent to River Road. Upon completion of construction, this parcel of land would be completely cleared and graded for use as a futsol court to be constructed by M-NCPPC at a later date. Additional temporary impacts would result from grading, vegetation removal, and the reconstruction of the trail that parallels River Road.

As currently designed, 1.22 acres of land would be permanently used. Permanent impacts would result from the construction of the transitway parallel to and directly south of River Road through proposed project area.

Full access to the park would be maintained during construction. No impacts to existing park facilities would occur during construction. There would be no change in access to the park in this area during construction. During construction, while full access to the Northeast Branch Trail would be maintained, it would be temporarily detoured during construction. The Northeast Branch Trail would be detoured to follow Haig Drive, where it would cross River Road at grade onto University Research Court and through University of Maryland property, accessing an existing trail connection on the north side of River Road to reconnect to the existing trail. Approval from the University of Maryland would be required to access the trail through University property, located to the north of River Road.

As a follow-up to the previous meeting, the Purple Line Team indicated that while they looked into potentially expanding the existing stormwater management pond located to the south of River Road and east of Haig Drive, the pond could not be expanded due to its location in proximity to the 100-year floodplain of the Northeast Branch of the Anacostia River. However, the Team indicated that they would consider potentially adding amenities, such as a trail or sitting areas around the pond. A retaining wall would be constructed between the transitway and pond in an effort to avoid impacts to the pond.

M-NCPPC indicated that the gap between River Road and the transitway would need to be evaluated. Lighting would be an issue for the trail in this area and ambient light levels under the bridges need to be considered. The proposed access trail from River Road would be regraded under the River Road bridge, as the team would need to reconfigure the trail so that it is located outside of the track bed.

M-NCPPC mentioned potentially constructing a trail from the proposed station to the park and neighborhoods located to the west of the park. University of Maryland is currently working with the Town of Riverdale to develop the proposed trail.

M-NCPPC concurred that the proposed project would result in no use or negative impacts to Anacostia River Stream Valley Park or any existing park facilities. While tree clearing would be required, it would be minimized where possible and mitigated. As such, M-NCPPC stated that they would concur with a *de minimis* impact finding for Anacostia River Stream Valley Park.

5. Baltimore Washington Parkway

A short discussion was held regarding the proposed project through Baltimore-Washington Parkway. Along the proposed alignment, the parkway is owned and maintained by the National Park Service (NPS). The Purple Line Team provided an update to M-NCPPC as to where coordination with NPS stands and indicated that an agreement has been reached regarding maintenance of traffic during construction and the style of the reconstructed bridges between the Purple Line Team and NPS.

6. Glenridge Community Park

For the benefit of the meeting attendees, the Purple Line Team provided an overview of the Loop Alternative evaluated for the proposed Glenridge Yard and Shop, as well as the Linear Alignment. Changes to the proposed Linear Alignment since the previous meeting were discussed. The Purple Line Team indicated that they are in the process of potentially reprogramming both the Glenridge and Lyttonsville Yard and Shops in an effort to reduce redundancy and increase efficiency.

As currently designed, the Preferred Alternative would be aligned along the western side of southbound Veterans Parkway. A yard and shop is proposed for construction at the M-NCPPC's existing Northern Area Maintenance Office (NAMO). At the previous meeting, M-NCPPC stated that their preference was for the Linear Alignment without the construction of retaining walls, as this alignment would avoid impacts to Glenridge Elementary School and the existing athletic fields located on school property. The alternative that is being carried forward is the Modified Linear alignment with the construction of some retaining walls in an effort to reduce potential impacts to park, including a stream and woodland buffer. While the yard and shop would be constructed primarily on property owned by M-NCPPC and within the NAMO, it would extend outside of the existing facility into Glenridge Community Park, as well as a parcel owned by Roswil Homeowners Association that is currently undeveloped, and B-1 County Center, who owns the access road that parallels Veterans Parkway.

The Purple Line Team discussed changes to the proposed yard and shop that are currently under consideration. Some of the changes include the construction of a larger building, which would allow for more indoor storage. As a result, the outdoor storage tracks would be smaller, which would reduce the limit of disturbance. In addition, more of the activities that would occur as a result of day-to-day operations would occur inside the building instead of outside where the activities would be more visible. In addition, the Purple Line Team is evaluating potentially constructing a parking deck instead of all surface parking in an effort to further reduce the limit of disturbance.

Modifications have been and are being made to the proposed yard and shop in an effort to minimize tree loss within the northwest portion of the park.

Right-of-way impacts would be both temporary and permanent. The Preferred Alternative would result in the permanent closure of an existing access road currently used as a back entrance to the Glenridge Shopping Center. The Modified Linear Alignment would not impact Glenridge Elementary School. The Modified Linear Alignment would allow the proposed Purple Line to convey excess land back to M-NCPPC to be used for park purposes. The fields at the school have high value for M-NCPPC. Along the eastern boundary of the proposed yard and shop, the land to be conveyed back to recreational uses would allow for a second regulation size field at the school and space to address existing drainage issues.

Full access to Glenridge Community Park would be maintained during construction. As currently designed, the Modified Linear alignment would not impact any existing park facilities currently used for active recreation purposes within Glenridge Community Park or Glenridge Elementary School. The proposed facility would be at a lower elevation than the adjacent park and school fields which will reduce any potential visual or noise effects and allow for fencing and landscaping.

Before determining a finding for Glenridge Community Park, the design of the proposed yard and shop will be refined and new impact numbers will be determined. A separate meeting will be held with M-NCPPC to discuss the alignment and potential finding for this park.

7. West Lanham Hills Neighborhood Park

In the vicinity of West Lanham Hills Neighborhood Park, the Preferred Alternative is aligned along the western side of Veterans Parkway. It turns east onto Ellin Road, where it would be aligned to the south of the road. No permanent impacts would occur as a result of the proposed project. However, a 0.13 acre temporary construction easement would be required from West Lanham Hills Neighborhood Park to relocate Beaverdam Creek, an existing stream that abuts the park to the south and follows the western side of the park, between the park and Veterans Parkway. Three options are currently being evaluated to relocate Beaverdam Creek slightly to the east in the vicinity of the park.

Full access to the park would be maintained during construction. None of the existing park facilities would be affected during construction as a result of the proposed project. As a result, M-NCPPC indicated that they would concur with a *de minimis* impact finding for West Lanham Hills Neighborhood Park.

8. Next Meeting

M-NCPPC indicated that they would concur with the Federal Transit Administration finding that Northwest Branch Stream Valley Park, Anacostia Valley Stream Valley Park, and West Lanham Hills Neighborhood Park would all be subject to *de minimis* impact findings. As such, after the conclusion of the meeting, the Purple Line Team would continue with the required *de minimis* coordination process.

Additional coordination would be required to further evaluate impacts resulting from the proposed Glenridge Yard and Shop. In addition, coordination for mitigation and minimization will be ongoing between the Purple Line Team and M-NCPPC.

ACTION ITEM SUMMARY

Task #	Action Item	Due Date	Status
1.	Approval from the University of Maryland to access the Northeast Branch Trail from University Research Court		
2.	Evaluate the gap between the River Road and transitway bridges to determine ambient lighting on the trail		
3.	Refine alignment of the proposed Glenridge Yard and Shop; schedule additional meeting to discuss refinements, anticipated impacts, and potential finding		
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SIGN IN SHEET

Name	Company	Phone Number	E-mail Address

Purple Line GEC
Maryland-National Capital Park and Planning Commission – Prince George's County Recreation and Parks
Formal Agency Coordination Meeting
M-NCPPC Prince George's County Headquarters
6600 Kenilworth Avenue
Riverdale, Maryland
Monday, October 8, 2012 at 10:00 AM

MEETING SUMMARY

ATTENDEES:
Mr. Jim Guinther, Purple Line Team
Mr. Bill Gordon, M-NCPPC- NAM- Fairland
Mr. Steve Hawtof, Purple Line Team
Ms. Kristi Hewlett, Purple Line Team
Ms. Harriet Levine, Purple Line Team
Mr. Steve Lowe, M-NCPPC
Ms. Eileen Nivera, M-NCPPC
Ms. Carol Ann Perovshek, M-NCPPC – DPR – PPD
Mr. Roger Richardson, M-NCPPC – NAM – Glenridge
Mr. Calvin Savoy, M-NCPPC

LIST OF HANDOUTS:
- Agenda
- Graphics showing proposed alignment through each proposed park area

1. De minimis process

Harriet Levine and Kristi Hewlett provided an overview of de minimis impact findings and the de minimis process. A finding of de minimis impact can be made only if the official with jurisdiction over resource concurs that the project "would not adversely affect the activities, features, and attributes" that make a resource eligible for protection under Section 4(f).

The process for determining de minimis was explained for the attendees. It was explained that the team avoided and minimized impacts to the maximum extent possible. In order to obtain de minimis, written agency concurrence is required, followed by an opportunity for public input. It was also discussed that de minimis requires a separate public involvement process, above and beyond what would be required for a resource with a direct use.

2. Northwest Branch Stream Valley Park

We discussed anticipated impacts along University Boulevard to Northwest Branch Stream Valley Park. Permanent impacts would be 0.57 acres and would be along both the north and south side of University Boulevard between West Park Drive and Temple Street. This is a slight decrease from what was previously presented (0.66 acres). Land would be required for the widening of University Boulevard and associated sidewalk construction.

Temporary impacts would be 3.42 acres, both north and south of University Boulevard. This is a slight increase from what was previously presented (3.21 acres).

Both north and south of University Boulevard, between West Park Drive and Temple Street, the existing drainage ditches directly adjacent to University Boulevard would be relocated to convey discharge toward Northwest Branch Stream. A retaining wall would be constructed near the eastern end of an existing drainage ditch located directly east of West Park Drive in an effort to maintain the ditch and avoid the disturbance of the embankment that supports the existing pond, located to the north of the proposed wall. Northwest Branch Stream would be temporarily impacted approximately 125 feet upstream to 125 feet downstream of University Boulevard to accommodate any stream diversion measures that would be necessary for the construction of the new bridge

The limit of disturbance was expanded to the north of University Boulevard to maintain positive drainage to Northwest Branch Stream from an existing drainage swale that currently conveys stormwater from University Boulevard to the stream. These efforts would improve water quality of Northwest Branch Stream. Areas that would be impacted as a result of stormwater management upgrades would be returned to M-NCPPC when construction is complete.

A temporary detour of Northwest Branch Trail from the eastern to western side of West Park Drive would be required during construction. Full access to the trail would be maintained during construction. Full access to the park and all facilities would be maintained at all times during construction.

The median between West Park Drive and Adelphi Road would be closed permanently, eliminating left turn movements. WB vehicles traveling on University Boulevard would have to make a u-turn at West Park Drive to access the existing playground within NWBSVP, east of Lane Manor Community Recreation and Aquatic Center. EB vehicles would have to make a u-turn at Adelphi Road to access the archery range located to the north of University Boulevard and west of Temple Street.

M-NCPPC agreed that impacts to Northwest Branch Stream Valley Park would still be considered de minimis. We informed them that a letter would be sent to them in the near future for their concurrence.

3. Anacostia River Stream Valley Park

As currently designed, 1.2 acres of land would be permanently used. Permanent impacts would result from the construction of the transitway parallel to and directly south of River Road through proposed project area. This is a very slight increase in the anticipated permanent impacts that were previously presented (1.22 acres).

The proposed project would result in 2.77 acres of temporary use of park in this area. This is a slight decrease from what was previously presented (2.9 acres). Temporary right-of-way impacts would result from the implementation of the staging area on currently undeveloped parcel at southeast quadrant of Haig Drive-River Road Intersection. This staging area is needed to construct the proposed transitway bridge adjacent to River Road. Upon completion of construction, this parcel of land would be completely cleared and graded for use as a futsal court to be constructed by M-NCPPC at a later date. Additional temporary impacts would result from grading, vegetation removal, and the reconstruction of the trail that parallels River Road.

Full access to park would be maintained during construction. Northeast Branch Trail would be temporarily detoured during construction to Haig Drive. The Northeast Branch Trail would be detoured to follow Haig Drive, where it would cross River Road at grade onto University Research Court and through University of Maryland property accessing an existing trail connection on the north side of River Road to reconnect to the existing trail.

No permanent impacts to existing park facilities are anticipated during construction. No change in access to the park would occur in this area during construction.

UMD is currently constructing a traffic circle at the intersection of River Road and University Research Court/Haig Road. As discussed with the University, the construction of the proposed Purple Line would require the removal of the traffic circle and the re-introduction of a signalized intersection. It is possible that the construction of the traffic circle would require some existing park land and any excess property outside of the Purple Line right-of-way would be conveyed back to the park once the circle was removed.

At the previous meeting, M-NCPPC requested the distance between the existing River Road Bridge and the proposed transitway bridge, where they cross over Northeast Branch Trail. There were concerns that if there was not sufficient distance between the two bridges, there could potentially be an impact to ambient lighting on the trail under the bridges. After the previous meeting it was determined that as currently designed, the distance between the existing and proposed bridges would be approximately 15 feet.

The proposed project would permanently use 1.20 acres (total park acreage is 794), which is 0.15% of the overall park. The proposed project would not adversely affect the activities, features, or attributes of the park. The trail would be temporarily relocated during construction in an effort to remove the potential for pedestrian safety issues. Otherwise, no temporary or permanent impacts are expected to the existing park facilities. Full access would be maintained to the park at all times during and after the completion of construction. As currently designed, the proposed impacts to the park would meet the criteria for a de minimis impact finding, provided that M-NCPPC concurs. This information was relayed to M-NCPPC. Since a member of key M-NCPPC staff was absent, it was determined that they would take the information presented at the meeting and present it to him and would make the determination as to whether the park would meet de minimis impacts.

4. Glenridge Community Park

The Team presented the changes to the proposed yard and shop configuration since the previous meeting. As discussed with M-NCPPC, the Modified Linear Alignment was identified as the Preferred Alternative. Some retaining walls were added to the proposed alignment in an effort to reduce potential impacts to parks, streams, and woodland buffer located along the proposed boundaries of the facility. In an effort to further reduce impacts to parks and natural resources, a parking structure is proposed. Right of way impacts to the park would be both temporary and permanent. As currently designed, the proposed project would temporarily impact 0.56 acre and permanently impact 7.24 acres of land within Glenridge Community Park. In addition, 2.67 acres of land currently used as Northern Area Maintenance Office would be converted to parkland. While permanent impacts would increase from what was previously presented (6.33 acres), there would be an increase in reclaimed parkland (from 1.03 acre) that would offset the increase.

No temporary or permanent impacts to the existing park facilities are anticipated as a result of the proposed project. Full access would be maintained to the park at all times during and after the completion of construction. While the proposed project would not adversely affect the activities, features, or attributes of the park, M-NCPPC could not commit to a de minimis impact finding.

5. West Lanham Hills Neighborhood Recreation Center

As was discussed in the previous meeting with M-NCPPC, the proposed project would require 0.13 acres of temporary right-of-way from the park to reconstruct an existing stormdrain that drains into Beaverdam Creek. Full access to the park would be maintained during and after construction and none of the existing park facilities

would be affected during the construction of the proposed project. As a result, the proposed project would be subject to a temporary occupancy determination. As part of our agency coordination, it was relayed that we expect the concurrence letter for the temporary occupancy determination to be sent to M-NCPPC in the near future.

6. Potential Mitigation Measures

We initiated a discussion of potential mitigation measures for park impacts. The total acreage of anticipated park impacts are 9.61 acres of permanent impacts and 14.77 acres of temporary impacts county-wide. The proposed replacement parkland within Glenridge Community Park (2.67 acres) would bring the total number of anticipated impacts to parklands within Prince George's County down to 6.94 acres.

Potential mitigation measures previously discussed with M-NCPPC included upgrading the second athletic field within Glenridge Elementary School and potentially fixing the existing drainage issues; grading the proposed staging area at the southeast quadrant of Haig Drive-River Road intersection for use as a futsal court; the construction of pedestrian bridges, including one from neighborhoods to the fields with Anacostia River Stream Valley Park and one over the Anacostia River to Northeast Branch Trail, south of River Road; and add park amenities around the existing stormwater management pond directly south of River Road, including benches and possibly a trail. We asked for their input on potential replacement parkland, providing improvements to existing parks as mitigation, and potential areas that could be used as parkland, but adding conservation easements in an effort to mitigate potential tree loss.

7. Next Meeting

The next steps include obtaining concurrence from M-NCPPC with de minimis impacts and continued discussions regarding potential mitigation measures.

ACTION ITEM SUMMARY

Task #	Action Item	Due Date	Status
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U.S. Department
of Transportation
**Federal Transit
Administration**

REGION III
Delaware, District of
Columbia, Maryland,
Pennsylvania, Virginia,
West Virginia

1760 Market Street
Suite 500
Philadelphia, PA 19103-4124
215-656-7100
215-656-7260 (fax)

December 8, 2011

Ms. Eileen Nivera, Planner-Coordinator
Maryland National Capital Park and Planning Commission
Prince George's County Department of Parks and Recreation
6600 Kenilworth Avenue, Suite 301
Riverdale, Maryland 20737

Subject: Purple Line, Montgomery and Prince George's Counties
Section 4(f) Resources – Prince George's County Parks

Dear Ms. Nivera:

The Federal Transit Administration (FTA), in cooperation with the Maryland Transit Administration (MTA), is preparing a Final Environmental Impact Statement (FEIS) for the Purple Line transit project located in Montgomery and Prince George's Counties, Maryland. The purpose of this letter is to request a meeting with the Maryland National Capital Park and Planning Commission to begin formal coordination regarding the Purple Line project and its potential effects on parks and properties within its jurisdiction.

The Purple Line would extend 16 miles, from Bethesda in Montgomery County to New Carrollton, in Prince George's County. The Purple Line would connect Metrorail's Red Line (Bethesda and Silver Spring stations), Green Line (College Park station), and Orange Line (New Carrollton station). This project would provide transit options to people along the corridor, support economic development, and help address the region's air quality issues.

The attached map shows the proposed alignment, as well as park resources in the vicinity of the proposed project. As currently designed, the proposed project could potentially affect numerous resources along the proposed alignment. They are as follows:

- Northwest Branch Stream Valley Park- including Adelphi Manor Community Recreation Center, Lane Manor Community Recreation and Aquatic Center, University Hills Neighborhood Park, and Northwest Branch Trail
- Paint Branch Stream Valley Park and Paint Branch Trail
- Anacostia River Stream Valley Park and Anacostia Tributary Trail System
- Glenridge Community Park/Northern Area Maintenance Office
- West Lanham Hills Neighborhood Recreation Center

As part of the coordination effort, we would like to request any relevant, available information on the identified parks, such as park and trail master plans, and funding information that might be beneficial with regard to our research of these resources.

Please contact Tim Lidiak, FTA Environmental Planner (215-656-7084) or John Newton, MTA's Environmental Manager (410-767-3769) at your convenience to schedule the meeting.

We appreciate your assistance with this process.

Sincerely,

Michele Destra

Michele Destra, Director
Office of Planning & Program Development

Enclosure

cc: Mike Madden, MTA
John Newton, MTA
Leslie Roche, PMC
Steve Hawtof, GEC
Amanda Baxter, GEC

PURPLE LINE MEETING RECORD

Organization: National Capital Planning Commission (NCPC)

Meeting Date/Time: Thursday, June 9, 2011 – 10:30 am

Location: NCPC Conference Room
Washington, DC

Attendance: 6 people, including:

- Michael Weil (NCPC)
- Shane Dettman (NCPC)
- Amy Tarce (NCPC)

Staffing:

- Steve Hawtof, Purple Line Team
- Amanda Baxter, Purple Line Team
- Harriet Levine, Purple Line Team

Meeting Summary: The Purple Line GEC environmental team held a Project Overview meeting to the planning staff of the NCPC. The essence of the meeting was to: introduce the project team and the organization of the staffing and roles of the team including denoting the roles of the GEC, PMC and MTA; review and walk through the LPA; review the potential environmental effects denoted in the DEIS; talk about the projects next steps and how the Purple Line Team will include NCPC in the review process; and talk in general about the schedule for the FEIS, ROD and project

Meeting Notes:

- Steve Hawtof opened up the meeting and explained in general the overall scope of the project and how we wanted to work with NCPC in the areas where they have reviewing authority such as Capper-Crampton Parks and where they had an advisory role such as with National Park Service (NPS) properties.
- Harriet Levine gave a detailed briefing of the LPA describing the rationale used in many critical areas along the 16 mile alignment. She described the intermodal connections to the WMATA facilities, the areas where the Light Rail would be on its own alignment and areas where it would be within existing roadways.
- Amy Tarce indicated that she was the primary author of the January 2009 NCPC letter that offered comments on the DEIS. Some of the comments would no longer apply since they were in areas where alignments were dropped. The Purple Line Team (PLT) also indicated that some of the comments were beyond the stage in planning and would be addressed in future stages of the project. The PLT indicated that as a follow up, a letter would be prepared to address the comment letter.
- Mike Weil explained that early and often coordination with them would help with the review process. The PLT indicated that once engineering was developed in

greater detail, such as at Rock Creek Park, the PLT would then come back to NCPC to present this and the other areas where they have review authority.

- The PLT reviewed the environmental document schedule, indicating that presently the schedule for receiving the Record of Decision was the spring of 2013
- Shane Dettman addressed their review process and indicated that it generally has 2 parts, a Preliminary Report and a Final Report. The staff will review and offer comments and will ultimately report to their commissioners. Shane indicated that in some cases, the Preliminary and Final Reports and approval can be combined.
- Shane Dettman indicated that they were not a cooperating agency on this project and he would need to confirm what authority they had on Parks
- Shane Dettman indicated that NCPC will adopt the FEIS and ROD once approved by FTA

- **Follow-Up Items**
- Shane Dettman will get us a list of National Park Service contacts
- Shane Dettmer will prepare a fact sheet of their review process
- NCPC will research Capper Crampton Parks within LPA and provide our team with a list of properties
- PLT will prepare a response to the January 2009 NCPC DEIS comment letter
- Once areas such as Rock Creek Park are ready, PLT will come back to NCPC for working meetings

MEETING MINUTES

MEETING SUBJECT:	**National Capital Planning Commission (NCPC) Coordination Meeting**
MEETING DATE, TIME:	2/22/2012
MEETING LOCATION:	NCPC Offices, 401 9th Street, NW, Washington, DC 20004
ATTENDEES:	See attached Attendance Roster
PREPARED BY:	Amanda J. Baxter
DISTRIBUTION DATE:	February 24, 2012
DCN:	TBC

Meeting Initiation/Purpose

Coordination of the Locally Preferred Alternative (LPA) with NCPC staff. Overview of NCPC Consultation Process.

Discussion

1. FTA (Adam Stephenson and Tim Lidiak) describe FTA's role in the NEPA and Preliminary Engineering Process.
2. Purple Line Structural Lead, Jim Guinther, and Rock Creek Park Transit and Pedestrian Bridge Architectural Lead, Eric Birkhauser, present the Contextual, Schematics, and Conceptual Design of the bridge in Rock Creek Park. Jim discusses coordination with Montgomery County and Maryland National Capital Park and Planning Commission (M-NCPPC). Mont. Co council approved a connection between the Rock Creek Park trail (at the base of the bridge) and the Capital Crescent Trail (parallel to the LPA)
   - NCPC staff indicated that they would like to see a structure "light" in appearance.
3. Purple Line team gave NCPC staff an overview of the Section 4(f) process. Discussed historic status vs. park status under 4(f).
   - ACTION: Need to determine if both M-NCPPC and NCPC need to concur on de minimus, if applicable.
4. NCPC discussed Capper Crampton Act: Congress provided NCPC with Capital to acquire lands that ultimately were handed off to M-NCPPC for jurisdiction; however, modification to park plans require NCPC approval.
   - ACTION: NCPC to provide Purple Line team with detailed listing of modifications to parks that have been approved.
5. NCPC discusses Approval vs. Advisory roles. Advisory outside of District, unless Capper Crampton funding was used then it requires Approval (formal Commission Action). NCPC has interest in four parks, all four having Capper Crampton funding; therefore, requiring formal Commission Action/Approval. (Sligo, Rock Creek, Anacostia, and Northwest Branch).
   - Impacts as a result of the Purple Line are not expected to alter the use of any of the parks listed above with the exception of Rock Creek Park in which we will introduce the Light Rail element in conjunction with the pedestrian bridge.
6. NCPC discuss the review process: Conceptual, Preliminary and Final. The following timeframes were discussed and agreed upon:

- Conceptual: Fall 2012-submission of Draft FEIS for public comments. At that time Purple Line will present project to Commission and staff comments will be issued. NCPC 30-day review
- Preliminary: Spring 2013-issuance of Record of Decision (ROD), NCPC Commission will issue a formal report.
- Final: 2014-greater than 75% design, NCPC will adopt NEPA document/ROD

7. Section 106 was discussed. NCPC has already been formally requested as a Consulting Party under Section 106. NCPC will seek signatory status to any Memorandum of Agreement (MOA) prepared for the project.
    - ACTION: NCPC would like request Cooperating Agency status-FTA to prepare letter.
    - ACTION: Purple Line Cultural Resource Lead (John Martin) and NCPC Cultural Resource Lead (Jennifer Hirsch) to discuss Section 106 and set up Consulting Party meeting once effects have been determined.

The next meeting will be held on TBD

SUMMARY OF ACTION ITEMS

Action Item #	Description	Assigned To	Due Date	Status
1.	Need to determine if both M-NCPPC and NCPC need to concur on de minimus, if applicable	FTA Legal	March 2012	
2.	NCPC to provide Purple Line team with detailed listing of modifications to parks that have been approved.	NCPC	March 2012	
3.	NCPC would like request Cooperating Agency status-FTA to prepare letter.	FTA	March 2012	
4.	Purple Line Cultural Resource Lead (John Martin) and NCPC Cultural Resource Lead (Jennifer Hirsch) to discuss Section 106 and set up Consulting Party meeting once effects have been determined.	John Martin	March 2012	
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These minutes reflect the author's understanding of the discussions at the meeting. The minutes shall initially be considered as draft and open to comments for a period of 5 business days after the date of initial issuance. If no comments are received within five days, these minutes shall be considered final and will be issued as such within 2 business days of the initial comment period. (Remove this note from final version of the meeting minutes)

Attachments:
Attendance Roster (Scanned Original)
Agenda
Previous meeting minutes
Meeting Handouts

Distribution:
Attendees
PL GEC Core Team
PL DCT (e-mail address to be provided by J. Boyer)

ATTENDANCE ROSTER
Meeting Title
Date – Time

Name	Company	Phone Number	E-mail Address

U.S. Department
of Transportation
**Federal Transit
Administration**

REGION III
Delaware, District of
Columbia, Maryland,
Pennsylvania, Virginia,
West Virginia

1760 Market Street
Suite 500
Philadelphia, PA 19103-4124
215-656-7100
215-656-7260 (fax)

December 8, 2011

Mr. Michael Weil
National Capital Planning Commission
Physical Planning
401 9th Street NW
North Lobby, Suite 500
Washington, DC 20004

Subject: Purple Line, Montgomery and Prince George's Counties
Section 4(f) Resources – Montgomery and Prince George's County Parks

Dear Mr. Weil:

The Federal Transit Administration (FTA), in cooperation with the Maryland Transit Administration (MTA), is preparing a Final Environmental Impact Statement (FEIS) for the Purple Line transit project located in Montgomery and Prince George's Counties, Maryland. The purpose of this letter is to request a meeting with the National Capital Planning Commission to begin formal coordination regarding the Purple Line project and its potential effects on parks and properties within its jurisdiction.

The Purple Line would extend 16 miles, from Bethesda in Montgomery County to New Carrollton, in Prince George's County. The Purple Line would connect Metrorail's Red Line (Bethesda and Silver Spring stations), Green Line (College Park station), and Orange Line (New Carrollton station). This project would provide transit options to people along the corridor, support economic development, and help address the region's air quality issues.

The attached map shows the proposed alignment, as well as park resources in the vicinity of the proposed project. As currently designed, the proposed project could potentially affect numerous park resources along the proposed alignment that were purchased using Capper-Crampton Act funding. They are as follows:

- Rock Creek Park
- Sligo Creek Stream Valley Park
- Northwest Branch Stream Valley Park- including Adelphi Manor Community Recreation Center, Lane Manor Community Recreation and Aquatic Center, University Hills Neighborhood Park, and Northwest Branch Trail
- Anacostia River Stream Valley Park

As part of the coordination, we would like to request any relevant, available information on the identified parks, such as park and trail master plans, and funding information that might be beneficial with regard to our research of these resources.

Please contact Tim Lidiak, FTA Environmental Planner (215-656-7084) or John Newton, MTA's Environmental Manager (410-767-3769) at your convenience to schedule the meeting.

We appreciate your assistance with this process.

Sincerely,

Michele Destra

Michele Destra, Director
Office of Planning & Program Development

Enclosure

cc: Mike Madden, MTA
John Newton, MTA
Leslie Roche, PMC
Steve Hawtof, GEC
Amanda Baxter, GEC

MEETING MINUTES

MEETING SUBJECT:	**National Park Service Project Information Meeting**
MEETING DATE, TIME:	3/30/2012
MEETING LOCATION:	National Capital Parks – East, 1900 Anacostia Drive, Washington, DC
ATTENDEES:	See attached Attendance Roster
PREPARED BY:	Tobi Louise Kester
DISTRIBUTION DATE:	**4/18/2012**
DCN:	2012.03.30.PM.PE.02.NPS Project Info. Mtg. 4-FINAL

Meeting Initiation/Purpose

The Federal Transit Administration (FTA), National Parks Service (NPS), and Purple Line team (PL) met to discuss a) single track design and b) engineering design and construction alternatives for the proposed bridge at the interchange of Baltimore-Washington (B-W) Parkway (MD 295) and Riverdale Road (MD 410), part of the Purple Line's Locally Preferred Alternative (LPA) through NPS property.

Discussion

1. After introductions, PL presented the agenda and meeting goals. See attached pdf of presentation for details of information presented.
2. PL presented an overview of single track versus double track alignments (refer to slide 6 of presentation). Details included:
    1. Because of the need for a tangent section at the approach to the station platform MD 410 would need to be re-aligned to the northwest in the area of 67th Avenue.
    2. Trains would have to cross EB 410 lanes twice in order to be in the median under the bridge – existing bridge is only high enough at its center for the train to pass under.
3. The single track scenario is "shared space," where tracks run in same area as cars through the interchange, but at different times, rather than "shared use" where cars and trains operate together. The temporal separation is necessary because of the need for the trains to cross the traffic lanes.
4. NPS asked how many intersection traffic signals would need to be synchronized in the immediate vicinity of the interchange.
5. PL indicated that 4 signals are directly impacted in the single track alignment option. PL discussed the requirements for safe movement of all vehicles and people through the interchange, related to the single track alignment option. Details included:
    - It would take 35 seconds to clear the space before the train could enter the area.
    - Trains would take 45 seconds to pass from one end of single track segement to the other – a total length of 1,600 feet.
    - Typical train cycle at peak travel times (3 hours in am and 3 hours in pm), for LPA is 1 train every 6 minutes in each direction, so 1 train would pass through the interchange area every 3 minutes.

- The signal cycle length would need to be increased to 220 seconds if single track option were implemented.
- Since the goal for traffic operations would be to not back traffic up on the Parkway, EB traffic would back up for approximately 4,000 feet prior to interchange under the single track scenario, as opposed to 1,100 feet under the LPA option (beyond Kenilworth Avenue).

6. PL concluded that the single track option is not a viable alternative due to the delays and traffic implications.
7. NPS asked what traffic delays to both EB and WB traffic resulted from the double track (LPA) option.
8. PL indicated some delays would result, but LPA delays are more manageable – PL will verify information for next meeting.
9. PL will provide cross-sections at and around the station at the next meeting.
10. NPS questioned impacts of swm and drainage at the station.
11. PL said that NPS had already indicated no known drainage issues in the area, and PL anticipates no drainage or swm issues would result from the proposed station.
12. NPS expressed concern regarding grading in the area of the proposed station, especially as it relates to sidewalks.
13. NPS asked if any of the intersections in the vicinity of the B-W Parkway would be upgraded.
14. PL indicated that the intersection of MD 410 and 67th Avenue would be redesigned and upgraded. Also, where left turn movements in the interchange area require restriping, etc, the PL project would include such work.
15. PL recapped what has occurred to date for the project relating to the NPS:
    - At the first meeting (2-1- 12), PL provided an introduction to NPS of the entire project
    - At the second meeting (2-28-12), the tunnel option was presented and determined by PL, with agreement from NPS, as an option not suitable for further discussion, review, or design. Therefore, the tunnel option has been dismissed. NPS concurred.
    - At today's meeting (3-30-12), PL presented the single track option, which has been determined to be not suitable for further discussion, review, or design. Therefore, the single track option has been dismissed. NPS concurred.
16. NPS requested clarification regarding how these options would be included in the NEPA documents as considered and dismissed.
17. PL reviewed the NEPA process noting that the tunnel option would be written as it relates to an effort to avoid 4(f) properties and environmental resources in the project area. The single track option would be written as it relates to minimization of impacts to 4(f) and environmental resources.
18. PL– discussed Streamlining NEPA analysis and added that this topic will be discussed further in future monthly meetings.
19. PL noted that the efforts related to NPS property were a direct response to the interaction with the NPS agency, and should be reflected as such in documentation.
20. PL directed discussion to the LPA and specifically the options concerning the proposed B-W Parkway bridge reconstruction over MD 410. A view of existing conditions was presented (see slide 8 of attached presentation.

21. PL presented a photo-rendering of the proposed bridge over MD 410, from the viewpoint of looking EB on MD 410, with the bridge lengthened to accommodate the double track LPA of the PL to the right side of the rendering.

22. NPS noted that the house currently existing on the right hand corner of the interchange (right side of the previous slide) was gone.

23. PL confirmed that the house in question was identified as a displacement in all scenarios being considered for the interchange improvements.

24. Pages 8 and 9 of attached presentation showing proposed bridge designs were described by PL. The flat bottom of the first bridge beam would allow for adequate height for trains and catenary lines to pass underneath, while not requiring a pier between MD 410 and the proposed tracks for the PL. The second image showed arched bridge beams, more reflective of the current bridge design, but would require a pier to be built between MD 410 and the PL tracks. The pier as shown consists of columns.

25. PL to confirm size requirements of piers for the arched option and report back at next meeting.

26. NPS noted the location of the proposed sidewalk.

27. PL indicated the final location of the sidewalk could be reconsidered as design moves forward.

28. NPS expressed concern regarding pedestrian safety while crossing the intersection, especially crossing tracks.

29. PL indicated the design as shown is typical of similar conditions currently in place across the region.

30. NPS asked if the location of the north abutment would be the same in either option, or if there was a difference in location depending on which bridge design was selected.

31. PL to verify that location of the northern abutment in each scenario.

32. NPS asked if the arch in the middle of the beam in the second option was the same as the arch in the existing bridge.

33. PL will provide more exact design measurements and detail as design progresses, but indicated the arch was intended to be as close to existing conditions as possible for the arch over the roadway of MD 410. However, the arch over the PL tracks is probably not going to be quite the same because of the proportions of the arch and beam length, and the need to make allowance for catenary lines under the arch.

34. NPS asked where the poles for the catenary line would be located, and what spacing could be achieved, with the hope that the poles would be as inconspicuous as possible in the interchange area.

35. PL responded that poles could be a maximum of 200 feet on center, however, curves and other factors must also be taken into account. Curves typically result in closer spacing of poles. However, exact pole locations are still under consideration and will be presented in future meetings. PL indicated the distance between the SB and NB bridge spans is over the maximum 200 feet allowed between poles.

36. NPS reiterated their desire for the design to be considerate of aesthetics. NPS asked if wires could be attached to the underside of the bridge structure, and whether a pole was absolutely required between the NB and SB B-W Parkway bridge spans.

37. PL indicated that conditions exist today where catenary lines are attached to bridges, specifically in the Baltimore region.

38. PL will provide, at the next meeting, images of existing conditions where catenary lines are attached to the underside of bridges, and will provide information regarding impacts of attaching catenary lines to bridges on long-term maintenance and systems controls.

39. NPS asked if the Federal government has ever allowed such lines to be attached to bridges for which it is responsible for maintenance and control.

40. PL to check on Federal government rules and examples, if any.

41. NPS indicated that Charles Borders would be a good contact at EFL, is the recognized NPS Liaison for projects such as PL.

42. NPS asked if, assuming a pole is required between the two bridge spans, the pole could be centered between the bridge spans and the 200 feet to the next pole would start at this central pole in either direction. NPS also asked for details regarding poles and arms.

43. PL to provide, at the next meeting, pole and arm details including:

- Finishes
- Locations
- Standards for design
- Special design options
- Colors

44. NPS indicated that they would need to take the options to others before a final decision could be made as to the flat or arched design style of beam. Of note would be how the design could be kept to historical standards.

45. PL reiterated that the stone from the existing bridge abutments would be reused in the final design. Essentially the location of the bridge abutments to be reconstructed would be shifted further north.

46. PL to provide NPS with acreage of impacts at the abutments, noting differences in acreage impacts between bridge style options, if any.

47. NPS noted that the PL design team should be using the Design Standards for the B-W Parkway, especially relating to stone and other finishes, and details of the arch under the bridge, if it is replicated.

48. PL confirmed that the PL Team has a copy of the B-W Parkway Design Standards. PL will ensure the Design Standards are available to everyone on the team.

49. PL moved discussion to the construction of proposed bridges. PL indicated that the views before and after construction from the B-W Parkway will appear very similar for people in vehicles driving on the Parkway. Therefore, the critical elements to consider in each Maintenance of Traffic Alternative are:

- Views from along the Parkway during construction,
- Views from MD 410 during construction,
- Final size of bridges related to proposed road and shoulder widths and impacts to existing resources,
- Construction schedules, and
- Safety issues during construction.

50. Four Maintenance of Traffic Alternatives (Alternatives) were presented (slide 12 of attached presentation.)

51. PL noted that the new Alternatives were generated in response to NPS concerns.

52. PL explained that Alternative 1 (one temporary bridge in the median) was dismissed previously because of potentially significant impacts to resources.

53. PL described Alternative 2 (two temporary bridges built directly adjacent to the existing bridges in the inside)– more impacts would occur if no retaining walls used, so an option with retaining walls has also been developed.

54. NPS requested clarification of construction sequencing if retaining walls were included.

55. PL verified that retaining walls would be built first, followed by construction of temporary bridges, and finally construction of final bridges.

56. PL presented Alternative 3 (temporary bridges built adjacent to the exiting bridges on the outside) which is an option with all widening for MOT toward the existing ramps.

57. NPS asked whose land was being built on in Alternative 3.

58. PL confirmed the land between the Parkway and the ramps is NPS land.

59. NPS asked if any impacts would be made to ramps themselves.

60. PL verified that no impacts to ramps would occur.

61. NPS asked if there would be any impacts to traffic on ramps during construction.

62. PL indicated that by using a small wall, no impacts to ramp traffic during construction would result.

63. PL presented Alternative 4, (widening the existing bridges) noting that the roadway would need to be 52' to accommodate the MOT for the 3 phases of construction. Alternatives 2 and 3 would require a 40'-wide structure. NPS noted that Alternate 4 seemed least friendly to traffic, and is the most dangerous from a construction perspective.

64. PL stated that a design speed of 60 mph was built into the design and maintenance of traffic for this option, but a slowing of traffic as a result of vehicles entering a construction zone could still be expected.

65. NPS asked what the duration of construction would be for each Alternative presented.

66. PL distributed a Draft Bridge Reconstruction – Impact Matrix (see attachment), which defines the following construction durations:

- Alternative 2 without walls 20 months
- Alternative 2 with walls 23 months
- Alternative 3 23 months
- Alternative 4 without walls 26 months
- Alternative 4 with walls 29 months

67. NPS requested PL to summarize the costs, constraints, and benefits from the chart.

68. PL noted the Costs, Pros, and Cons listed in the table

69. PL is looking for feedback from NPS on the different Alternatives.

70. PL noted that even though Alternative 4 does not include the use of temporary bridges, the northern abutment of the existing structure would need to be reconstructed, in order to effectively accommodate the different lane and shoulder widths that would result from Alternative 4 construction.

71. PL also noted that Alternative 4 would likely result in lanes closures at night and/or on weekends.

72. NPS expressed concern that there were just too many Alternatives and asked if there was any way to reduce the options based on technical requirements and practical implications of the Alternatives.

73. NPS asked what the overall impact was of using or not using walls.

74. PL explained that walls were used to minimize impacts to existing resources, but that they also resulted in a longer temporary impact to the project area because of the construction time associated with the walls.

75. PL suggested that because walls would result in less impacts, some of the Alternatives without walls could be eliminated from the list. After some discussion it was decided that the following four alternatives would be retained for consideration:

    a. Alternative 2 with walls

    b. Alternative 3

    c. Alternatives 4 widened on the outside (towards the ramps) without retaining walls

    d. Alternatives 4 widened on the inside (toward the median) with retaining walls

76. NPS asked for verification that the impacts shown on each presentation slide were accurate as they relate to LOD for the project.

77. PL verified that what is included in presentation is accurate, reiterating that walls would be built from behind in order to reduce potential impacts. The construction sequencing would be to build the wall from behind, then build temporary bridges, then work on existing Parkway structures once traffic has been diverted onto temporary bridges.

78. NPS asked if PL could live with any of the alternative presented, regardless of stated cost differences.

79. PL indicated that each Alternative presented was a viable option and would be acceptable so long as final engineering proved the option feasible. All indications so far are conducive to all options as presented being feasible.

80. NPS asked for clarification regarding the effect of construction on traffic speed, by Alternative.

81. PL stated that Alternatives 2 and 3 would result in relatively little slowing of traffic, except that people generally slow down in a construction zone. Alternative 4 would have moderate impacts (the highest of all Alternatives), since the travelling public is much closer in proximity to actual construction. The effect of driving through construction, as would be the case in Alternative 4, is much different than driving past construction, the condition of Alternatives 2 and 3.

82. PL stated that no significant traffic delays are anticipated with any of the Alternatives.

83. NPS suggested the duration of construction may be one of the more significant deciding factors in deciding which Alternative they would prefer.

84. PL indicated they were hopeful that enough information had been presented to allow NPS to consider everything and have feedback for PL by the next meeting. PL also reiterated that if any additional information was required in order to assist in the decision-making process, upon request such information would be generated by PL and passed along to NPS in a timely manner.

85. PL asked if NPS was comfortable scheduling monthly meetings.

86. NPS indicated a monthly schedule was acceptable and would be set up, with PL coordinating.

87. PL noted that NPS is now considered an official “Coordinating Agency” and PL would be sure to coordinate the NEPA documentation currently being assembled with NPS efforts.

88. PL anticipates Mitigation of impacts will be the focus of meetings once a bridge construction Alternative has been selected.

89. NPS noted that meetings with multiple agencies in attendance can be cumbersome.

90. PL and NPS discussed the different meetings that NPS and PL currently use for review and general information dissemination, including IRM.

91. NPS stated a preference for having fewer agencies and more detailed review of topic items in meetings than would be typical in large interagency review meetings.

92. PL suggested that the IRM meeting would be the last step in the review meeting process. The PL team wants to ensure no one will be surprised by anything that ends up in the NEPA document or on project plans.

93. NPS asked for clarification on how the 4(f) status of the property in question affects the NEPA process and documentation.

94. PL indicated that the B-W Parkway property has 2 different designations within the NEPA document – both the 4(f) status and a Historic (106) status.

95. NPS indicated that the 4(f) status specifically means there are multiple ways the project can be reviewed, internal to NPS, including through ER 2000.

96. PL indicated that it has been difficult thus far for the PL to get information on the ER 2000 process.

97. FTA concurred with PL regarding the difficulty everyone is having finding out about the ER 2000 process.

98. NPS said they will provide assistance and details regarding who initiates forms and application processing and that generally NPS sends 4(f) documentation to ER 2000 which goes to CEQ.

99. PL and NPS agreed that a formal, written pathway forward for the project document processing is needed.

100. PL reminded everyone that the PL has an established project schedule that must be taken into account for all future scheduling purposes. At the next meeting, PL will provide an overview of the next few project milestone meetings and schedule items for everyone's consideration.

101. NPS requested that all future meeting presentations by PL include a slide showing a schedule of the project .

102. NPS provided FTA with a contact for project processing through Federal government.

103. NPS requested a clarification from PL regarding total project impacts on the B-W Parkway land.

104. NPS provided the contact name of Brian Woodbury – Chief of Lands (brianwoodbury@nps.gov) for issues relating to Federal right-of-ways. NPS requested that all decisions made at meetings be pulled out separately in the meeting minutes, for general clarification and administrative documentation purposes.

105. PL will include a table of Decisions Made in Meeting Minutes.

The next meeting will be held on 4/27/2012

SUMMARY OF ACTION ITEMS

Action Item #	Description	Assigned To	Due Date	Status
1.	Confirm size requirements of piers for the arched beam option over MD 410.	PL	4/27	
2.	Confirm size requirements of piers for the arched beam option over MD 410.	PL	4/27	
3.	Verify location of northern abutment in each beam option (arched vs. flat) over MD 410.	PL	4/27	
4.	Provide more detailed design of arched beams over MD 410 if arched beam option is selected.	PL	Summer	
5.	Provide images and details of existing conditions where catenary lines are attached to underside of bridges.	PL	4/27	
6.	Provide information regarding impacts of attaching catenary lines to bridges on long-term maintenance and control systems.	PL	4/27	
7.	Provide Federal government regulations for attaching catenary lines to “Federal” bridges, and examples, if available.	PL	4/27	
8.	Provide catenary pole and arm details related to finishes, locations, standards for design, special design options, and colors.	PL	4/27	
9.	Ensure B-W Parkway Design Standards are posted on ProjectWise for use by entire design Team.	PL	4/27	
10.	Provide feedback on Maintenance of Traffic Alternatives.	NPS	4/27	
11.	Provide assistance and details regarding application and processing of 4(f) documentation through ER 2000.	NPS	4/27	
12.	Establish formal, written procedure regarding 4(f) document application and processing.	PL	5/25	
13.	Provide overview of next 2-3 project milestone meetings and schedule items.	PL	4/27	
14.	Provide slide showing schedule of upcoming meetings (and other important project events, if any.)	PL	4/27	
15.	Provide total project impacts to B-W Parkway land.	PL	4/27	

16.	Call out all decisions made during each meeting in separate table in meeting minutes. (For every meeting forthwith.)	PL		

SUMMARY OF DECISIONS MADE

Decision #	Description	Decision Date	Concurring Agency/Party
1.	Tunnel option dismissed.	3-30-12	NPS
2.	Single track option under MD 410 dismissed.	3-30-12	NPS
3.	Maintenance of Traffic Alternative 1 dismissed.	3-30-12	NPS
4.	Monthly meeting schedule should be established.	3-30-12	NPS
5.	Formal procedure for project 4(f) document processing and review should be established.	3-30-12	NPS, FTA

These minutes reflect the author's understanding of the discussions at the meeting. The minutes shall initially be considered as draft and open to comments for a period of 5 business days after the date of initial issuance. If no comments are received within five days, these minutes shall be considered final and will be issued as such within 2 business days of the initial comment period. (Remove this note from final version of the meeting minutes)

Attachments:
Attendance Roster (Scanned Original)
Agenda
Previous meeting minutes
Meeting Handouts

Distribution:
Attendees
PL GEC Core Team
PL DCT (PLdocumentcontrol@gfnet.com)

ATTENDANCE ROSTER
Meeting Title
Date 3/30/12 Time 10 AM

Name	Company	Phone Number	E-mail Address
Gopaul Noojibail	NPS- NACE	202-690-5160	Gopaul.noojibail@nps.gov
Stephen Syphax	NPS- NACE	202-690-5160	Stephen_syphax@nps.gov
David Hayes	NPS-NCR	202-619-7277	David_Hayes@nps.gov
Charles Murphy	P/L GEC	443-348-2017	cmurphy@gfnet.com
Charlie Bailey	P/L GEC	410-235-6001	cbailey@mahanrykiel.com
Tobi Louse Kester	P/L GEC	410-302-0598	tkester@cemscience.com
Amanda Baxter	P/L GEC	443-848-6096	abaxter@swrallp.com
Harriet Levine	P/L GEC	410-230-6630	Harriet.levine@jacobs.com
Adam Stephenson	FTA	202-366-5183	Adam.stephenson@dot.gov
Dan Koenig	FTA	202-219-3525	Daniel.koenig@dot.gov
Matt Storck	P/L GEC	410-281-2935	Matthew.storck@stvinc.com
Monica Meade	PL PMC	410-752-8635	meade@pbworld.com
Steve Hawtof	P/L GEC	443-348-2017	shawtof@gfnet.com
Eric Harris	NPS- NACE-BWP	301-344-3948	Eric_harris@nps.gov
Fred Cunningham	NPS- NACE-BWP	301-344-3948	Fred_Cunningham@nps.gov

MEETING MINUTES

MEETING SUBJECT:	**National Park Service Pre-Initiation Meeting**
MEETING DATE, TIME:	2/1/2012
MEETING LOCATION:	National Capital Parks- East Washington DC
ATTENDEES:	See attached Attendance Roster
PREPARED BY:	Steven Hawtof, Monica Meade, Dan Koenig
DISTRIBUTION DATE:	2/13/12
DCN:	2012.02.10.PM.PE:3.2B.National Park Service Pre-Initiation Meeting 1-FINAL

Meeting Initiation/Purpose

The FTA and the Purple Line Team Purple Line team was invited to an NPS internal meeting to give a brief overview of the Purple Line project to NCPE staff along with David Hayes of NCR.

Discussion

1. NPS asked if there was a tunneling option considered during DEIS. Purple Line Team (PLT) responded that MTA investigated surface options on Riverdale Road (which would not have impacted the Parkway), and off the roadway to the south of Riverdale Road.
2. PLT indicated we will perform a concept level analysis of a tunnel option looking into pros and cons, costs, etc. which will be presented at the February 29, 2012 meeting with NPS
3. Gopaul indicated that NPS needs an official letter requesting them to be a cooperating agency. He also indicated that the Parkway could result in a Section 106 and 4(f) impact, which the PLT acknowledged. FTA will send a letter to NPS by Feb 17.
4. NPS questioned why they were just hearing about this project 3 years after the DEIS was approved. PLT indicated that outreach was performed with Susan Hinton and NPS responded in writing to the DEIS in 2009. David Hayes stated that he had Susan's files on the Purple Line.
5. NPS expressed concern that the decision on the alignment has already been made. Monica assured NPS that that the project has only just entered Preliminary Engineering and a preferred alignment decision will not be made until the Environmental Impact Statement is issued and a record of decision is finalized.
6. NPS requested that they do a full review of the alternatives prior to anything going to the public., as part of being a cooperating agency.
7. NPS asked if this would be a supplemental EIS and Dan (FTA) indicated that the decision on whether a Supplemental NEPA document would be necessary depending on the extent of the changes from the DEIS. This will be determined when we know what alignment options are going forward. It was acknowledged that a minimum re-evaluation will be required because three years has elapsed since issuance of the DEIS in Fall of 2008.
8. NPS asked if an economic analysis had been or would be performed to measure the loss of the park visitor's experience should they be delayed on the Parkway during construction. This type of analysis is not being prepared at this time.

9. Steve Hawtof indicated that the existing structure was lengthened in 1990 and if there were any experiences with that project to share. It was indicated that this piece of the parkway was under other management at that time. NPS indicated that they had bad experiences on the MD 197 structure construction at the parkway.
10. NPS is particularly concerned about forest, and tree impacts – "preservation of mature trees is critical"
11. NPS didn't want to look at the surface option and accompanying maintenance of traffic on the parkway at this meeting; they want to wait to assess these options when the tunneling option is also presented.

The next meeting will be held on 2/28/2012

SUMMARY OF ACTION ITEMS

Action Item #	Description	Assigned To	Due Date	Status
1.	Need formal letter to invite NPS to become a Cooperating Agency	PLT/FTA	2/10/12	
2.	Need formal letter to invite NPS as consulting party in the 106 process	PLT/FTA	2/10/12	
3.	NPS will respond to this letter identifying their role as a cooperating agency	NPS		
4.	MTA to look at a tunneling option as an alternative through the BW Parkway area. Add to the matrix in terms of cost, pros and cons so it can be compared to the surface running alignments	PLT/FTA	2/28/12	
5.	NPS wants to see a schedule for the document	PLT/FTA	2/28/12	
6.	FTA/MTA to hold a follow up meeting to show the alternatives and maintenance of traffic schemes. This meeting is tentatively set for February 28, 2012. Our team will bring the tunnel option analysis, renderings of what the park will look after construction paying attention to viewshed and park experience; matching stone veneer look and material; verify construction access from Riverdale Road, not the Parkway; estimate construction durations; show limits of disturbance; indicate construction staging areas; have landscape architect and archeologist attend the meeting; update the comparison matrix including for a tunneling alternative.	PLT/FTA/NPS	2/28/12	
7.				
8.				

Attachments:
Attendance Roster (Scanned Original)

Distribution:
Attendees

PL GEC Core Team
PL DCT (e-mail address to be provided by J. Boyer)

ATTENDANCE ROSTER
Meeting Title- NPS Pre-initiation Meeting for Purple Line
2/1/12 11:00 A.M.

Name	Company	Phone Number	E-mail Address
Monica Meade	Purple Line Team	410-752-9635	meade@pbworld.com
Steve Hawtof	Purple Line Team	443-348-2017	shawtof@gfnet.com
David Hayes	NCR Transportation Liaison	202-619-2017	David_Hayes@nps.gov
Stephen Syphax	NPS- NCP-East	202-690-5160	Stephen_Syphax@nps.gov
James Rosenstock	NPS	202-690-5161	James_Rosenstock@nps.gov
Alex Romero	NPS/NACE	202-690-5197	Alex_Romero@nps.gov
Dan Koenig	FTA	202-219-3528	Daniel Koenig <daniel.koenig@dot.gov>
Tim Lidiak	FTA	215-656-7084	Tim Lidiak <timothy.lidiak@dot.gov>
Jay Fox	FTA	215-656-7084	Jay.fox@dot.gov
Fred Cunningham	District Manager, NPS	301-344-3948	Fred_Cunningham@nps.gov
Eric Harris	Acting Maintenance Supervisor, NPS	301-344-3948	Eric_Harris@nps.gov
Gopaul Noojibail	NPS/NACE	202-690-5197	Gopaul_Noojibail@nps.gov

MEETING MINUTES

MEETING SUBJECT:	**National Park Service Project Information Meeting**
MEETING DATE, TIME:	2/28/2012
MEETING LOCATION:	National Capital Parks – East, 1900 Anacostia Drive, Washington, DC
ATTENDEES:	See attached Attendance Roster
PREPARED BY:	Tobi Louise Kester
DISTRIBUTION DATE:	March 20, 2012
DCN:	2012.02.28.PM.PE.02.NPS Project Info. Mtg. 2-FINAL

Meeting Initiation/Purpose

The Federal Transit Administration (FTA), National Parks Service (NPS), and Purple Line team (PL) met to discuss the proposed alignment of the Purple Line's Locally Preferred Alternative (LPA) through NPS property at the Baltimore-Washington (B-W) Parkway (MD 295), at the intersection of Riverdale Road (MD 410) and the B-W Parkway.

Discussion

1. PL team members provided an overview of the reasoning behind the use of light rail for the Purple Line project, including its relative simplicity and flexibility in design for use in areas where multi-modal transportation occurs (transit, pedestrians, motorized vehicles). The use of dedicated lanes for the light rail line was explained. The expected ridership would be 60,000 daily riders and the number of cars taken off the road would be 20,000 daily. Light rail is most effective when built at grade, with stations in key activity centers or near denser residential areas. The Purple Line has stations about every ¾ of a mile. Patrons will get to the Light rail on foot, or transferring from other transit services. The Metro connections are very important to the Purple Line as 30% of the riders will use Metro for part of their trip.
2. NPS asked if overhead wires were always utilized in conjunction with light rail, or if other options were available.
3. PL explained that other options are available and have been used elsewhere, particularly in Europe in historic districts, however the costs are high, the technology is proprietary, and there are questions about how well these technologies would work in this climate with snow and ice. The average spacing of poles to support the wires is approximately every 100 feet. The 3 typical options for light rail line alignments were reviewed – surface, tunnel, and aerial alignments. Given the high cost of tunnel and aerial alignments, they are generally only used to avoid areas of substantial traffic congestion, environmentally and culturally sensitive areas or where the physical topography precludes a surface alignment. The currently proposed PL alignment includes one tunnel section in Silver Spring where the grade on Wayne Avenue is outside the PL design criteria for light rail operations.
4. NPS emphasized the importance to consider the environmentally sensitive areas of the project.
5. A brief overview was given by PL of the steps previously taken to include the NPS service in the planning project.

6. The project schedule as currently defined was presented by PL, with an acknowledgement that the NPS will issue its own ROD based on a review of the FEIS. 2020 was highlighted as the end date whereon the Purple Line is expected to be fully operational.
7. PL presented a video of a drive through the project area, which was discussed both from the view of a vehicular passenger travelling on the B-W Parkway, and along the ramps to MD 410 and from MD 410 up to the B-W Parkway. It was noted that the B-W Parkway has a high point in the middle of the bridge crossing MD 410.
8. NPS requested clarity of detail regarding the exact location and placement of the proposed tracks, and details regarding traffic patterns and flow through the area if the rail lines were installed.
9. PL provided design details to explain the anticipated track locations and traffic conditions.
10. NPS highlighted the need for careful consideration of existing and proposed screening and landscaping.
11. PL reiterated the project's Need and Purpose, making reference to the NEPA process with emphasis on the stated purpose to serve the community, and how the decision-making process has occurred thus far, including the need to consider costs for the project as an important decision-making factor.
12. PL reviewed previous design options that were considered for the project but later removed from consideration, including aerial and tunnel options, and reasons for the previous decisions made. An aerial option following Brier Ditch, and crossing over the Parkway north of MD 410 was briefly considered but was dropped because of the high level of potential environmental impacts to the area and the visual impacts to the parkway. A tunnel from River Rd to Veterans Parkway had been considered, but was dropped because of the high cost, and because it did not serve the Town of Riverdale Park (an important goal for Prince George's County). The tunnel option would have included an underground station at Beacon Heights. The high cost of underground stations was a significant factor in the decision-making process.
13. NPS requested clarification of locations where tunnels were considered. PL defined specific locations.
14. PL focused discussion on to the currently proposed grade crossing of the rail line through the on and off ramps between MD 410 and B-W Parkway. PL noted that an alignment using shared lanes on Riverdale Road was one of the alternatives in the Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS). This would not have required the lengthening of the Parkway bridge over MD 410, but both traffic and light rail operations would have been very poor and would have resulted in delays and backups both on Riverdale Road, and on the Parkway exit ramps. Impacts to the B-W Parkway were discussed as PL described the currently proposed location of the rail lines on the south side of the LPA. The Light rail operations were discussed as well as the coordination of the signals at the ramps.
15. PL discussed the coordination of the traffic signal system with the timing of light rail trains. Considerations include: trains stopping for red lights, right-hand turns on red for vehicular traffic, and queuing for turns from off-ramps.
16. NPS noted that the MD 410/B-W Parkway interchange area currently gets quite congested, especially during peak hours. The PL traffic engineer provided further information regarding spacing of trains and anticipated flow of traffic through the interchange area. The size of proposed trains was discussed in some detail relating to where the trains might stop on red lights, and how much of the interchange would be blocked at any one time as the train passed through.
17. PL anticipates trains will run on 6 minute intervals during peak hours, so given that a train will be going in each direction on this timing cycle, a train will pass through the interchange every 3 minutes at peak travel times.

18. NPS reiterated concern regarding actual patterns of movement through the interchange area, including movement of pedestrians, motorized vehicles, and the trains. Particular concern was expressed regarding queuing onto the B-W Parkway as vehicles were exiting onto MD 410.
19. PL indicated that queuing on the B-W Parkway ramps was taken into account when the interchange was analyzed.
20. NPS expressed concern about future traffic, anticipating potential significant increases in volume, leading to more problematic congestion. The Purple Line traffic analysis is based on the year 2030.
21. PL discussed ways in which an improvement to traffic patterns beyond the B-W Parkway interchange area that would result from the project would also potentially improve the functioning of the interchange area.
22. NPS asked whether the recent Parkway Widening feasibility study had been included in the PL analysis. The PL team explained that only planned and programmed (i.e. funded) projects in the Constrained Long Range Transportation Plan (CLRTP) are included.
23. PL presented roll plans depicting a tunnel design through the MD 410/B-W Parkway interchange area. An evaluation of a shorter tunnel to avoid the Parkway had been requested at the NPS meeting on February 1, 2012. Specific details include:
    - Located south of MD 410, 60 feet from currently proposed LPA location because soil conditions do not permit the tunnel to be under the existing abutment
    - Significant depth required, due in part to existing soil conditions
    - Requires 3 additional residential displacements in the neighborhood west of interchange along MD 410
    - Requires the Beacon Heights station to be located underground
    - Requires 1 additional residential displacement on Veterans Parkway, just west of the intersection with Riverdale Road
    - Could not return to grade until Veteran's Parkway
    - Avoids B-W Parkway completely
    - Requires approximately 4,000 feet of tunnel and related structures
    - Anticipated costs of $300 million, including approximately $75 million for the underground station
    - Requires a pump to run constantly in order to keep water drainage systems functioning adequately
24. NPS questioned whether the possibility of running a single track through the interchange had been considered for the project, so that possibly the existing bridge would not need replacing.
25. PL indicated that the only way to run a track for the light rail line through the interchange without affecting the existing bridges over MD 410 was to locate the track in the center of the MD 410 median. PL also noted that a single track would have unacceptable impacts to light rail operations. PL described in some detail difficulties associated with taking a double track down to a single track and then back to a double track. In general, from the perspective of both operating the light rail and maintaining traffic within the interchange, it was not deemed practical or reasonable to have the light rail in the center of the median. PL team noted that there have been requests for single track sections elsewhere in the project, but that they have been rejected because of the operational impacts.
26. NPS asked if further studies could be done to provide more details.

27. PL described some of the previous studies already completed but agreed to provide more information on the challenges of operating single track segments.
28. NPS inquired as to details about moving the abutments.
29. PL provided details about the proposed design, and noted that the stone on the exterior of the existing bridge could be reused on the proposed bridge, and that the specific design of the girders and other design elements of the bridge would be decided with input from NPS.
30. NPS asked what the temporary impacts of the project would be – specifically if temporary bridges were to be used.
31. PL noted that an option is being considered for the project where through careful phasing of construction, no temporary bridges will be required or used. However, the studies on this option are not yet complete; therefore the validity of the option has not been determined.
32. Considerations in the no-temporary-bridge option are:
    - Sequencing of travel lane shifts
    - Longer construction period
    - Slightly wider final widths of the B-W Parkway and bridge (approx. 4 feet)
    - Lane width reductions through construction
33. NPS noted that despite being a Parkway, trucks do use the parkway to access Fort Meade. Proposed lane widths would need to accommodate them.
34. NPS asked about how close trees could be placed adjacent to the light rail line.
35. PL used Google Earth to provide aerial mapping in describing the project. PL stated that at the next meeting, a structural engineer would be present so that details of the bridge and other required structures associated with the project could be discussed.
36. NPS expressed concern regarding the historic nature of the bridge.
37. A Federal Transit Administration representative suggested that a series of renderings could be prepared to demonstrate potential growth of vegetation over time.
38. PL agreed and will provide renderings.
39. NPS noted that some of the early mapping for PL indicated there would be staging for construction of the PL on B-W Parkway land.
40. PL stated that the mapping was out of date and that staging for the project would occur outside the limits of B-W Parkway lands, on the site of the residential displacements.
41. PL discussed the potential for longer lasting impacts to some elements of the B-W Parkway because it involves landscaping that will take time to regenerate and grow to sizes currently seen through the project area. Even though some impacts are technically considered temporary, temporary takes on a different meaning with vegetation.
42. PL also discussed the potential for visual impacts to the B-W Parkway during construction.
43. PL Team discussed the additional infrastructure of light rail system including poles, types of overhead wires and whether the wires could be attached to the underside of the bridge structure.

44. NPS requested that an "Administrative Record" be prepared to document NPS coordination in the decision-making process related to the project. All decisions and agreements should be well documented. This will provide a convenient resource should there be changes in NPS or PL staff.
45. FTA indicated that an invitation to the NPS be a cooperating agency had been prepared and will be distributed in the near future.
46. PL indicated their interest in learning from NPS any lessons learned from other projects completed along the B-W Parkway.
47. PL noted that last week a meeting was held with the National Capital Planning Commission (NCPC), and that schedules for NCPC and PL had been acknowledged by each group. PL suggested NPS and NCPC be invited to each other's meetings to allow for effective coordination of all parties. There was agreement by all parties.
48. NPS reiterated the need to recognize NPS as a separate entity from NCPC.
49. PL noted the current status of the B-W Parkway in the 106 process.
50. NPS returned to discussions regarding the catenary lines and specific details of the light rail system.
51. NPS asked if it was possible to have a single wire running above the rail line, rather than the 2 wires typically seen on light rail systems.
52. PL indicated that it is possible to have single wires, however, with single wires, more poles are required. Additional poles are also required when there is a curve in the alignment of the rail line.
53. PL indicated that a Phase I Archaeological study had been completed for the project area involving the MD 410/B-W Parkway interchange. A Phase II permit request is being prepared and will be submitted to NPS in the near future.
54. Schedules and project timeline were discussed. PL suggested bi-weekly meetings.
55. NPS noted that they have several projects currently happening and scheduling of meetings would have to take into account these other projects. Bi-weekly is too frequent. Every 3 or 4 weeks would be better.
56. PL noted that it is critical to obtain from Eastern Federal Lands the structural as-built plans for the existing bridges over MD 410. Without these plans further analysis of the no-temporary-bridge option cannot be completed. Therefore agenda items and timing for the next meeting may depend on when these plans are received by PL.
57. All parties were in general agreement to have standing meetings scheduled.
58. NPS emphasized the need to receive the agendas for the meeting prior to the meeting so that the appropriate personnel could be designated to attend the meetings.

The next meeting will be held on 3/30/2012

SUMMARY OF ACTION ITEMS

Action Item #	Description	Assigned To	Due Date	Status
1.	Prepare a schedule of meetings – include Structural Engineer in next meeting	Purple Line	3/20/12	
2.	Set up PL-NPS Administrative Record	Purple Line	3/20/12	
3.	Obtain structural engineering as-builts for bridges over MD 410 and complete analysis for no-temporary-bridge option	Federal Transit Administration	3/20/12	
4.	Send out Agency Coordination Letter	Federal Transit Administration	3/20/12	
5.	Submit Phase II Archaeological Study Request	Purple Line	3/20/12	
6.	Provide information regarding single versus double tracking	Purple Line	3/20/12	
7.	Prepare renderings of vegetative growth over time	Purple Line	3/20/12	
8.				
9.				

Attachments:
Attendance Roster (Scanned Original)

Distribution:
Attendees
PL GEC Core Team
PL DCT – PLDOCUMENTCONTROL@GFNET.COM

Kerri Bowie Purple Line/Dovetail CBG 540-899-9170 Kbowie@dovetailcbg.com

National Capital Parks-East
1900 Anacostia Drive, SE
Washington, DC 20020

Meeting: PURPLE LINE Date: 2/28/12

Name	Position/Agency	Phone #/email address
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Stephen Syphax	NPS	202/619-6121 Stephen_Syphax@nps.gov 202-690-5127
Alexa Romero	NPS-NACE Superintendent	alex_romero@nps.gov
Harriet Levitt	MTA Purple Line Team	410-230-6030 harriet.levitt@jacobs.com
Shawn Hawtof	MTA Purple Line Team	443-348-2017 shawtof@gmail.com
Adam Stephenson	FTA HQ Environmental	202-366-5183 adam.stephenson@dot.gov
Dan Koenig	FTA DC Metro Office	202 219 3528 daniel.koenig@dot.gov
G. Noojibail	NACC	202 692 5727 gopinath_noojibail@nps.gov
MATT STORCK	MTA PURPLE LINE TEAM	410-281-2935 MATTHEW.STORCK@STVINC.COM
Ebla Dance	NACE	202 692 6038 ebla_dance@nps.gov
CHARLIE BAILEY	MTA PURPLE LINE TEAM	410-235-6001 cbailey@mahaffieldcon.com
Major Horsey	NPS NACE-Greenbelt	301-344-3948 Major_Horsey@nps.gov
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Amanda Baxter	Purple Line MTA	443 848 6096 abaxter@mwallp.com
Tori Lavice Kester	Purple Line	410-371-3695 tkester@

MEETING MINUTES

MEETING SUBJECT:	**National Park Service Project Information Meeting**
MEETING DATE, TIME:	4/27/2012 10:00 am
MEETING LOCATION:	National Capital Parks – East, 1900 Anacostia Drive, Washington, DC
ATTENDEES:	See attached Attendance Roster
PREPARED BY:	Tobi Louise Kester
DISTRIBUTION DATE:	5/25/2012
DCN:	2012.04.27.PM.PE.02.NPS Project Info. Mtg.5-FINAL

Meeting Initiation/Purpose

The Federal Transit administration (FTA), National Parks Service (NPS), and Purple Line team (PL) met to discuss a) Maintenance of Traffic (MOT) alternatives, b) Baltimore-Washington Parkway (Parkway) proposed structures configuration, c) catenary options for the Locally Preferred Alternative (LPA), d) catenary shield protection, and e) moving the project through NEPA process.

Discussion

1. After introductions and a review of agenda, MOT Alternative 2 with walls, which includes the use of temporary bridges and temporary walls built towards the median, was presented by PL – use of retaining walls to minimize impacts to existing vegetation in median.
2. PL presented MOT Alternative 3 widening towards ramps, with no impacts to median and possible 2' high temporary wall on the inside of the ramps.
3. As photo-simulation was presented showing proposed conditions, NPS noted that it would be good to have before and after photos for each view presented and from both NB and SB ramps, to ensure clarity of detail. PL concurred and will include in future presentations as appropriate.
4. NPS inquired about the possibility of just building entirely new structures where the temporary structures are proposed, rather than building temporary bridges, tearing down existing ones, then rebuilding permanent bridges.
5. PL noted that some alternatives were actually preserving the northern bridge abutments, which, if only completely new structures were built as the final condition, would end up having to be removed.
6. NPS also noted that with a shift in alignment, which would result if completely new bridges were built without using temporary bridges, would potentially significantly change the park patron's view of and experience in the park. PL concurred. NPS does not want to change the park patron's experience.
7. PL reviewed the process of decision-making that has resulted in the MOT Alternatives presented to date.
8. PL presented phasing of construction associated with MOT Alternative 4 - Permanent Widening towards ramps, using sections to provide detail of:
    1. Moving traffic towards the median while construction occurs on the outer side of bridge
    2. Splitting traffic to move around construction that occurs in the center of the bridge

3. Moving traffic towards the outside of the bridges as construction is completed on the median side of the bridges

9. NPS asked what the anticipated posted speed would be through the construction.
10. PL indicated that the expected design speed would be 55 mph, but that traffic tends to slow in construction zones, regardless of posted speeds, and reiterated from last meeting that the lanes would be 11' wide through the construction zone – reduced lane widths being another factor typically contributing to slower speeds of traffic through construction zones.
11. PL provided more details of MOT Alternative 4, including that removal and reconstruction of the northern abutments would be required to accommodate the final bridge width, which would be 12' wider in MOT Alt. 4 than in either MOT Alt. 2 or MOT Alt. 3. PL reiterated that the final bridge width of MOT Alt. 2 and MOT Alt.3 is 40', while the final width of MOT Alt. 4 is 52'.
12. NPS asked if a lower speed could be posted.
13. PL confirmed that lower speeds could be posted, but the geometry of the road would be designed to accommodate a 55 mph posted speed.
14. NPS asked whether the 52' wide bridge lane striping would result in shoulders that conform to the current Parkway Guidelines.
15. PL indicated that the Parkway Guidelines would not be met with the final bridge being 52' wide.
16. NPS asked why the longest project duration was associated with MOT Alt. 4.
17. PL detailed the process of building walls first (to minimize impacts to existing vegetation etc. around bridge), which accounts for the extended construction.
18. NPS requested a photo simulation of the walls, to detail of what the park patron would see of the walls.
19. PL will provide details and photo sims and indicated the walls would be both relatively small and temporary.
20. PL noted that AASHTO, Parkway Design Guidelines, and Federal Lands standards would be utilized for the parkway.
21. NPS will discuss the MOT Alternatives internally and will respond to the PL team with a decision on a preferred Alternative by Wednesday, May, 2, 2012.
22. PL presented Bridge span options (structural configurations), reviewing the straight versus arched options, with either galvanized poles or brown finishes.
23. NPS prefers arched support beam. Final decision made by NPS.
24. PL indicated that separating beams between 2 arches (over main travel lane of MD 410 and proposed PL LRT tracks) may need a wall as part of the support, but one is not currently proposed. No rails are required.
25. NPS requested further detail and indicated a preference for "the less the better" in terms of added walls or other elements. NPS also requested designers not introduce any new building materials, if possible.
26. PL will provide more details as pre-TS&L design is developed for the selected structures/configuration.
27. NPS asked if lighting was proposed as a part of the design.
28. PL indicated that lighting has not been included so far, but it would depend on requirements, including safety, as design progressed. PL assured NPS that designers would collaborate with NPS on the design of any features where finishes and styles could be chosen.

29. PL presented options for catenary lines, highlighting the fact that if the lines are not attached to the underside of the bridge, 4 additional poles are required to provide support for the lines at the correct height to adequately accommodate trains passing under the bridge.
30. NPS asked if it was possible to attach the lines to bridges, and if so, are more details available at this time.
31. PL indicated that catenary lines are attached to bridges on other transit lines, and showed photographs of examples, demonstrating that it is possible. However, whether attaching to the bridge is possible in this case, depends on who owns and who maintains the bridges. Federal Lands will review the plans, but the question of ownership and maintenance remains an outstanding concern.
32. NPS stated a preference for attaching catenary lines to the bridge if possible. Noted as a Final Decision.
33. PL will continue to investigate and determine ownership of bridge and determine parties who would be involved in maintenance agreement.
34. NPS indicated that internal discussions are on-going as to ownership of structures in parklands. The State of Maryland may own and maintain the bridge. NPS will verify their information when any internal determination has been made.
35. PL presented information regarding catenary shields, which are required by electrical code whenever lines pass under structures, creating conditions where falling debris or dumping of items onto catenary lines is possible from above.
36. NPS asked if it mattered that no pedestrians are supposed to be along the Parkway over the bridge.
37. PL indicated that it was more a matter of general safety, irrespective of anticipated pedestrians, because emergency situations could arise where people are on the bridge, and the catenary lines are live, therefore posing a potential hazard to not only people in the immediate vicinity, but all along the rail line, if objects were to fall on the lines and cause current to jump beyond its designed parameters. PL indicated that the issue is still under review and the question of necessity will be raised again with reviewers etc.
38. Of the variety of examples shown, NPS indicated a preference for clear material, if possible, to minimize potential visual impact to bridge structure. NPS asked about possibly creating an awning type of structure, possible arching of roof structure, and potentially using something that would more narrowly shroud only the catenary lines themselves.
39. PL indicated that this discussion was to introduce the concept to NPS so that as design progresses, NPS can determine preferences. Photographs of other existing options, photo simulations of the project site with potential options, and manufacturing or product details of proposed materials will be provided as project design progresses.
40. PL also focused discussion on the area on the edge of the proposed bridge above the PL LRT tracks where a vertical barrier is required – where a rail is currently proposed. More details to come from PL as design progresses.
41. The NEPA process was discussed in detail by all parties in the meeting, specifically regarding the ER 2000 process, 4(f) resources, 6(f) resources, potential 'de minimus' findings, DEIS and FEIS write-ups, and the project ROD.
42. Although the NPS will be preparing their own ROD, separate from the project ROD, it has been determined that the PL team will prepare the written basis for the NPS ROD as the project ROD is being prepared.
43. The result of the NPS ROD is an additional 30 days review period.

44. Further discussion will occur regarding environmental justice, climate change/sustainability (carbon emissions), other qualitative analysis, and mitigation of impacts. Of particular concern is the impact to the parkland associated with the proposed permanent taking where MD 410 is being reconfigured to accommodate the proposed station to the east of the Parkway. Because this will be considered a permanent impact to a parkland involving permanent conversion from parkland to another unrelated use, a transfer in ownership and maintenance responsibilities, NPS indicated that the project will likely be determined to have 6(f) resources.
45. Both PL and NPS will investigate further the designation of 6(f) resources for further discussion purposes. Section 6(f) resources will be an agenda item at the next meeting.
46. The next 4 meeting dates were reviewed and confirmed as acceptable for all parties: May 25th, June 22nd, July 27, and August 24.

The next meeting will be held on 5/25/2012.

SUMMARY OF ACTION ITEMS

Action Item #	Description	Assigned To	Due Date	Status
1.	Provide before and after photo simulations at NB and SB ramps showing MOT Alt. 3 and MOT Alt. 4 with walls.	PL	5/25	
2.	Provide PL with decision on preferred MOT Alternative by May 3, 2012.	NPS	5/14	
3.	Provide additional details of structures and configurations as pre-TS&L design progresses.	PL	Ongoing	
4.	Determine ownership of bridges and parties involved in maintenance agreements.	PL	5/25	
5.	Verify internal determinations of ownership and maintenance on bridges.	NPS	5/25	
6.	Provide further information regarding catenary line protection requirements and potential design options.	PL	6/22	
7.	Determine 6(f) resource designation for project.	PL and NPS	5/25	
8.				
9.				

SUMMARY OF DECISIONS MADE

Decision #	Description	Decision Date	Concurring Agency/Party
1.	Use arched bridge configuration.	April 27, 2012	NPS
2.	Attach catenary lines to bridge.	April 27, 2012	NPS
3.	PL to prepare base document for NPS ROD.	April 27, 2012	NPS, PL

These minutes reflect the author's understanding of the discussions at the meeting. The minutes shall initially be considered as draft and open to comments for a period of 5 business days after the date of initial issuance. If no comments are received within five days, these minutes shall be considered final and will be issued as such within 2 business days of the initial comment period. (Remove this note from final version of the meeting minutes)

Attachments:
Attendance Roster (Scanned Original)
Agenda
Previous meeting minutes
Meeting Handouts

Distribution:
Attendees
PL GEC Core Team
PL DCT (PLdocumentcontrol@gfnet.com)

ATTENDANCE ROSTER
Meeting Title
4/27/12 10 AM

Name	Company	Phone Number	E-mail Address
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David Hayes	NPS-NCR	202-619-7277	David_Hayes@nps.gov
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Fred Cunningham	NPS- NACE-BWP	301-344-3948	Fred_Cunningham@nps.gov

MEETING MINUTES

MEETING SUBJECT:	**NPS Coordination Meeting**
MEETING DATE, TIME:	6/22/2012
MEETING LOCATION:	NPS Office
ATTENDEES:	See attached Attendance Roster
PREPARED BY:	Shonnell Gibson
DISTRIBUTION DATE:	9/17/2012
DCN:	2012.06.22.PM.PE.02.NPS Project Info. Mtg.6-FINAL

Meeting Initiation/Purpose

- Introductions and Objectives of Meeting
- MOT Decision, Alternate 3
- Shielding Options continued from April Meeting
- Structure Ownership
- NEPA, Section 106 and 4(f) Discussion
- Permission to work within Parkway (MOU/Permit)
- 4 month look ahead
- Comments

Discussion

1. NPS confirmed their choice for the MOT Alternate 3 option.
2. Future Meeting Schedule – for now it will stay on a monthly schedule, but there was mention of using WebEx for its visual capabilities and for the small agendas that may not require face-to-face meetings. This will be evaluated on a monthly basis.
3. NPS clear screen concern – if used, what would the horizontal clear screens look like in 3 years or so? Answer (per Jim Guinther): it is a UV protected, Plexiglas-like material used with the intent that it never has to be cleaned (similar to what's used on Woodrow Wilson). Regarding Amanda's rust concern for the attachments, the metals would be galvanized and therefore corrosion inhibited.
4. The vertical shielding option does not go with the historical aspect, and would alter the view from the parkway, therefore the Park Service did not like the vertical options.
5. NPS prefers the horizontal options and the look of the full span shield option (lightly referred to as the David Hayes option). Cost has not yet been evaluated.
6. There is a general agreement that .6 acres of land will require a full property transfer (.5 along track and a .1 acre sliver where road pushes north just to the east of the parkway). **Transfers require approval**. The Federal Secretary of Transportation initiates the process. Brian Woodbury is best to shepherd everyone through this, however he is still out for another 4 weeks (health reasons). For now continue to go through Georgann Smale.

7. A temporary easement is required for 2.5 acres of land. NCPC only acts as an advisor concerning easements.
8. The official NCPC meetings are for summary purposes for the project and only allow for 10 minutes per topic, but they would like to have any considered renderings in the appendix for follow-up after the meeting. In the meantime, they will hold 2 or 3 meetings with their staff on 106, BW Parkway, and bridge typologies, and will invite David to all.
9. NCPC has a Historic Preservationist, Jennifer Hirsch, who should be involved in these conversations. If property is transferred to MTA, NCPC will have 106 responsibilities, and Jennifer would most likely be the contact for that as well. Mike will also connect her to David to help NCPC and NPS stay on the same page going forward.
10. Capper-Cramton concerns should also be included on the NCPC meeting agenda.
11. The section 106 effects report is in draft status and under internal review (per Kerri and John). It should be submitted next month. They are recommending that the PL has no adverse effect from the BW Pkwy standpoint (details from the meeting can be provided if necessary). David has a few concerns about that recommendation so conversations will be arranged before the next official NCPC meeting. In the proposal he would like to see a narrative documentation of changes and details of how much land would come back to NPS.
12. NPS had concerns that a DiMinimus finding equates to no compensation. Harriet clarified that it does not.
13. Regarding bridge ownership, NPS currently owns the bridge. After the proposed transfer of land and bridge design, NPS will still own the bridge. The catenary would be MTA property attaching directly to the bridge (for aesthetic reasons; to avoid adding poles). A maintenance agreement would be required, but there are no airspace issues to iron out as someone questioned.
14. NCPC upcoming review schedule – official meeting in July, concept comments should be ready for fall (October or November), preliminary approvals in the spring/summer, and final decisions in 2014.
15. Per Amanda, a sample DiMinimus letter format will be forwarded to Mike Weil. She would also like a clear list of the audience for DEIS and their contact information, a partial list of which includes NPS Regional East (David), NPS National, the cooperative agency under NEPA, the consulting parties of 106, and for the DiMinimus - Montgomery County.
16. Mike Weil will check previous meeting notes to determine who has authorization for DiMinimus sign-offs verses full project approval.
17. For future NPS scheduling please include Cultural Resources contact: makayal_boyle@nps.gov

The next meeting will be held on 8/24/2012

SUMMARY OF ACTION ITEMS

Action Item #	Description	Assigned To	Due Date	Status
1.	Forward historic documentation to Jennifer Hirsch (NCPC) for possible conference call early next week.	John Martin	7/3/2012	Complete
2.	Prepare renderings for the appendix for the official NCPC presentation meeting.	Harriet Levine	7/11/2012	Complete
3.	Include a visual narrative of changes in the effects report, as well as information on land possibly returned to NPS.	Steve Hawtof	11/15/2012	Ongoing
4.				
5.				
6.				
7.				
8.				

SUMMARY OF DECISIONS MADE

Decision #	Description	Decision Date	Concurring Agency/Party
1.	MOT alternative 3 confirmed	June 22, 2012	NPS
2.	Use Horizontal shield, otherwise known as David Hayes Shield	June 22, 2012	NPS

Attachments:
Attendance Roster
Agenda
Meeting Handouts

Distribution:
Attendees
PL GEC Core Team
PL DCT (e-mail address to be provided by J. Boyer)

ATTENDANCE ROSTER
MEETING DATE AND TIME

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Steve Hawtof	P/L GEC	443-348-2017	shawtof@gfnet.com
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Kerri Barile	PL/GEC	540-899-9170	kbarile@dovetailorg.com
Tim Lidiak (via phone)	FTA		Timothy.lidiak@dot.gov
Gopaul Noojibail (5 minute preview)	NPS		Gopauul_Noojibail@nps.gov

MEETING MINUTES

MEETING SUBJECT:	**National Park Service Project Information Meeting**
MEETING DATE, TIME:	8/24/2012 10:00 am
MEETING LOCATION:	National Capital Parks – East, 1900 Anacostia Drive, Washington, DC
ATTENDEES:	See attached Attendance Roster
PREPARED BY:	Steven Hawtof
DISTRIBUTION DATE:	
DCN:	2012.08.24.PM.PE.02.NPS Project Info. Mtg.7-FINAL

Meeting Initiation/Purpose

The Federal Transit administration (FTA), National Parks Service (NPS), and Purple Line team (PL) met to discuss a) Section 106, b) Section 4(f) *de minimus*, c) Special Use permit requirements for engineering phase field activities, and d) verify catenary shield protection selection

Discussion

1. A lengthy discussion occurred in regard to the Section 106 evaluation. John Martin described the process b y which a Determination of Eligability (DOE) was prepared for the Parkway Structure and sent to the MD Historic Trust (MHT). He indicated that the analysis indicated no adverse effect and the current structure is a non-contributing element since the structures were rebuilt in 1995. He indicated that MHT would review the DOE and determine if they agree with our findings. Jim Rosenstock had a number of comments including his belief that the existing structure did have contributing elements and also thought that there would be an adverse effect. David Hayes also said he was not convinced that it was non-contributing. Jim also indicated that he thought that MTA was advancing to quickly without proper consultation with NPS and asked if NPS cultural has been part of the process. Steve Hawtof indicated that we have been meeting monthly with NPS and they have been working with MTA on this process. He indicated that NPS's cultural person attended one meeting but left this district. David Hayes indicated that he would seek out a cultural resources person on staff who will be part of the process.

   David was concerned that the DOE wasn't shared with NPS at the same time as MHT. Steve indicated that NPS was a consulting party and would have the opportunity to review and comment on the eligibility of their resource. In the meantime, John Martin distributed a hard copy of the DOE and indicated that he would send out a PDF to David Hayes who will distribute it to the appropriate people including NCPC.

   David and Steve also agreed that there should be a separate call or meeting with the NPS cultural resource person in the next few weeks prior to the next regularly scheduled meeting.

   It was agreed that there was still a ways to go in the process of determination of eligibility and that NPS would talk to MHT to discuss their concerns.

2. Harriet Levine briefed the group on where in the process we were with the Section 4(f) determination. First, she showed a map that indicated that there would be approximately 0.6 acres of permanent impact to the Parkway. She also thoroughly explained that there would be a need for approximately 7.5 to 8.0 acres of

temporary impact. The temporary impact would be for temporary construction of such things as maintaining traffic while the bridges were being constructed to a staging area for a crane to sit when constructing the new bridges. Harriet explained how the resource would be mitigated to provide landscaping such as trees and bushes in the disturbed areas. This mitigation plan would be developed with input from NPS.

David Hayes asked if anyone from NPS Real Property has been contacted. Steve noted that Rob Loskot of the PMC has started a dialogue with Elizabeth Smale and Brian Woodbury.

Harriet next explained the Section 4(f) process and described the definition for a *de minimus* finding. She indicated that there would be potentially two findings of *di minimus*, one for 106 and one for 4(f). Jim indicated that he felt there could not be a *di minimus* finding due to the impact to the Parkway; however, Harriet disagreed since the future state of the parkway and the experience when construction is complete would be relatively the same as it is today. They agreed to disagree and allow the process to move forward for this determination. The GEC indicated that whether a *di minimus* determination was approved or not, we would still provide the same level of structure design and mitigation for the resource. The team wanted to stress that the process would be slightly changed if a complete 4(f) evaluation was warranted.

Dan Koenig indicated that another review would be completed by the DOI in addition to the local review.

3. The next presentation concerned what was required to obtain a Special Use permit from the Park Service. Matt Storck gave a presentation on the survey needs and indicated that there would be some need for lane closures when surveying on and near the Parkway. He showed standard plates for lane closures and got agreement that these would be sufficient. Alex Romero indicated that we would need to work with the NPS Park Police, that they would need a force account and that advanced press releases indicating lane closures would be needed.

   Jim Guinther next presented the boring plan and indicated that there would also be a need for lane closures. Jim Rosenstock indicated that if the operation would last more than a day, a different and more stringent requirement would be needed with MHT. Jim Guinther indicated that these operations should last 1 day.

   When asked what we needed to state in the letter for the permit, Jim Rosenstock indicated that he would like to keep the requirments general in nature so a 5 year permit could be issued. At the time of survey or other activities, we could then reach out to NPS and be more specific. Steve indicated that we would send a draft letter for his review/ concurrence prior to sending in an official letter.

4. The next 4 meeting dates were reviewed and confirmed as acceptable for all parties: May 25th, June 22nd, July 27, and August 24.

The next meeting will be held on 5/25/2012.

SUMMARY OF ACTION ITEMS

Action Item #	Description	Assigned To	Due Date	Status
1.	Provide before and after photo simulations at NB and SB ramps showing MOT Alt. 3 and MOT Alt. 4 with walls.	PL	5/25	
2.	Provide PL with decision on preferred MOT Alternative by May 3, 2012.	NPS	5/14	
3.	Provide additional details of structures and configurations as pre-TS&L design progresses.	PL	Ongoing	
4.	Determine ownership of bridges and parties involved in maintenance agreements.	PL	5/25	
5.	Verify internal determinations of ownership and maintenance on bridges.	NPS	5/25	
6.	Provide further information regarding catenary line protection requirements and potential design options.	PL	6/22	
7.	Determine 6(f) resource designation for project.	PL and NPS	5/25	
8.				
9.				

SUMMARY OF DECISIONS MADE

Decision #	Description	Decision Date	Concurring Agency/Party
1.	Use arched bridge configuration.	April 27, 2012	NPS
2.	Attach catenary lines to bridge.	April 27, 2012	NPS
3.	PL to prepare base document for NPS ROD.	April 27, 2012	NPS, PL

These minutes reflect the author's understanding of the discussions at the meeting. The minutes shall initially be considered as draft and open to comments for a period of 5 business days after the date of initial issuance. If no comments are received within five days, these minutes shall be considered final and will be issued as such within 2 business days of the initial comment period. (Remove this note from final version of the meeting minutes)

Attachments:
Attendance Roster (Scanned Original)
Agenda
Previous meeting minutes
Meeting Handouts

Distribution:
Attendees
PL GEC Core Team
PL DCT (PLdocumentcontrol@gfnet.com)

ATTENDANCE ROSTER
Meeting Title
8/24/12 10 AM

Name	Company	Phone Number	E-mail Address
Alex Romero	NPS- NACE	202-690-5197	alex_romero@nps.gov
David Hayes (By Phone)	NPS-NCR	202-619-7277	David_Hayes@nps.gov
Amanda Baxter (By Phone)	P/L GEC	443-848-6096	abaxter@swrallp.com
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Adam Stephenson	FTA	202-366-5183	Adam.stephenson@dot.gov
Dan Koenig (By Phone)	FTA	202-219-3525	Daniel.koenig@dot.gov
Matt Storck	P/L GEC	410-281-2935	Matthew.storck@stvinc.com
Steve Hawtof	P/L GEC	443-348-2017	shawtof@gfnet.com
Jim Rosenstock	NPS- NACE	202-619-7092	james_rosenstock@nps.gov
Jim Guinther	P/L GEC		jguinther@wrallp.com
Mike Weil	NCPC		mweil@ncpc.org
John Martin	P/L GEC		jmartin@gfnet.com
Tim Lidiak (By Phone)	FTA		Timothy.Lidiak@dot.gov

U.S. Department
of Transportation
**Federal Transit
Administration**

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December 8, 2011

Mr. David Hayes
National Park Service
Regional Transportation Liaison
National Capital Region of NPS
1100 Ohio Drive, SW
Washington, DC 20242

Subject: Purple Line, Montgomery and Prince George's Counties
Section 4(f) Resources – Baltimore Washington Parkway

Dear Mr. Hayes:

The Federal Transit Administration (FTA), in cooperation with the Maryland Transit Administration (MTA), is preparing a Final Environmental Impact Statement (FEIS) for the Purple Line transit project located in Montgomery and Prince George's Counties, Maryland. The purpose of this letter is to request a meeting with the National Park Service to begin formal coordination regarding the Purple Line project and its potential effects on the Baltimore Washington Parkway.

The Purple Line would extend 16 miles, from Bethesda in Montgomery County to New Carrollton, in Prince George's County. The Purple Line would connect Metrorail's Red Line (Bethesda and Silver Spring stations), Green Line (College Park station), and Orange Line (New Carrollton station). This project would provide transit options to people along the corridor, support economic development, and help address the region's air quality issues.

The attached map shows the Purple Line alignment, as well as park resources in the vicinity of the proposed project. As currently designed, the Purple Line would follow Riverdale Road (MD 410) under the Baltimore Washington Parkway (MD 295). The project would include widening along Riverdale Road within the Park's boundary and would require the reconstruction of the Parkway bridges in this area to accommodate the wider roadway/transit section.

As part of the coordination effort, we would like to request any relevant, available information on the Baltimore Washington Parkway, such as Parkway Master Plans, funding information, and history of the parkway that might be beneficial with regard to our research of this resource.

Please contact Tim Lidiak, FTA Environmental Planner (215-656-7084) or John Newton, MTA's Environmental Manager (410-767-3769) at your convenience to schedule the meeting.

We appreciate your assistance with this process.

Sincerely,

Michele Destra

Michele Destra, Director
Office of Planning & Program Development

Enclosure

cc: Gayle Hazelwood, B/W Parkway Superintendent
George Choubah, PE, EFL Bridge Inspection
Mike Madden, MTA
John Newton, MTA
Leslie Roche, PMC
Steve Hawtof, GEC
Amanda Baxter, GEC